COAL COMBUSTION RESIDUAL LANDFILL

ANNUAL GROUNDWATER MONITORING REPORT

Calendar Year 2017

LOWER COLORADO RIVER AUTHORITY (LCRA)

FAYETTE POWER PROJECT, LA GRANGE, TEXAS

JANUARY 31, 2018

Prepared by:

Nancy Overesch, P.G. # 2043 _____ 1/31/2018

STATE OF TEXAS
NANCY E. OVERESCH
GEOLOGY
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LICENSED
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Lower Colorado River Authority
Fayette Power Plant Project
6549 Power Plant Rd.

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2017 Groundwater Monitoring Report
Fayette Power Project
La Grange, TX

1.0 BACKGROUND

The LCRA Fayette Power Project (FPP) is a coal-fired power plant located east of La Grange in Fayette County, Texas. Coal Combustion Residuals (CCRs) generated at the facility are disposed of in the Combustion Byproducts Landfill (CBL) located south of the power plant and north of the railroad that borders the FPP site (Figure 1). The existing CBL consists of Cell 1 and Sub-cell 2D. Cell 1 was constructed in 1988 and sub-cell 2 D in 2015, therefore both active cells are considered existing units under the U.S. Environmental Protection Agency's Coal Combustion Residuals (CCR) Rules as codified in Title 40 of the Code of Federal Regulations (CFR), Chapter 257, Subpart D.

2.0 PURPOSE

This report was prepared pursuant to 40 C.F.R. § 257.90(e), which requires the owner or operator of an existing CCR landfill to prepare an annual groundwater monitoring report for the preceding calendar year.

3.0 STATUS OF THE GROUNDWATER MONITORING PROGRAM

During calendar year 2017, all groundwater sampling was conducted in accordance with 40 CFR § 257.94 - Detection Monitoring. Table 1 summarizes the sampling events. No problems were encountered and no changes were made to the monitoring system or the sampling program.

4.0 KEY ACTIONS

Key actions for 2017 are listed below. At this time, key actions for 2018 include continued semi-annual detection monitoring with associated statistical analysis and responding in accordance with the CCR rules as new information is developed.

- October 16, 2017- the groundwater monitoring system was certified by a Professional Engineer in accordance with 40 CFR § 257.91(f) and placed in the facility operating record in accordance with 40 CFR § 257.105(h)(3)

- October 16, 2017 - groundwater monitoring system certification was provided to the TCEQ in accordance with 40 CFR § 257.106(h)(2), and posted on LCRA's publicly accessible internet site in accordance with 40 CFR § 257.105(h)(2).

- October 16, 2017 - the selection of a statistical method was certified by a Professional Engineer in accordance with 40 CFR § 257.93(f)(6) and placed in the facility operating record in accordance with 40 CFR § 257.105(h)(4),

- October 16, 2017 - the selection of a statistical method certification was provided to the TCEQ in accordance with 40 CFR § 257.106(h)(3), and posted on LCRA's publicly accessible internet site in accordance with 40 CFR § 257.105(h)(3).

5.0 GROUNDWATER MONITORING SYSTEM

The groundwater monitoring well network for 2017 consisted of six wells as described below and additionally in Table 1:

- Background – CBL-340I

- Down-gradient - CBL-301I, CBL-302I, CBL-306I, CBL-308I and CBL-341I

No groundwater monitoring wells were installed or decommissioned in 2017.

In accordance with 40 CFR 257.93(c), groundwater elevations were measured in each monitor well prior to purging, each time the groundwater was sampled. Table 2 summarized the results. The groundwater flow was consistently towards the south-southeast at an approximate rate of 32 feet per year (AMEC, 2017). Potentiometric maps are included in Appendix 2.

6.0 REFERENCES

AMEC Foster Wheeler, 2017: *Combustion Byproducts Landfill- Coal Combustion Residuals Rule Groundwater Monitoring Well System, LCRA Fayette Power Project, Fayette Co, La Grange, TX.* October 2017.

TABLE 1

2017 CCR GROUNDWATER MONITORING EVENTS

Well #	Date of sample collection	# samples collected for analysis	Monitoring program
CBL 340I	1/23/2017	1	Detection monitoring
	3/22/2017	1	Detection monitoring
	5/16/2017	1	Detection monitoring
	7/27/2017	1	Detection monitoring
CBL 301I	1/23/2017	1	Detection monitoring
	3/22/2017	1	Detection monitoring
	5/18/2017	1	Detection monitoring
	7/26/2017	1	Detection monitoring
CBL 302I	1/23/2017	1	Detection monitoring
	3/22/2017	1	Detection monitoring
	5/16/2017	1	Detection monitoring
	7/27/2017	1	Detection monitoring
CBL 306I	1/19/2017	1	Detection monitoring
	3/22/2017	1	Detection monitoring
	5/18/2017	1	Detection monitoring
	7/27/2017	1	Detection monitoring
CBL 308I	1/19/2017	1	Detection monitoring
	3/22/2017	1	Detection monitoring
	5/16/2017	1	Detection monitoring
	7/26/2017	1	Detection monitoring
CBL 341I	1/23/2017	1	Detection monitoring
	2/23/2017	1	Detection monitoring
	3/22/2017	1	Detection monitoring
	4/20/2017	1	Detection monitoring
	5/16/2017	1	Detection monitoring
	6/20/2017	1	Detection monitoring
	7/27/2017	1	Detection monitoring
	9/11/2017	1	Detection monitoring

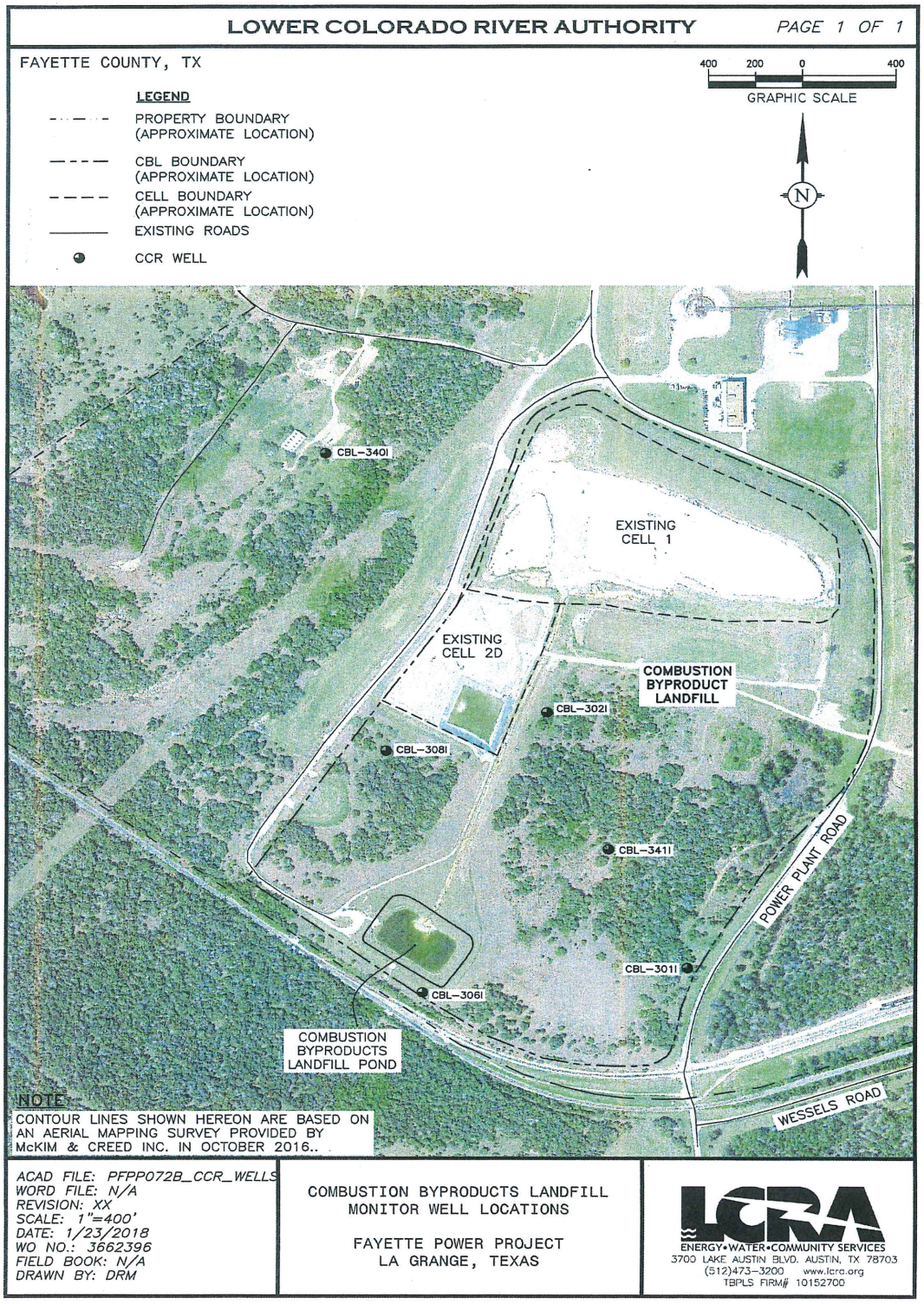
TABLE 2

GROUNDWATER ELEVATIONS

Well ID	CBL-340i (Background Well)		CBL-301i		CBL-302i		CBL-306i		CBL-308i		CBL -341i	
Installation Date	12/17/2015		5/23/2011		5/24/2011		6/3/2011		12/20/2011		11/14/2016	
Hydrogeologic Unit Monitored	Intermediate Sand		Intermediate Sand		Intermediate Sand		Intermediate Sand		Intermediate Sand		Intermediate Sand	
Casing Type	2" PVC		2" PVC		2" PVC		2" PVC		2" PVC		2" PVC	
Total Well Depth (ft bgs)	37		51		24		12.5		32		43	
Screened Interval (ft bgs)	22-37		41-51		14-24		9-14		22-32		33-43	
Ground Surface Elevation (ft MSL)	374.69		369.75		355.99		337.93		364.93		364.03	
TOC Elevation (ft MSL)	376.98		372.11		358.99		339.96		368.67		366.65	
Northing	9949069.45		9946563.44		9947806.017		9946445.582		9947619.46		9947139.86	
Easting	3428311.38		3429862.181		3429260.844		3428730.533		3428574.38		3429525.31	
Survey Datum	Horizontal Datum: NAD83/2011-EPOCH 2012 Vertical Datum: NAVD88-GEOIDIZA		Horizontal Datum: NAD83/NSRS 2007 Vertical Datum: NAVD88		Horizontal Datum: NAD83/NSRS 2007 Vertical Datum: NAVD88		Horizontal Datum: NAD83/NSRS 2007 Vertical Datum: NAVD88		Horizontal Datum: NAD83/NSRS 2007 Vertical Datum: NAVD88		Horizontal Datum: NAD83/2011-EPOCH 2012 Vertical Datum: NAVD88-GEOIDIZA	
Date	DTW (ft btoc)	Elevation (ft NGVD)	DTW (ft btoc)	Elevation (ft NGVD)	DTW (ft btoc)	Elevation (ft NGVD)	DTW (ft btoc)	Elevation (ft NGVD)	DTW (ft btoc)	Elevation (ft NGVD)	DTW (ft btoc)	Elevation (ft NGVD)
1/21/2016	20.44	356.54	38.25	333.86	10.58	348.41	5.83	334.13	25.5	343.17		
5/4/16	19.82	357.16	37.6	334.51	9.15	349.84	5.75	334.21	24.72	343.95		
7/27/16	21.47	355.51	35.96	336.15	11.08	347.91	9.15	330.81	24.5	344.17		
10/24/16	23.31	353.67	36.17	335.94	11.82	347.17	10.62	329.34	25.21	343.46		
1/23/17	21.75	355.23	36.29	335.82	6.48	352.51	5.31	334.65	24.6	344.07	16.12	350.53
2/23/2017	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	15.64	351.01
3/21/17	20.24	356.74	36.19	335.92	9.09	349.9	5.92	334.04	24.04	344.63	15.79	350.86
4/20/17	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	15.57	351.08
5/18/17	20.44	356.54	35.27	336.84	9.78	349.21	7.80	332.16	24.09	344.58	15.32	351.33
6/20/17	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	15.63	351.02
7/26/17	23.00	353.98	35.33	336.78	11.41	347.58	10.43	329.53	24.71	343.96	16.08	350.57
9/11/2017	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	16.47	350.18

FIGURE 1

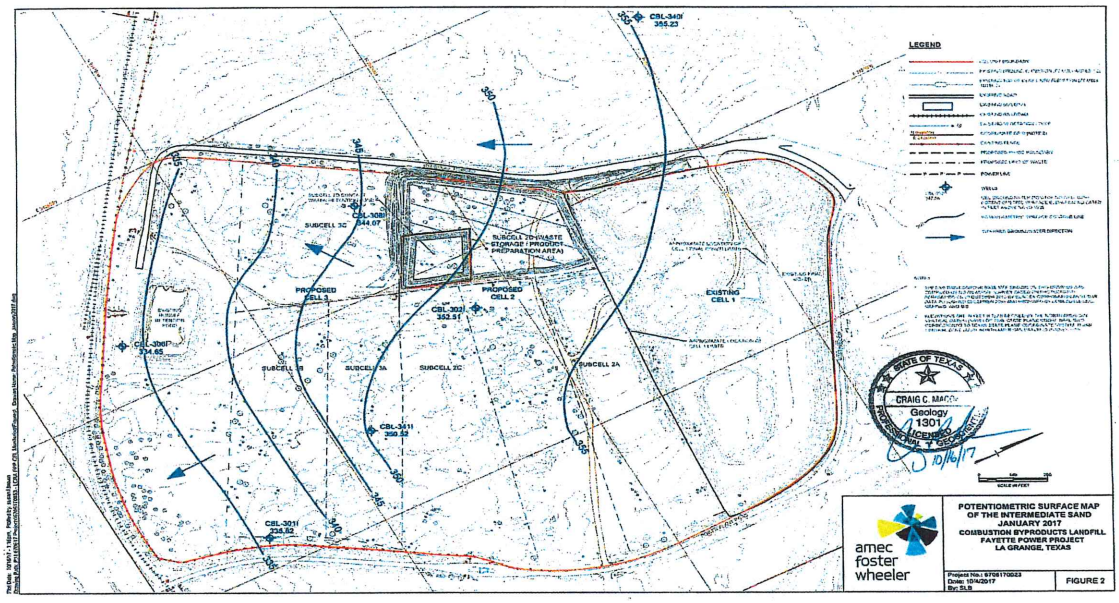
MONITOR WELL LOCATION MAP

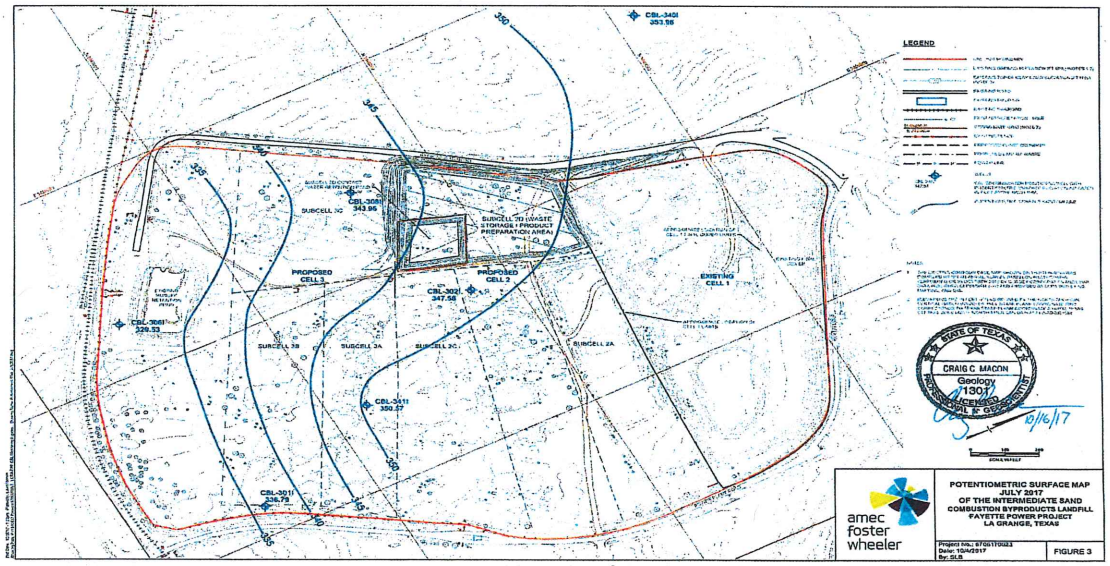


FIGURES 2 AND 3

POTENTIOMETRIC MAPS

Source: AMEC Foster Wheeler, Combustion Byproducts Landfill – Coal Combustion Residuals Rule Groundwater Monitoring Well System, October 16, 2017





APPENDIX 1

Analytical Data

LCRA Environmental Laboratory Services
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February 10, 2016

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1602952

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Susan Benavidez
Project Manager
susan.benavidez@lcra.org

Enclosures

T104704218

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
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SAMPLE SUMMARY

Workorder: Q1602952

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1602952001	CBL - 340I	Aqueous	1/21/2016 14:07	1/22/2016 16:00
Q1602952002	CBL - 301I	Aqueous	1/21/2016 10:21	1/22/2016 16:00
Q1602952003	CBL - 302I	Aqueous	1/22/2016 11:35	1/22/2016 16:00
Q1602952004	CBL - 306I	Aqueous	1/21/2016 11:39	1/22/2016 16:00
Q1602952005	CBL - 308I	Aqueous	1/22/2016 10:32	1/22/2016 16:00
Q1602952006	CBL - 602I	Aqueous	1/22/2016 11:35	1/22/2016 16:00
Q1602952007	Field Blank	Aqueous	1/22/2016 10:32	1/22/2016 16:00
Q1602952008	EQ Blank	Aqueous	1/22/2016 10:45	1/22/2016 16:00

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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PROJECT SUMMARY

Workorder: Q1602952

Workorder Comments

REPORTING COMMENTS: CBL - 602I IS DUPLICATE FOR CBL - 302I

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952001**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	1/21/2016 14:07	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2370	mg/L	20.0	50.0		50	01/26/16 05:47	ML	01/26/16 05:47	ML	
Fluoride	1.09	mg/L	0.200	0.500		50	01/26/16 05:47	ML	01/26/16 05:47	ML	
Sulfate	652	mg/L	20.0	50.0		50	01/26/16 05:47	ML	01/26/16 05:47	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:19	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200		1	01/26/16	FM	01/27/16 15:19	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:19	SLW	
Chromium Total	0.00116	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:19	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:19	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:19	SLW	
Lithium Total	0.0885	mg/L	0.000400	0.00100		1	01/26/16	FM	02/01/16 12:35	SLW	N
Molybdenum Total	0.00304	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:19	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500		1	01/26/16	FM	01/27/16 15:19	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:19	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200		1	01/27/16	FM	01/28/16 08:57	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4990	mg/L	250	250		100	01/27/16 08:40	JM	01/27/16 08:40	JM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0267	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 11:48	MV	

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952001**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	1/21/2016 14:07	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400		1	01/26/16	FM	01/29/16 11:48	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	01/26/16	FM	01/29/16 11:48	MV	
Calcium Total	564	mg/L	0.700	2.00		10	01/26/16	FM	01/29/16 13:11	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 11:48	MV	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	22.47	C				1	01/21/16 14:07	JBW	01/21/16 14:07	JBW	N
pH	6.52	pH				1	01/21/16 14:07	JBW	01/21/16 14:07	JBW	N
Dissolved Oxygen	4.42	mg/L				1	01/21/16 14:07	JBW	01/21/16 14:07	JBW	N
Dissolved Oxygen	52.4	%				1	01/21/16 14:07	JBW	01/21/16 14:07	JBW	N
Specific Conductance	8121	us/cm				1	01/21/16 14:07	JBW	01/21/16 14:07	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952002**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	1/21/2016 10:21	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	2300	mg/L	20.0	50.0		50	01/26/16 04:35	ML	01/26/16 04:35	ML	
Fluoride	<0.250	mg/L	0.100	0.250		25	01/26/16 16:03	ML	01/26/16 16:03	ML	
Sulfate	336	mg/L	20.0	50.0		50	01/26/16 04:35	ML	01/26/16 04:35	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:33	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200		1	01/26/16	FM	01/27/16 14:33	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:33	SLW	
Chromium Total	0.00371	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:33	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:33	SLW	
Lead Total	0.00105	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:33	SLW	
Lithium Total	0.0949	mg/L	0.000400	0.00100		1	01/26/16	FM	02/01/16 10:53	SLW	N
Molybdenum Total	0.00124	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:33	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500		1	01/26/16	FM	01/27/16 14:33	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:33	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200		1	01/27/16	FM	01/28/16 09:39	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4380	mg/L	250	250		100	01/27/16 08:40	JM	01/27/16 08:40	JM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0436	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 11:53	MV	

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952002**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	1/21/2016 10:21	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400		1	01/26/16	FM	01/29/16 11:53	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	01/26/16	FM	01/29/16 11:53	MV	
Calcium Total	905	mg/L	0.700	2.00		10	01/26/16	FM	01/29/16 13:16	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 11:53	MV	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	24.12	C				1	01/21/16 10:21	JBW	01/21/16 10:21	JBW	N
pH	6.33	pH				1	01/21/16 10:21	JBW	01/21/16 10:21	JBW	N
Dissolved Oxygen	0.41	mg/L				1	01/21/16 10:21	JBW	01/21/16 10:21	JBW	N
Dissolved Oxygen	5.0	%				1	01/21/16 10:21	JBW	01/21/16 10:21	JBW	N
Specific Conductance	7133	us/cm				1	01/21/16 10:21	JBW	01/21/16 10:21	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952003**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	1/22/2016 11:35	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	2190	mg/L	20.0	50.0		50	01/26/16 06:05	ML	01/26/16 06:05	ML	
Fluoride	<0.250	mg/L	0.100	0.250		25	01/26/16 16:21	ML	01/26/16 16:21	ML	
Sulfate	1020	mg/L	20.0	50.0		50	01/26/16 06:05	ML	01/26/16 06:05	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:21	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200		1	01/26/16	FM	01/27/16 15:21	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:21	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:21	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:21	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:21	SLW	
Lithium Total	0.0487	mg/L	0.000400	0.00100		1	01/26/16	FM	02/01/16 12:36	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:21	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500		1	01/26/16	FM	01/27/16 15:21	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:21	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200		1	01/27/16	FM	01/28/16 09:03	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5500	mg/L	250	250		100	01/27/16 08:42	JM	01/27/16 08:42	JM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0226	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 11:58	MV	

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952003**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	1/22/2016 11:35	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400		1	01/26/16	FM	01/29/16 11:58	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	01/26/16	FM	01/29/16 11:58	MV	
Calcium Total	1030	mg/L	0.700	2.00		10	01/26/16	FM	01/29/16 13:20	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 11:58	MV	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	20.93	C				1	01/22/16 11:35	JBW	01/22/16 11:35	JBW	N
pH	6.29	pH				1	01/22/16 11:35	JBW	01/22/16 11:35	JBW	N
Dissolved Oxygen	1.42	mg/L				1	01/22/16 11:35	JBW	01/22/16 11:35	JBW	N
Dissolved Oxygen	16.4	%				1	01/22/16 11:35	JBW	01/22/16 11:35	JBW	N
Specific Conductance	7835	us/cm				1	01/22/16 11:35	JBW	01/22/16 11:35	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952004**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	1/21/2016 11:39	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	155	mg/L	20.0	50.0		50	01/26/16 04:53	ML	01/26/16 04:53	ML	
Fluoride	2.50	mg/L	0.200	0.500		50	01/26/16 04:53	ML	01/26/16 04:53	ML	
Sulfate	266	mg/L	20.0	50.0		50	01/26/16 04:53	ML	01/26/16 04:53	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:39	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200		1	01/26/16	FM	01/27/16 14:39	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:39	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:39	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:39	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:39	SLW	
Lithium Total	0.0239	mg/L	0.000400	0.00100		1	01/26/16	FM	02/01/16 10:57	SLW	N
Molybdenum Total	0.00532	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:39	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500		1	01/26/16	FM	01/27/16 14:39	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:39	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200		1	01/27/16	FM	01/28/16 09:41	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	1280	mg/L	500	500		200	01/27/16 08:42	JM	01/27/16 08:42	JM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0512	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 12:02	MV	

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952004**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	1/21/2016 11:39	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400		1	01/26/16	FM	01/29/16 12:02	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	01/26/16	FM	01/29/16 12:02	MV	
Calcium Total	137	mg/L	0.0700	0.200		1	01/26/16	FM	01/29/16 12:02	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 12:02	MV	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	20.40	C				1	01/21/16 11:39	JBW	01/21/16 11:39	JBW	N
pH	7.09	pH				1	01/21/16 11:39	JBW	01/21/16 11:39	JBW	N
Dissolved Oxygen	6.60	mg/L				1	01/21/16 11:39	JBW	01/21/16 11:39	JBW	N
Dissolved Oxygen	73.5	%				1	01/21/16 11:39	JBW	01/21/16 11:39	JBW	N
Specific Conductance	1854	us/cm				1	01/21/16 11:39	JBW	01/21/16 11:39	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952005**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	1/22/2016 10:32	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	2760	mg/L	20.0	50.0		50	01/26/16 05:11	ML	01/26/16 05:11	ML	
Fluoride	1.49	mg/L	0.200	0.500		50	01/26/16 05:11	ML	01/26/16 05:11	ML	
Sulfate	1490	mg/L	20.0	50.0		50	01/26/16 05:11	ML	01/26/16 05:11	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:41	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200		1	01/26/16	FM	01/27/16 14:41	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:41	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:41	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:41	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:41	SLW	
Lithium Total	0.116	mg/L	0.000400	0.00100		1	01/26/16	FM	02/01/16 10:58	SLW	N
Molybdenum Total	0.00106	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:41	SLW	
Selenium Total	0.00693	mg/L	0.00170	0.00500		1	01/26/16	FM	01/27/16 14:41	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:41	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200		1	01/27/16	FM	01/28/16 09:47	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6820	mg/L	500	500		200	01/27/16 08:42	JM	01/27/16 08:42	JM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0413	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 12:07	MV	

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952005**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	1/22/2016 10:32	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400		1	01/26/16	FM	01/29/16 12:07	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	01/26/16	FM	01/29/16 12:07	MV	
Calcium Total	903	mg/L	0.700	2.00		10	01/26/16	FM	01/29/16 13:24	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 12:07	MV	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	21.45	C				1	01/22/16 10:32	JBW	01/22/16 10:32	JBW	N
pH	6.36	pH				1	01/22/16 10:32	JBW	01/22/16 10:32	JBW	N
Dissolved Oxygen	2.82	mg/L				1	01/22/16 10:32	JBW	01/22/16 10:32	JBW	N
Dissolved Oxygen	32.9	%				1	01/22/16 10:32	JBW	01/22/16 10:32	JBW	N
Specific Conductance	9772	us/cm				1	01/22/16 10:32	JBW	01/22/16 10:32	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952006**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	1/22/2016 11:35	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:23	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200		1	01/26/16	FM	01/27/16 15:23	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:23	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:23	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:23	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:23	SLW	
Lithium Total	0.0491	mg/L	0.000400	0.00100		1	01/26/16	FM	02/01/16 12:42	SLW	N
Molybdenum Total	0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:23	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500		1	01/26/16	FM	01/27/16 15:23	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 15:23	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200		1	01/27/16	FM	01/28/16 09:05	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0226	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 12:12	MV	
Beryllium Total	<0.00400	mg/L	0.00100	0.00400		1	01/26/16	FM	01/29/16 12:12	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	01/26/16	FM	01/29/16 12:12	MV	
Calcium Total	1010	mg/L	0.700	2.00		10	01/26/16	FM	01/29/16 13:29	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 12:12	MV	

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952007**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	1/22/2016 10:32	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:43	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200		1	01/26/16	FM	01/27/16 14:43	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:43	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:43	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:43	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:43	SLW	
Lithium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	02/01/16 11:00	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:43	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500		1	01/26/16	FM	01/27/16 14:43	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:43	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200		1	01/27/16	FM	01/28/16 09:48	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 12:27	MV	
Beryllium Total	<0.00400	mg/L	0.00100	0.00400		1	01/26/16	FM	01/29/16 12:27	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	01/26/16	FM	01/29/16 12:27	MV	
Calcium Total	<0.200	mg/L	0.0700	0.200		1	01/26/16	FM	02/04/16 11:14	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 12:27	MV	

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ANALYTICAL RESULTS

Workorder: Q1602952

Lab ID:	**Q1602952008**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	1/22/2016 10:45	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:45	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200		1	01/26/16	FM	01/27/16 14:45	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:45	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:45	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:45	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:45	SLW	
Lithium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	02/01/16 11:01	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:45	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500		1	01/26/16	FM	01/27/16 14:45	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100		1	01/26/16	FM	01/27/16 14:45	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200		1	01/27/16	FM	01/28/16 09:50	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 12:31	MV	
Beryllium Total	<0.00400	mg/L	0.00100	0.00400		1	01/26/16	FM	01/29/16 12:31	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	01/26/16	FM	01/29/16 12:31	MV	
Calcium Total	<0.200	mg/L	0.0700	0.200		1	01/26/16	FM	01/29/16 12:31	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100		1	01/26/16	FM	01/29/16 12:31	MV	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1602952

PARAMETER QUALIFIERS

Lab ID: Q1602952001

N Not Accredited

Lab ID: Q1602952002

N Not Accredited

Lab ID: Q1602952003

N Not Accredited

Lab ID: Q1602952004

N Not Accredited

Lab ID: Q1602952005

N Not Accredited

Lab ID: Q1602952006

N Not Accredited

Lab ID: Q1602952007

N Not Accredited

Lab ID: Q1602952008

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QUALITY CONTROL DATA

Workorder: Q1602952

QC Batch: WET/9704 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1602952001, Q1602952002, Q1602952003, Q1602952004, Q1602952005

MATRIX SPIKE: 594495 DUPLICATE: 594496 ORIGINAL: Q1602010001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Fluoride	mg/L	.08	1	1.1	1.1	102	102	80 - 120	0	20	
Sulfate	mg/L	37.4	20	56.6	56.6	96.2	96.1	80 - 120	0	20	

LABORATORY CONTROL SAMPLE: 594497

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qualifiers
Chloride	mg/L	30	30.2	101	90 - 110	
Fluoride	mg/L	1	1.02	102	90 - 110	
Sulfate	mg/L	30	30.2	101	90 - 110	

METHOD BLANK: 594499

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

MATRIX SPIKE: 594500 DUPLICATE: 594501 ORIGINAL: Q1602204001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Chloride	mg/L	27	20	46.6	46.6	98.4	98.3	80 - 120	0	20	
Fluoride	mg/L	.12	1	1.14	1.14	102	102	80 - 120	0	20	
Sulfate	mg/L	36.7	20	56.2	56.1	97.1	96.8	80 - 120	.178	20	

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QUALITY CONTROL DATA

Workorder: Q1602952

LABORATORY CONTROL SAMPLE: 594502

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qualifiers
Chloride	mg/L	30	30.4	101	90 - 110	
Fluoride	mg/L	1	1.03	103	90 - 110	
Sulfate	mg/L	30	30.3	101	90 - 110	

METHOD BLANK: 594504

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

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QUALITY CONTROL DATA

Workorder: Q1602952

QC Batch: MEP/5189 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1602952001, Q1602952003, Q1602952006

LABORATORY CONTROL SAMPLE: 594710

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qualifi
Lithium Total	mg/L	.05	.05	.05	102	110	85 - 115	6.79	20	
Antimony Total	mg/L	.05	.05	.05	96.2	96.9	85 - 115	.828	20	
Arsenic Total	mg/L	.05	.05	.05	96.7	98.3	85 - 115	1.64	20	
Cadmium Total	mg/L	.05	.05	.05	94.6	97	85 - 115	2.51	20	
Chromium Total	mg/L	.05	.05	.05	93.3	94.4	85 - 115	1.28	20	
Cobalt Total	mg/L	.05	.05	.05	96.6	97.4	85 - 115	.825	20	
Lead Total	mg/L	.05	.05	.05	96.2	98.7	85 - 115	2.46	20	
Molybdenum Total	mg/L	.05	.05	.05	94.9	97.8	85 - 115	2.9	20	
Selenium Total	mg/L	.25	.24	.24	95.9	95.6	85 - 115	.418	20	
Thallium Total	mg/L	.05	.05	.05	94.9	97	85 - 115	2.08	20	

METHOD BLANK: 594712

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Lithium Total	mg/L	<0.0010	0.00100	
Antimony Total	mg/L	<0.0010	0.00100	
Arsenic Total	mg/L	<0.0020	0.00200	
Cadmium Total	mg/L	<0.0010	0.00100	
Chromium Total	mg/L	<0.0010	0.00100	
Cobalt Total	mg/L	<0.0010	0.00100	
Lead Total	mg/L	<0.0010	0.00100	
Molybdenum Total	mg/L	<0.0010	0.00100	
Selenium Total	mg/L	<0.0050	0.00500	
Thallium Total	mg/L	<0.0010	0.00100	

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QUALITY CONTROL DATA

Workorder: Q1602952

MATRIX SPIKE: 594715 DUPLICATE: 594716 ORIGINAL: Q1602919014

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Lithium Total	mg/L	.05	.05	.1	.1	90	96.8	70 - 130	3.46	20	
Antimony Total	mg/L	0	.05	.05	.05	99.2	97.7	70 - 130	1.63	20	
Arsenic Total	mg/L	0	.05	.05	.05	101	97.5	70 - 130	2.78	20	
Cadmium Total	mg/L	0	.05	.05	.05	97.5	95.9	70 - 130	1.86	20	
Chromium Total	mg/L	0	.05	.05	.05	93.6	93.2	70 - 130	.428	20	
Cobalt Total	mg/L	0	.05	.05	.05	95.8	93.4	70 - 130	2.54	20	
Lead Total	mg/L	0	.05	.05	.05	101	98.9	70 - 130	1.6	20	
Molybdenum Total	mg/L	.01	.05	.06	.06	103	100	70 - 130	2.44	20	
Selenium Total	mg/L	0	.25	.25	.24	99.5	94.9	70 - 130	4.94	20	
Thallium Total	mg/L	0	.05	.05	.05	100	97.8	70 - 130	2.22	20	

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QUALITY CONTROL DATA

Workorder: Q1602952

QC Batch: MEP/5190 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1602952002, Q1602952004, Q1602952005, Q1602952007, Q1602952008

LABORATORY CONTROL SAMPLE: 594749

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qualifi
Lithium Total	mg/L	.05	.05	.05	93.5	104	85 - 115	11.1	20	
Antimony Total	mg/L	.05	.05	.05	107	99.2	85 - 115	7.57	20	
Arsenic Total	mg/L	.05	.05	.05	106	98.2	85 - 115	7.45	20	
Cadmium Total	mg/L	.05	.05	.05	105	98	85 - 115	7.09	20	
Chromium Total	mg/L	.05	.05	.05	102	96.8	85 - 115	5.23	20	
Cobalt Total	mg/L	.05	.05	.05	104	98	85 - 115	6.32	20	
Lead Total	mg/L	.05	.05	.05	107	98.9	85 - 115	7.95	20	
Molybdenum Total	mg/L	.05	.05	.05	105	97.5	85 - 115	7.11	20	
Selenium Total	mg/L	.25	.26	.24	104	97.1	85 - 115	7.14	20	
Thallium Total	mg/L	.05	.05	.05	105	97.1	85 - 115	8.3	20	

METHOD BLANK: 594751

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Lithium Total	mg/L	<0.0010	0.00100	
Antimony Total	mg/L	<0.0010	0.00100	
Arsenic Total	mg/L	<0.0020	0.00200	
Cadmium Total	mg/L	<0.0010	0.00100	
Chromium Total	mg/L	<0.0010	0.00100	
Cobalt Total	mg/L	<0.0010	0.00100	
Lead Total	mg/L	<0.0010	0.00100	
Molybdenum Total	mg/L	<0.0010	0.00100	
Selenium Total	mg/L	<0.0050	0.00500	
Thallium Total	mg/L	<0.0010	0.00100	

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QUALITY CONTROL DATA

Workorder: Q1602952

MATRIX SPIKE: 594752 DUPLICATE: 594753 ORIGINAL: Q1602919008

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Lithium Total	mg/L	.09	.05	.15	.15	107	108	70 - 130	0	20	
Antimony Total	mg/L	0	.05	.05	.04	93.5	88.9	70 - 130	5.05	20	
Arsenic Total	mg/L	0	.05	.05	.05	98.7	93.2	70 - 130	5.63	20	
Cadmium Total	mg/L	0	.05	.05	.05	97.3	91.3	70 - 130	6.37	20	
Chromium Total	mg/L	0	.05	.05	.05	94.9	86.7	70 - 130	8.34	20	
Cobalt Total	mg/L	0	.05	.05	.04	92.4	87	70 - 130	6.02	20	
Lead Total	mg/L	0	.05	.05	.05	100	94.5	70 - 130	6.02	20	
Molybdenum Total	mg/L	0	.05	.05	.05	102	97	70 - 130	5.29	20	
Selenium Total	mg/L	0	.25	.24	.23	96.7	92.7	70 - 130	4.22	20	
Thallium Total	mg/L	0	.05	.05	.05	101	94.9	70 - 130	5.92	20	

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QUALITY CONTROL DATA

Workorder: Q1602952

QC Batch: MEP/5195 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1602952001, Q1602952002, Q1602952003, Q1602952004, Q1602952005, Q1602952006, Q1602952007,

LABORATORY CONTROL SAMPLE: 594944

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qualifi
Barium Total	mg/L	1	1.03	1.01	103	101	80 - 120	1.96	20	
Beryllium Total	mg/L	1	1.07	1.04	107	104	80 - 120	2.84	20	
Boron Total	mg/L	1	1.01	.99	101	98.8	80 - 120	2.2	20	
Calcium Total	mg/L	10	10.2	9.97	102	99.7	80 - 120	2.28	20	
Chromium Total	mg/L	1	1.07	1.04	107	104	80 - 120	2.84	20	

METHOD BLANK: 594946

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.0040	0.00400	
Boron Total	mg/L	<0.0500	0.0500	
Calcium Total	mg/L	<0.200	0.200	
Chromium Total	mg/L	<0.0100	0.0100	

MATRIX SPIKE: 594947 DUPLICATE: 594948 ORIGINAL: Q1602952006

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Barium Total	mg/L	.02	1	1.04	1.06	102	103	75 - 125	1.9	20	
Beryllium Total	mg/L	0	1	.95	.96	94.8	96.3	75 - 125	1.57	20	
Boron Total	***mg/L***	***0***	***1***	***.6***	***.62***	***60.4***	***62.1***	***75 - 125***	***2.78***	***20***	
Chromium Total	mg/L	0	1	.93	.95	93.1	94.5	75 - 125	1.49	20	

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QUALITY CONTROL DATA

Workorder: Q1602952

QC Batch: WET/9718 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1602952001, Q1602952002

METHOD BLANK: 595135

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 595136

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qualifi
Total Dissolved Solids(TDS)	mg/L	400	392	393	98	98.2	80 - 120	.255	20	

MATRIX SPIKE SAMPLE: 595138 ORIGINAL: Q1602735007

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qualifiers
Total Dissolved Solids(TDS)	mg/L	271	400	666	98.8	70 - 130	

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QUALITY CONTROL DATA

Workorder: Q1602952

QC Batch: WET/9719 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1602952003, Q1602952004, Q1602952005

METHOD BLANK: 595139

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 595140

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qualifi
Total Dissolved Solids(TDS)	mg/L	400	393	395	98.2	98.8	80 - 120	.508	20	

MATRIX SPIKE SAMPLE: 595142 ORIGINAL: Q1603127011

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qualifiers
Total Dissolved Solids(TDS)	mg/L	770	400	1150	95.5	70 - 130	

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QUALITY CONTROL DATA

Workorder: Q1602952

QC Batch: WET/9721 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1602952002, Q1602952003

METHOD BLANK: 595189

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Fluoride	mg/L	<0.0100	0.0100	

MATRIX SPIKE: 595193 DUPLICATE: 595194 ORIGINAL: Q1602204002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Fluoride	mg/L	.15	1	1.15	1.15	100	100	80 - 120	0	20	

LABORATORY CONTROL SAMPLE: 595195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qualifiers
Fluoride	mg/L	1	1.01	101	90 - 110	

METHOD BLANK: 595197

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Fluoride	mg/L	<0.0100	0.0100	

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QUALITY CONTROL DATA

Workorder: Q1602952

QC Batch: MEP/5202 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1602952001, Q1602952003, Q1602952006

METHOD BLANK: 595660

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 595661

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qualifi
Mercury Total	ug/L	2	2	2.03	100	101	85 - 115	1.49	20	

MATRIX SPIKE: 595663 DUPLICATE: 595664 ORIGINAL: Q1602919006

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury Total	ug/L	.02	2	1.68	1.62	84.2	81.1	70 - 130	3.64	20	

MATRIX SPIKE: 595667 DUPLICATE: 595668 ORIGINAL: Q1602952001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury Total	ug/L	0	2	1.6	1.57	80.1	78.5	70 - 130	1.89	20	

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QUALITY CONTROL DATA

Workorder: Q1602952

QC Batch: MEP/5203 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1602952002, Q1602952004, Q1602952005, Q1602952007, Q1602952008

METHOD BLANK: 595688

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 595689

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qualifi
Mercury Total	ug/L	2	2.02	1.96	101	97.9	85 - 115	3.02	20	

MATRIX SPIKE: 595691 DUPLICATE: 595692 ORIGINAL: Q1602919009

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Mercury Total	ug/L	0	2	1.72	1.7	86.2	85.2	70 - 130	1.17	20	

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1602952

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1602952001	CBL - 340I			E300.0, Anions	WET/9704
Q1602952002	CBL - 301I			E300.0, Anions	WET/9704
Q1602952003	CBL - 302I			E300.0, Anions	WET/9704
Q1602952004	CBL - 306I			E300.0, Anions	WET/9704
Q1602952005	CBL - 308I			E300.0, Anions	WET/9704
Q1602952001	CBL - 340I	SW3010A, Metals Prep	MEP/5189	SW6020 ICP-MS	MET/4142
Q1602952003	CBL - 302I	SW3010A, Metals Prep	MEP/5189	SW6020 ICP-MS	MET/4142
Q1602952006	CBL - 602I	SW3010A, Metals Prep	MEP/5189	SW6020 ICP-MS	MET/4142
Q1602952001	CBL - 340I	SW3010A, Metals Prep	MEP/5189	SW6020 ICP-MS	MET/4156
Q1602952003	CBL - 302I	SW3010A, Metals Prep	MEP/5189	SW6020 ICP-MS	MET/4156
Q1602952006	CBL - 602I	SW3010A, Metals Prep	MEP/5189	SW6020 ICP-MS	MET/4156
Q1602952002	CBL - 301I	SW3010A, Metals Prep	MEP/5190	SW6020 ICP-MS	MET/4142
Q1602952004	CBL - 306I	SW3010A, Metals Prep	MEP/5190	SW6020 ICP-MS	MET/4142
Q1602952005	CBL - 308I	SW3010A, Metals Prep	MEP/5190	SW6020 ICP-MS	MET/4142
Q1602952007	Field Blank	SW3010A, Metals Prep	MEP/5190	SW6020 ICP-MS	MET/4142
Q1602952008	EQ Blank	SW3010A, Metals Prep	MEP/5190	SW6020 ICP-MS	MET/4142
Q1602952002	CBL - 301I	SW3010A, Metals Prep	MEP/5190	SW6020 ICP-MS	MET/4156
Q1602952004	CBL - 306I	SW3010A, Metals Prep	MEP/5190	SW6020 ICP-MS	MET/4156
Q1602952005	CBL - 308I	SW3010A, Metals Prep	MEP/5190	SW6020 ICP-MS	MET/4156
Q1602952007	Field Blank	SW3010A, Metals Prep	MEP/5190	SW6020 ICP-MS	MET/4156
Q1602952008	EQ Blank	SW3010A, Metals Prep	MEP/5190	SW6020 ICP-MS	MET/4156
Q1602952001	CBL - 340I	SW3010A, Metals Prep	MEP/5195	SW6010B ICP-AES	MET/4151
Q1602952002	CBL - 301I	SW3010A, Metals Prep	MEP/5195	SW6010B ICP-AES	MET/4151
Q1602952003	CBL - 302I	SW3010A, Metals Prep	MEP/5195	SW6010B ICP-AES	MET/4151
Q1602952004	CBL - 306I	SW3010A, Metals Prep	MEP/5195	SW6010B ICP-AES	MET/4151
Q1602952005	CBL - 308I	SW3010A, Metals Prep	MEP/5195	SW6010B ICP-AES	MET/4151
Q1602952006	CBL - 602I	SW3010A, Metals Prep	MEP/5195	SW6010B ICP-AES	MET/4151
Q1602952007	Field Blank	SW3010A, Metals Prep	MEP/5195	SW6010B ICP-AES	MET/4151
Q1602952008	EQ Blank	SW3010A, Metals Prep	MEP/5195	SW6010B ICP-AES	MET/4151
Q1602952007	Field Blank	SW3010A, Metals Prep	MEP/5195	SW6010B ICP-AES	MET/4170

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1602952

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1602952001	CBL - 340I			SM2540C, TDS	WET/9718
Q1602952002	CBL - 301I			SM2540C, TDS	WET/9718
Q1602952003	CBL - 302I			SM2540C, TDS	WET/9719
Q1602952004	CBL - 306I			SM2540C, TDS	WET/9719
Q1602952005	CBL - 308I			SM2540C, TDS	WET/9719
Q1602952002	CBL - 301I			E300.0, Anions	WET/9721
Q1602952003	CBL - 302I			E300.0, Anions	WET/9721
Q1602952001	CBL - 340I	SW7470A Hg in Liquid Waste	MEP/5202	SW7470A Hg in Liquid Waste	MET/4144
Q1602952003	CBL - 302I	SW7470A Hg in Liquid Waste	MEP/5202	SW7470A Hg in Liquid Waste	MET/4144
Q1602952006	CBL - 602I	SW7470A Hg in Liquid Waste	MEP/5202	SW7470A Hg in Liquid Waste	MET/4144
Q1602952002	CBL - 301I	SW7470A Hg in Liquid Waste	MEP/5203	SW7470A Hg in Liquid Waste	MET/4144
Q1602952004	CBL - 306I	SW7470A Hg in Liquid Waste	MEP/5203	SW7470A Hg in Liquid Waste	MET/4144
Q1602952005	CBL - 308I	SW7470A Hg in Liquid Waste	MEP/5203	SW7470A Hg in Liquid Waste	MET/4144
Q1602952007	Field Blank	SW7470A Hg in Liquid Waste	MEP/5203	SW7470A Hg in Liquid Waste	MET/4144
Q1602952008	EQ Blank	SW7470A Hg in Liquid Waste	MEP/5203	SW7470A Hg in Liquid Waste	MET/4144

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Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

NELAP ACCREDITED TNI LABORATORY

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#: Q1602952.
Client PO:

Project:	FPP - GWMP - CCR Rule	Client:	LCRA
Collector:	Jason Woods	Contact:	
Event#:	1281724 / 2754	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	1LPU	500PHNO3							6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28						
1	CBL - 340I	1/21/16	1407	AQ	N	N	1	1							X	X	X	X	X	X						
2	CBL - 301I	1/21/16	1021	AQ	N	N	1	1							X	X	X	X	X	X						
3	CBL - 302I	1/22/16	1135	AQ	N	N	1	1							X	X	X	X	X	X						
4	CBL - 306I	1/21/16	1139	AQ	N	N	1	1							X	X	X	X	X	X						
5	CBL - 308I	1/22/16	1032	AQ	N	N	1	1							X	X	X	X	X	X						
6	CBL - 602I	1/22/16	1135	AQ	N	N		1							X		X	X								
7	Field Blank	1/22/16	1032	AQ	N	N		1							X		X	X								
8	EQ Blank	1/22/16	1045	AQ	N	N		1							X		X	X								

Transfers	Relinquished By	Date/Time	Received By	Date/Time	Cooler Temp: #	T#	Obs.	Corr.
1	[signature]	1/22/16 1600	[signature]	1/22/16 1600				
2					1	TG	1.6	1.6
3					2			

Client Special Instructions:

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Q1602952 190390

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 1/21/2016
Sample Time: 1407
Sample ID: CBL3401

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160121		V= 3.2	9.7	8

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- _____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation		(ft/msl)	Land Surface Elevation		(ft/msl)
Depth to water From top of well casing $=D_w$	20.44	(ft)	Depth to water From land surface		(ft)
Groundwater Elevation			Groundwater Elevation		(ft/msl)
Well Depth = D	40.20	(ft)	Pump Placement	30	(ft)

PH: 6.52 (STD) Specific Conductivity: 812.1 uS/cm Sample Temp. 22.47 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	500mL	HNO_3	Metals	N
P	1L	ICE	Anions + TDS	N
P	4L Cube	HNO_3	Radium 226 + Combined 228	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 1.01 ntu
Weather Conditions: Partly cloudy, 15mph N wind, 50°
Other: Purge water is clear w/ no odor, Purge water remained clear throughout purging Low turbidity - high conductivity.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ galtft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
(2" dia. A= 0.0218) 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: EIS - Groundwater SOP
Date: 1/21/2016
Sampler: Jason Woods
Employer: LCRA

1ST Time Sampled.

Rev. 1 (08/2009)

LCRA
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Field Information Form

Sample Date: 1/21/2016 (8)
Sample Time: 1021
Sample ID: CBL301I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160121		V= 2.6	7.7	4

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | (N)
Sampling Equipment ..... Dedicated | Y | (N)

Purging Device	A	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	A	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- _____ Sampling Other (Specify)
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	38.25 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.15 (ft)	Pump Placement	50 (ft)

PH: 6.33 (STD)
Specific Conductivity: 7133 uS/cm
Sample Temp. 24.12 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	500mL	HNO_3	Metals	N
P	1L	ICE	Anions + TDS	N
P	4L Cube	HNO_3	Radium 226 + 228 Combined.	N
				~~20.6 Filtered~~ Dissolved JBW 1/21/16

Sample Appearance: Cloudy Odor: none Color: Light Brown Turbidity: 86.1 sample
Weather Conditions: Cloudy, Calm, 55°
Other: Purge water is milky brown, mostly cleared up after 2 gallons. First time Sampled for CCR.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS-Groundwater SOP 5-7D
Date: 1/21/2016
Sampler: JBW
Employer: LCRA.

Rev. 1 (08/2009)

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Field Information Form

Sample Date: 1/22/2016
Sample Time: 1135
Sample ID: CBL3021

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160122		V= 27	81	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) / N
Sampling Equipment ..... Dedicated (Y) / N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	10.58 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.25 (ft)	Pump Placement	20 (ft)

PH: 6.29 (STD)
Specific Conductivity: 7835 uS/cm
Sample Temp. 20.93 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	500mL	HNO_3	Metals	N
P	1L	ICE	Anions + TDS	N
Cube	4L	HNO_3	Radium 226 + Combined 228	N

Sample Appearance: clear Odor: none Color: clear Turbidity: 0.91 ntu
Weather Conditions: Sunny, 15mph N wind, 50°C
Other: Purge water is clear w/ no odor, Collected samples after field parameters stabilized CCR well

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS-Groundwater SOP 5-70
Date: 1/22/16
Sampler: Jason Woods
Employer: LCRA.

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Field Information Form

Sample Date: 1/21/2016
Sample Time: 1139
Sample ID: CBL306I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160121		V= 15	43	4

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated I Y I I N I Sampling Equipment ..... Dedicated I Y I I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- _____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	58.3 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	148.0 (ft)	Pump Placement	12 (ft)

7.09 (STD) PH 1854 uS/cm Specific Conductivity Sample Temp. 20.40 (°C)

Bottle			Analysis	Field Filt.Y/N
Type	Size	Preservative		
P	500mL	HNO_3	Metals	N
P	1L	ice	Anions + TDS	N
Cube	4L	HNO_3	Radium 226 + Combined 228	N

Sample Appearance: Clear Odor: none Color: clear Turbidity: 2.67
Weather Conditions: Partly Cloudy, 55°, 5mph N wind.
Other: Purge water is clear w/ no odor, Collected samples after field parameters stabilized. CCR Sampling.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS-Groundwater SOP 5-70
Date: 1/29/2016
Sampler: JBW
Employer: LCRA

Rev. 1 (08/2009)

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Field Information Form

Sample Date: 1/22/2016
Sample Time: 1032
Sample ID: CB613081

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	V= WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160129		16	48	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	25.50 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	30 (ft)

PH: 6.36 (STD)
Specific Conductivity: 9772 uS/cm
Sample Temp. 21.45 (°C)

Bottle			Analysis	Field Filt.Y/N
Type	Size	Preservative		
P	500mL	HNO_3	Metals	N
P	1L	ICE	Anions TDS	N
Cube	4L	HNO_3	Radium 226 + Combined 228	N
P	500mL	HNO_3	FB#3 + Equipment Blank Collected	N

Sample Appearance: Clear Odor: none Color: clear Turbidity: 2.39 ntu
Weather Conditions: Sunny, 15 mpL N wind.
Other: Purge water is milky brown. Cleared up after 1 gallon, collected samples after field parameters stabilized. CCR WEM

WELL VOLUME CALCULATION

$V=(D-D_w)$ (A) (7.48 galft^3) where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w= depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS-Groundwater SOP 5-7D
Date: 1/22/16
Sampler: Jason Woods
Employer: LCRA.

FPP - CCR Groundwater Monitoring Wells - January 2016

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
1/21/2016	9:51:28	20.49	6.87	6.55	74.3	6573	198.4	CBL - 301I
1/21/2016	9:51:49	21.02	6.43	3.53	40.5	6950	167.4	CBL - 301I
1/21/2016	9:52:04	21.17	6.36	2.61	30.0	7057	160.0	CBL - 301I
1/21/2016	9:55:04	22.01	6.30	0.51	6.0	7174	123.4	CBL - 301I
1/21/2016	9:58:04	22.39	6.31	0.50	5.9	7164	113.3	CBL - 301I
1/21/2016	10:01:04	22.58	6.31	0.45	5.3	7151	112.1	CBL - 301I
1/21/2016	10:04:04	22.78	6.31	0.40	4.8	7149	110.9	CBL - 301I
1/21/2016	10:07:04	22.92	6.32	0.41	4.8	7145	108.1	CBL - 301I
1/21/2016	10:09:25	23.04	6.32	0.39	4.6	7150	108.2	CBL - 301I
1/21/2016	10:12:25	23.27	6.32	0.37	4.4	7134	108.1	CBL - 301I
1/21/2016	10:15:25	23.64	6.32	0.39	4.6	7121	103.1	CBL - 301I
1/21/2016	10:18:25	24.02	6.33	0.41	5.0	7117	104.9	CBL - 301I
1/21/2016	10:21:25	24.12	6.33	0.41	5.0	7133	102.1	CBL - 301I
1/21/2016	11:03:48	19.99	7.13	6.25	69.1	1835	108.9	CBL - 306I
1/21/2016	11:04:07	19.91	7.12	6.01	66.3	1831	109.1	CBL - 306I
1/21/2016	11:05:03	19.77	7.11	5.71	62.9	1817	111.1	CBL - 306I
1/21/2016	11:06:13	19.64	7.10	5.75	63.1	1810	112.2	CBL - 306I
1/21/2016	11:09:13	19.44	7.10	6.00	65.6	1804	121.2	CBL - 306I
1/21/2016	11:12:13	19.60	7.10	6.16	67.6	1790	130.1	CBL - 306I
1/21/2016	11:15:13	19.83	7.08	6.03	66.4	1742	139.1	CBL - 306I
1/21/2016	11:18:13	19.95	7.07	5.88	64.9	1703	147.7	CBL - 306I
1/21/2016	11:21:13	19.93	7.08	5.84	64.4	1622	155.3	CBL - 306I
1/21/2016	11:24:13	19.88	7.08	5.83	64.3	1601	162.9	CBL - 306I
1/21/2016	11:27:13	19.87	7.09	5.92	65.3	1616	170.0	CBL - 306I
1/21/2016	11:30:13	19.95	7.08	6.07	67.1	1690	177.3	CBL - 306I
1/21/2016	11:33:05	20.11	7.07	6.25	69.2	1775	182.8	CBL - 306I
1/21/2016	11:36:05	20.24	7.08	6.37	70.8	1821	187.5	CBL - 306I
1/21/2016	11:39:05	20.40	7.09	6.60	73.5	1854	191.5	CBL - 306I
1/21/2016	13:25:46	22.07	6.61	8.10	95.4	8416	211.2	CBL - 340I
1/21/2016	13:26:05	22.17	6.59	7.96	93.8	8432	230.3	CBL - 340I
1/21/2016	13:26:56	22.36	6.56	7.58	89.7	8463	285.1	CBL - 340I
1/21/2016	13:29:56	22.38	6.52	6.39	75.7	8568	399.0	CBL - 340I
1/21/2016	13:32:56	22.46	6.51	6.07	72.0	8608	456.2	CBL - 340I
1/21/2016	13:35:56	22.31	6.51	5.75	68.1	8645	472.1	CBL - 340I
1/21/2016	13:38:56	22.41	6.51	5.52	65.5	8627	471.0	CBL - 340I
1/21/2016	13:41:56	22.41	6.50	5.37	63.6	8587	469.8	CBL - 340I
1/21/2016	13:44:56	22.41	6.50	5.18	61.4	8510	473.0	CBL - 340I
1/21/2016	13:47:56	22.32	6.51	5.00	59.1	8443	478.0	CBL - 340I
1/21/2016	13:50:56	22.29	6.52	4.87	57.6	8378	473.7	CBL - 340I
1/21/2016	13:53:56	22.38	6.52	4.75	56.2	8299	471.4	CBL - 340I

1/21/2016	13:55:34	22.42	6.52	4.70	55.7	8276	466.9	CBL - 340I
1/21/2016	13:58:34	22.33	6.52	4.61	54.5	8231	468.2	CBL - 340I
1/21/2016	14:01:34	22.38	6.52	4.53	53.6	8185	461.6	CBL - 340I
1/21/2016	14:04:34	22.34	6.52	4.47	52.8	8153	460.2	CBL - 340I
1/21/2016	14:07:34	22.47	6.52	4.42	52.4	8121	453.6	CBL - 340I
1/22/2016	9:58:11	19.45	6.40	4.92	55.3	9738	176.3	CBL - 308I
1/22/2016	9:58:25	19.72	6.39	4.82	54.5	9767	175.3	CBL - 308I
1/22/2016	9:59:08	20.41	6.39	4.71	53.9	9792	173.7	CBL - 308I
1/22/2016	10:02:08	21.24	6.38	4.21	48.9	9815	173.0	CBL - 308I
1/22/2016	10:05:08	21.40	6.38	3.90	45.5	9793	175.6	CBL - 308I
1/22/2016	10:08:08	21.42	6.38	3.67	42.9	9796	177.4	CBL - 308I
1/22/2016	10:11:08	21.51	6.37	3.46	40.5	9801	180.2	CBL - 308I
1/22/2016	10:14:08	21.49	6.37	3.27	38.2	9798	184.2	CBL - 308I
1/22/2016	10:17:08	21.41	6.36	3.11	36.4	9786	186.0	CBL - 308I
1/22/2016	10:20:08	21.40	6.36	2.96	34.6	9791	188.1	CBL - 308I
1/22/2016	10:23:08	21.44	6.36	2.96	34.6	9790	191.0	CBL - 308I
1/22/2016	10:26:08	21.46	6.36	2.99	35.0	9789	192.5	CBL - 308I
1/22/2016	10:29:08	21.41	6.36	2.92	34.0	9779	195.5	CBL - 308I
1/22/2016	10:32:08	21.45	6.36	2.82	32.9	9772	197.0	CBL - 308I
1/22/2016	11:07:37	19.09	6.47	4.50	49.8	7876	560.6	CBL -302I
1/22/2016	11:07:43	19.23	6.46	4.38	48.7	7858	564.6	CBL -302I
1/22/2016	11:08:59	19.90	6.39	3.33	37.5	7848	573.8	CBL -302I
1/22/2016	11:11:59	20.35	6.36	2.67	30.4	7879	577.7	CBL -302I
1/22/2016	11:14:59	20.58	6.35	2.38	27.1	7878	574.6	CBL -302I
1/22/2016	11:17:59	20.71	6.33	2.07	23.7	7872	559.1	CBL -302I
1/22/2016	11:20:59	20.82	6.32	1.86	21.3	7863	553.2	CBL -302I
1/22/2016	11:23:59	20.96	6.30	1.70	19.6	7859	546.3	CBL -302I
1/22/2016	11:26:59	21.00	6.30	1.64	18.9	7857	544.6	CBL -302I
1/22/2016	11:29:59	20.97	6.29	1.56	17.9	7846	542.5	CBL -302I
1/22/2016	11:32:59	21.05	6.29	1.49	17.2	7844	538.0	CBL -302I
1/22/2016	11:35:59	20.93	6.29	1.42	16.4	7835	537.1	CBL -302I

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

February 15, 2016

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1602972

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Susan Benavidez
Project Manager
susan.benavidez@lcra.org

Enclosures

T104704218

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

SAMPLE SUMMARY

Workorder: Q1602972

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1602972001	CBL - 340I	Aqueous	1/21/2016 14:07	1/22/2016 16:00
Q1602972002	CBL - 301I	Aqueous	1/21/2016 10:21	1/22/2016 16:00
Q1602972003	CBL - 302I	Aqueous	1/22/2016 11:35	1/22/2016 16:00
Q1602972004	CBL - 306I	Aqueous	1/21/2016 11:39	1/22/2016 16:00
Q1602972005	CBL - 308I	Aqueous	1/22/2016 10:32	1/22/2016 16:00
Q1602972006	CBL - 602I	Aqueous	1/22/2016 11:35	1/22/2016 16:00
Q1602972007	Field Blank	Aqueous	1/22/2016 10:32	1/22/2016 16:00
Q1602972008	EQ Blank	Aqueous	1/22/2016 10:55	1/22/2016 16:00

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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PROJECT SUMMARY

Workorder: Q1602972

Workorder Comments

LOGIN COMMENTS: Sample subcontracted for Radiochemistry analysis with customer's approval. Data provided in full with the ELS final report.

REPORTING COMMENTS: CBL - 602I DUPLICATE FOR CBL - 302I

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LCRA Environmental Laboratory Services
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ANALYTICAL RESULTS

Workorder: Q1602972

Lab ID:	**Q1602972001**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	1/21/2016 14:07	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	02/15/16 12:26	SB	02/15/16 12:26	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	02/15/16 12:26	SB	02/15/16 12:26	SB	

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ANALYTICAL RESULTS

Workorder: Q1602972

Lab ID:	**Q1602972002**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	1/21/2016 10:21	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	02/15/16 12:26	SB	02/15/16 12:26	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	02/15/16 12:26	SB	02/15/16 12:26	SB	

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ANALYTICAL RESULTS

Workorder: Q1602972

Lab ID:	**Q1602972003**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	1/22/2016 11:35	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	02/15/16 12:26	SB	02/15/16 12:26	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	02/15/16 12:26	SB	02/15/16 12:26	SB	

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ANALYTICAL RESULTS

Workorder: Q1602972

Lab ID:	**Q1602972004**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	1/21/2016 11:39	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	02/15/16 12:27	SB	02/15/16 12:27	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	02/15/16 12:27	SB	02/15/16 12:27	SB	

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ANALYTICAL RESULTS

Workorder: Q1602972

Lab ID:	**Q1602972005**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	1/22/2016 10:32	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	02/15/16 12:27	SB	02/15/16 12:27	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	02/15/16 12:27	SB	02/15/16 12:27	SB	

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ANALYTICAL RESULTS

Workorder: Q1602972

Lab ID:	**Q1602972006**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	1/22/2016 11:35	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	02/15/16 12:27	SB	02/15/16 12:27	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	02/15/16 12:27	SB	02/15/16 12:27	SB	

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ANALYTICAL RESULTS

Workorder: Q1602972

Lab ID:	**Q1602972007**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	1/22/2016 10:32	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	02/15/16 12:28	SB	02/15/16 12:28	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	02/15/16 12:28	SB	02/15/16 12:28	SB	

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ANALYTICAL RESULTS

Workorder: Q1602972

Lab ID:	**Q1602972008**	Date Received:	1/22/2016 16:00	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	1/22/2016 10:55	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	02/15/16 12:28	SB	02/15/16 12:28	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	02/15/16 12:28	SB	02/15/16 12:28	SB	

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Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45161007 - PO # Q1602972

Report To

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)356-6022
Fax (512)356-6021
Email envlab@lcra.org

Subcontract To

Phone
Fax

Requested Analysis

Preserved Containers: N

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Rad 226/228	LAB USE ONLY
1	Q1602972 001	01/21/16 1407		DW	X	
2	Q1602972 002	01/21/16 1021			X	
3	Q1602972 003	01/22/16 1135			X	
4	Q1602972 004	01/21/16 1139			X	
5	Q1602972 005	01/22/16 1032			X	

Report

- [ ] Standard (Results only)
- [ ] Standard with Batch QC
- [ ] CLP
- [ ] Other _____

Electronic Data Deliverables

- [ ] SEDD Stage 2A
- [ ] SEDD Stage 2B
- [ ] SEDD Stage 3
- [ ] Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	1/25/16 1000		
2				
3				
4				
5				

Q1602972 190410

2001.2.0.0

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45161007 - PO #

Report To	Subcontract To
LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Phone Fax

Requested Analysis: Rad 224/228

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: N	Rad 224/228	LAB USE ONLY
1	Q1602972 006	01/22/16 1135		Dw		X	
2	Q1602972 007	01/22/16 1032				X	
3	Q1602972 008	01/22/16 1055				X	
4							
5							

Report

- [ ] Standard (Results only)
- [ ] Standard with Batch QC
- [ ] CLP
- [ ] Other _____

Electronic Data Deliverables

- [ ] SEDD Stage 2A
- [ ] SEDD Stage 2B
- [ ] SEDD Stage 3
- [ ] Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	1/25/16 1000		
2				
3				
4				
5				

2001.2.0.0

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

February 12, 2016

Ariana Dean
LCRA Environmental Laboratory Services
P.O. Box 220 78767-02203505 Montopolis
Austin, TX 78744
TEL: 512-356-6022
FAX: 512-356-6021

RE: Q1602972

Dear Ariana Dean: Order No.: 16011753

Summit Environmental Technologies, Inc. received 8 sample(s) on 1/29/2016 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Bachar Najm
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

A2LA 0724.01, Alabama 41600, Arizona AZ0788, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0105, Delaware, Florida NELAC E87688, Georgia E87688 and 943, Idaho OH00923, Illinois 200061 and Reg.5, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061 and LA12004, Maine 2012015, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, Montana CERT0099, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Tennessee TN04018, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 248 and 9957C and E87688, Wisconsin 399013010

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Case Narrative

WO#: **16011753**
Date: **2/12/2016**

CLIENT: LCRA Environmental Laboratory Services
Project: Q1602972

This report in its entirety consists of the documents listed below. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Paginated Report including Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports, and copies of the Chain of Custody Documents are supplied with this sample set.

Concentrations reported with a J-Flag in the Qualifier Field are values below the Limit of Quantitation (LOQ) but greater than the established Method Detection Limit (MDL).

Method numbers, unless specified as SM (Standard Methods) or ASTM, are EPA methods.

Estimated uncertainty values are available upon request.

Analysis performed by DBM, VRM, or SFG were performed at Summit Labs 2704 Eatonton Highway Haddock, GA 31033

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

This report is believed to meet all of the requirements of NELAC or the accrediting / certifying agency. Any comments or problems with the analytical events associated with this report are noted below.
Analytical Comments for Radium-228_DW(904.0), Sample lcsd-18581, Batch ID 18581 : The Radium-228 LCSD (Batch 18581) exhibited poor recovery; The LCS exhibited control.

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Workorder Sample Summary

WO#: **16011753**

12-Feb-16

CLIENT: LCRA Environmental Laboratory Services
Project: Q1602972

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
16011753-001	Q1602972-001		1/21/2016 2:07:00 PM	1/29/2016 12:10:00 PM	Drinking Water
16011753-002	Q1602972-002		1/21/2016 10:21:00 AM	1/29/2016 12:10:00 PM	Drinking Water
16011753-003	Q1602972-003		1/22/2016 11:35:00 AM	1/29/2016 12:10:00 PM	Drinking Water
16011753-004	Q1602972-004		1/21/2016 11:39:00 AM	1/29/2016 12:10:00 PM	Drinking Water
16011753-005	Q1602972-005		1/22/2016 10:32:00 AM	1/29/2016 12:10:00 PM	Drinking Water
16011753-006	Q1602972-006		1/22/2016 11:35:00 AM	1/29/2016 12:10:00 PM	Drinking Water
16011753-007	Q1602972-007		1/22/2016 10:32:00 AM	1/29/2016 12:10:00 PM	Drinking Water
16011753-008	Q1602972-008		1/22/2016 10:55:00 AM	1/29/2016 12:10:00 PM	Drinking Water

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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **16011753**

Date Reported: **2/12/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/21/2016 2:07:00 PM

Project: Q1602972

Lab ID: 16011753-001 **Matrix:** DRINKING WATER

Client Sample ID Q1602972-001

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.1	1	2/9/2016 12:22:00 PM
Yield	1.00					1	2/9/2016 12:22:00 PM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.45	1.00		pCi/L	± 0.444	1	2/4/2016
Yield	1.00					1	2/4/2016

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **16011753**

Date Reported: **2/12/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/21/2016 10:21:00 AM

Project: Q1602972

Lab ID: 16011753-002 **Matrix:** DRINKING WATER

Client Sample ID Q1602972-002

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.16	1	2/9/2016 12:22:00 PM
Yield	1.00					1	2/9/2016 12:22:00 PM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.34	1	2/8/2016 2:45:00 PM
Yield	1.00					1	2/8/2016 2:45:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **16011753**

Date Reported: **2/12/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/22/2016 11:35:00 AM

Project: Q1602972

Lab ID: 16011753-003 **Matrix:** DRINKING WATER

Client Sample ID Q1602972-003

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.09	1	2/9/2016 12:22:00 PM
Yield	1.00					1	2/9/2016 12:22:00 PM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.98	1.00		pCi/L	± 0.587	1	2/4/2016
Yield	1.00					1	2/4/2016

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
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Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **16011753**

Date Reported: **2/12/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/21/2016 11:39:00 AM

Project: Q1602972

Lab ID: 16011753-004 **Matrix:** DRINKING WATER

Client Sample ID Q1602972-004

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.09	1	2/9/2016 12:23:00 PM
Yield	1.00					1	2/9/2016 12:23:00 PM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.26	1	2/8/2016 2:45:00 PM
Yield	1.00					1	2/8/2016 2:45:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
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Analytical Report

(consolidated)

WO#: **16011753**

Date Reported: **2/12/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/22/2016 10:32:00 AM

Project: Q1602972

Lab ID: 16011753-005 **Matrix:** DRINKING WATER

Client Sample ID Q1602972-005

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.11	1	2/9/2016 12:23:00 PM
Yield	1.00					1	2/9/2016 12:23:00 PM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.11	1.00		pCi/L	± 0.419	1	2/4/2016
Yield	1.00					1	2/4/2016

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **16011753**

Date Reported: **2/12/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/22/2016 11:35:00 AM

Project: Q1602972

Lab ID: 16011753-006 **Matrix:** DRINKING WATER

Client Sample ID Q1602972-006

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.09	1	2/9/2016 12:23:00 PM
Yield	1.00					1	2/9/2016 12:23:00 PM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.42	1	2/8/2016 2:45:00 PM
Yield	1.00					1	2/8/2016 2:45:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **16011753**

Date Reported: **2/12/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/22/2016 10:32:00 AM

Project: Q1602972

Lab ID: 16011753-007 **Matrix:** DRINKING WATER

Client Sample ID Q1602972-007

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.08	1	2/9/2016 12:23:00 PM
Yield	1.00					1	2/9/2016 12:23:00 PM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.41	1	2/8/2016 2:45:00 PM
Yield	1.00					1	2/8/2016 2:45:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **16011753**

Date Reported: **2/12/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/22/2016 10:55:00 AM

Project: Q1602972

Lab ID: 16011753-008 **Matrix:** DRINKING WATER

Client Sample ID Q1602972-008

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.07	1	2/9/2016 1:07:00 PM
Yield	1.00					1	2/9/2016 1:07:00 PM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.31	1	2/8/2016 3:21:00 PM
Yield	1.00					1	2/8/2016 3:21:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45161007 -

PO # Q1602972

Report To	Subcontract To
LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Phone Fax

Requested Analysis

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers	Rad 226/228	LAB USE ONLY
1	Q1602972 001	01/21/16 1407		DW		X	
2	Q1602972 002	01/21/16 1021				X	
3	Q1602972 003	01/22/16 1135				X	
4	Q1602972 004	01/21/16 1139				X	
5	Q1602972 005	01/22/16 1032				X	

16011753-001-008sc

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	1/25/16 1000		
2				
3				
4			[signature]	1-29-16
5				1210

2001.2.0.0

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45161007 -

PO #

Report To	Subcontract To
LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Phone Fax

Requested Analysis

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers	Rad 226/228	LAB USE ONLY
1	Q1602972 006	01/22/161135		Dw		X	
2	Q1602972 007	01/22/161032				X	
3	Q1602972 008	01/22/161055				X	
4							
5							

16011753-001-0085c

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	1/25/16 1000		
2				
3				
4				
5			[signature]	

2001.2.0.0

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Client: LCRA

Initials of person inspecting cooler and samples: SC

Order Number: 16011753

Date Received: 1-29-16 Time Received: 1210 Date cooler(s) opened and samples inspected: 1-29

Number of Coolers/Boxes: 1

N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other:

Packaging: Peanuts Bubble Wrap Paper Foam None Other:

Tape on cooler/box	Y	N	N/A
Custody Seals intact	Y	N	N/A
C-O-C in plastic	Y	N	N/A
Ice_____ Blue ice _____	present / absent / melted		N/A
Sample Temperature IR Gun #16020459 CF 0.0 °C	5.1 °C		N/A
Radiological Testing Instrument serial #35127 (see page 2 for scan results)	Y	N	N/A

Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.

C-O-C filled out properly	Y	N	N/A
Samples in separate bags	Y	N	N/A
Sample containers intact*	Y	N	N/A

*If no, list broken sample(s):

Sample label(s) complete (ID, date, etc.)	Y	N	N/A
Label(s) agree with C-O-C	Y	N	N/A
Correct containers used	Y	N	N/A
Sufficient sample received	Y	N	N/A
Samples received within holding time	Y	N	N/A
Bubbles absent from 40 mL vials**	Y	N	N/A

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm.

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact:

Date/Time

Logged in by:

Comments:

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# OES-01-0207 pH strip (2.8-4.6) SET#OES-01-0149
Total DPD packet SET#_____ Free DPD packet SET#_____
Disp. Pipette SET# WC-03-0510

ID	Method	pH	Chlorine (±)	Comments
1	✓	2		
2				
3				
4				
5				
6				
7				
8				

Radiological scan on sample

ID	scan	CPM
1	✓	37
2		21
3		27
4		24
5		32
6		34
7		30
8		40

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for **Total** chlorine
552.2 checked for **Free** chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0149)
524.2 = pH and Chlorine checked at bench and not log in department

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

NELAP ACCREDITED TNI LABORATORY

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#: Q1602972
Client PO:

Project:	FPP CCR Rule - Sub	Client:	LCRA
Collector:	Jason Woods	Contact:	
Event#:	1302338 / 2756	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU								Requested Analysis * S-Rad228	S-Rad226										
1	CBL - 340I	1/21/16	1407	AQ	N	N	1								X	X										
2	CBL - 301I	1/21/16	1021	AQ			1								X	X										
3	CBL - 302I	1/22/16	1135	AQ			1								X	X										
4	CBL - 306I	1/21/16	1139	AQ			1								X	X										
5	CBL - 308I	1/22/16	1032	AQ			1								X	X										
6	CBL - 602I	1/22/16	1135	AQ			1								X	X										
7	Field Blank	1/22/16	1032	AQ			1								X	X										
8	EQ Blank	1/22/16	1055	AQ			1								X	X										

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	[signature]	1/22/16 1600	[signature]	1/22/16 1600
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	T6	19.0	19.0
2			

Client Special Instructions: Preserve in lab.

Lab Use Only
Q1602972 190410

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

August 25, 2016

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1630504

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Susan Benavidez
Project Manager
susan.benavidez@lcra.org

Enclosures

T104704218

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

SAMPLE SUMMARY

Workorder: Q1630504

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1630504001	CBL - 340I	Aqueous	7/27/2016 11:34	7/27/2016 16:30
Q1630504002	CBL - 301I	Aqueous	7/27/2016 12:27	7/27/2016 16:30
Q1630504003	CBL - 302I	Aqueous	7/27/2016 13:41	7/27/2016 16:30
Q1630504004	CBL - 306I	Aqueous	7/26/2016 12:27	7/27/2016 16:30
Q1630504005	CBL - 308I	Aqueous	7/26/2016 13:45	7/27/2016 16:30
Q1630504006	CBL - 602I	Aqueous	7/27/2016 13:41	7/27/2016 16:30
Q1630504007	Field Blank	Aqueous	7/27/2016 13:41	7/27/2016 16:30
Q1630504008	EQ Blank	Aqueous	7/26/2016 12:40	7/27/2016 16:30

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

PROJECT SUMMARY

Workorder: Q1630504

Workorder Comments

ANALYTICAL COMMENTS: All samples subcontracted with customer's approval. Data provided in full with the ELS final report.

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1630504

Lab ID:	**Q1630504001**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	7/27/2016 11:34	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226	Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	08/25/16	SB	08/25/16	SB	
Analysis Desc: E904.0, Radium 228	Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228										
Reference Lab Report	see attached.					1	08/25/16	SB	08/25/16	SB	

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1630504

Lab ID:	**Q1630504002**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	7/27/2016 12:27	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	08/25/16	SB	08/25/16	SB	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	08/25/16	SB	08/25/16	SB	

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Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1630504

Lab ID:	**Q1630504003**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	7/27/2016 13:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	08/25/16	SB	08/25/16	SB	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	08/25/16	SB	08/25/16	SB	

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3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1630504

Lab ID:	**Q1630504004**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	7/26/2016 12:27	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	08/25/16	SB	08/25/16	SB	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	08/25/16	SB	08/25/16	SB	

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ANALYTICAL RESULTS

Workorder: Q1630504

Lab ID:	**Q1630504005**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	7/26/2016 13:45	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226	Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	08/25/16	SB	08/25/16	SB	
Analysis Desc: E904.0, Radium 228	Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228										
Reference Lab Report	see attached.					1	08/25/16	SB	08/25/16	SB	

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ANALYTICAL RESULTS

Workorder: Q1630504

Lab ID:	**Q1630504006**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	7/27/2016 13:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	08/25/16	SB	08/25/16	SB	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	08/25/16	SB	08/25/16	SB	

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ANALYTICAL RESULTS

Workorder: Q1630504

Lab ID:	**Q1630504007**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	7/27/2016 13:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	08/25/16	SB	08/25/16	SB	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	08/25/16	SB	08/25/16	SB	

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ANALYTICAL RESULTS

Workorder: Q1630504

Lab ID:	**Q1630504008**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	7/26/2016 12:40	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	08/25/16	SB	08/25/16	SB	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	08/25/16	SB	08/25/16	SB	

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Website: http://www.settek.com

August 25, 2016

Ariana Dean
LCRA Environmental Laboratory Services
P.O. Box 220 78767-02203505 Montopolis
Austin, TX 78744
TEL: 512-356-6022
FAX: 512-356-6021

RE: Q1630504

Dear Ariana Dean:

Order No.: 16080246

Summit Environmental Technologies, Inc. received 8 sample(s) on 8/3/2016 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Patti Alderson

Patti Alderson
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0105, Delaware, Florida NELAC E87688, Georgia E87688 and 943, Idaho OH00923, Illinois 200061 and Reg.5, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061 and LA12004, Maine 2012015, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, Montana CERT0099, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 248 and 9957C and E87688, Wisconsin 399013010

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Case Narrative

WO#: **16080246**
Date: **8/25/2016**

CLIENT: LCRA Environmental Laboratory Services
Project: Q1630504

This report in its entirety consists of the documents listed below. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Paginated Report including Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports, and copies of the Chain of Custody Documents are supplied with this sample set.

Concentrations reported with a J-Flag in the Qualifier Field are values below the Limit of Quantitation (LOQ) but greater than the established Method Detection Limit (MDL).

Method numbers, unless specified as SM (Standard Methods) or ASTM, are EPA methods.

Estimated uncertainty values are available upon request.

Analysis performed by DBM, VRM, or SFG were performed at Summit Labs 2704 Eatonton Highway Haddock, GA 31033

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

This report is believed to meet all of the requirements of NELAC or the accrediting / certifying agency. Any comments or problems with the analytical events associated with this report are noted below.

Summit Environmental Technologies, In
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Cuyahoga Falls, Ohio 4422
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Website: http://www.settek.co

Qualifiers and Acronyms

WO#: **16080246**
Date: **8/25/2016**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

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Workorder Sample Summary

WO#: **16080246**

25-Aug-16

CLIENT: LCRA Environmental Laboratory Services
Project: Q1630504

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
16080246-001	Q1630504001		7/27/2016 11:34:00 AM	8/3/2016 2:00:00 PM	Non-Potable Water
16080246-002	Q1630504002		7/27/2016 12:27:00 PM	8/3/2016 2:00:00 PM	Non-Potable Water
16080246-003	Q1630504003		7/27/2016 1:41:00 PM	8/3/2016 2:00:00 PM	Non-Potable Water
16080246-004	Q1630504004		7/27/2016 12:27:00 PM	8/3/2016 2:00:00 PM	Non-Potable Water
16080246-005	Q1630504005		7/27/2016 1:44:00 PM	8/3/2016 2:00:00 PM	Non-Potable Water
16080246-006	Q1630504006		7/27/2016 1:41:00 PM	8/3/2016 2:00:00 PM	Non-Potable Water
16080246-007	Q1630504007		7/27/2016 1:41:00 PM	8/3/2016 2:00:00 PM	Non-Potable Water
16080246-008	Q1630504008		7/26/2016 12:40:00 PM	8/3/2016 2:00:00 PM	Non-Potable Water

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Analytical Report

(consolidated)

WO#: **16080246**

Date Reported: **8/25/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 7/27/2016 11:34:00 AM

Project: Q1630504

Lab ID: 16080246-001 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1630504001

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**		Analyst: **BRD**
Radium-226	1.89	1.00		pCi/L	± 0.38	1	8/16/2016 8:07:00 AM
Yield	1.00					1	8/16/2016 8:07:00 AM
RADIUM-228 (904.0)					**E904.0**		Analyst: **BRD**
Radium-228	1.16	1.00	MB+	pCi/L	± 0.73	1	8/15/2016 2:00:00 PM
Yield	1.00					1	8/15/2016 2:00:00 PM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
	P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16080246**

Date Reported: **8/25/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 7/27/2016 12:27:00 PM

Project: Q1630504

Lab ID: 16080246-002 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1630504002

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**		Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.26	1	8/16/2016 8:07:00 AM
Yield	1.00					1	8/16/2016 8:07:00 AM
RADIUM-228 (904.0)					**E904.0**		Analyst: **BRD**
Radium-228	ND	1.00	MB+	pCi/L	± 0.57	1	8/15/2016 2:24:00 PM
Yield	1.00					1	8/15/2016 2:24:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16080246**

Date Reported: **8/25/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 7/27/2016 1:41:00 PM

Project: Q1630504

Lab ID: 16080246-003 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1630504003

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**		Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.21	1	8/16/2016 8:08:00 AM
Yield	1.00					1	8/16/2016 8:08:00 AM
RADIUM-228 (904.0)					**E904.0**		Analyst: **BRD**
Radium-228	ND	1.00	MB+	pCi/L	± 0.65	1	8/15/2016 2:00:00 PM
Yield	0.970					1	8/15/2016 2:00:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16080246**

Date Reported: **8/25/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 7/27/2016 12:27:00 PM

Project: Q1630504

Lab ID: 16080246-004 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1630504004

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**		Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.22	1	8/16/2016 8:08:00 AM
Yield	1.00					1	8/16/2016 8:08:00 AM
RADIUM-228 (904.0)					**E904.0**		Analyst: **BRD**
Radium-228	ND	1.00	MB+	pCi/L	± 0.65	1	8/15/2016 2:01:00 PM
Yield	1.00					1	8/15/2016 2:01:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16080246**

Date Reported: **8/25/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 7/27/2016 1:44:00 PM

Project: Q1630504

Lab ID: 16080246-005 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1630504005

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.17	1	8/24/2016 7:24:00 AM
Yield	1.00					1	8/24/2016 7:24:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.21	1.00		pCi/L	± 0.6	1	8/15/2016 2:01:00 PM
Yield	1.00			pCi/L		1	8/15/2016 2:01:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16080246**

Date Reported: **8/25/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 7/27/2016 1:41:00 PM

Project: Q1630504

Lab ID: 16080246-006 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1630504006

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**		Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.21	1	8/16/2016 8:08:00 AM
Yield	1.00					1	8/16/2016 8:08:00 AM
RADIUM-228 (904.0)					**E904.0**		Analyst: **BRD**
Radium-228	ND	1.00	MB+	pCi/L	± 0.44	1	8/15/2016 2:24:00 PM
Yield	1.00					1	8/15/2016 2:24:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16080246**

Date Reported: **8/25/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 7/27/2016 1:41:00 PM

Project: Q1630504

Lab ID: 16080246-007 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1630504007

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**		Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.17	1	8/16/2016 8:08:00 AM
Yield	1.00					1	8/16/2016 8:08:00 AM
RADIUM-228 (904.0)					**E904.0**		Analyst: **BRD**
Radium-228	ND	1.00	MB+	pCi/L	± 0.62	1	8/15/2016 2:01:00 PM
Yield	1.00					1	8/15/2016 2:01:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16080246**

Date Reported: **8/25/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 7/26/2016 12:40:00 PM

Project: Q1630504

Lab ID: 16080246-008 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1630504008

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**		Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.22	1	8/16/2016 8:05:00 AM
Yield	1.00					1	8/16/2016 8:05:00 AM
RADIUM-228 (904.0)					**E904.0**		Analyst: **BRD**
Radium-228	ND	1.00	MB+	pCi/L	± 0.46	1	8/15/2016 2:54:00 PM
Yield	1.00					1	8/15/2016 2:54:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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QC SUMMARY REPORT

WO#: **16080246**
25-Aug-16

Client: LCRA Environmental Laboratory Services
Project: Q1630504 **BatchID:** **R57916**

Sample ID **mb-22342** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: RunNo: **57916**
Client ID: **PBW** Batch ID: **R57916** TestNo: **E904.0** Analysis Date: **8/15/2016** SeqNo: **939638**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00									
Yield	1.00										

Sample ID **lcs-22342** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: RunNo: **57916**
Client ID: **LCSW** Batch ID: **R57916** TestNo: **E904.0** Analysis Date: **8/15/2016** SeqNo: **939639**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.86	1.00	5.000	0	77.2	70	130				

Sample ID **lcsd-22342** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: RunNo: **57916**
Client ID: **LCSS02** Batch ID: **R57916** TestNo: **E904.0** Analysis Date: **8/15/2016** SeqNo: **939640**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.06	1.00	5.000	0	81.1	70	130	3.859	5.01	20	

Sample ID **16080246-001aMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: RunNo: **57916**
Client ID: **Q1630504001** Batch ID: **R57916** TestNo: **E904.0** Analysis Date: **8/15/2016** SeqNo: **939642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **16080246**

25-Aug-16

Client: LCRA Environmental Laboratory Services

Project: Q1630504

BatchID: **R57916**

Sample ID **16080246-001aMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: RunNo: **57916**

Client ID: **Q1630504001** Batch ID: **R57916** TestNo: **E904.0** Analysis Date: **8/15/2016** SeqNo: **939642**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	7.00	1.00	5.000	1.157	117	70	130				MB+

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **16080246**
25-Aug-16

Client: LCRA Environmental Laboratory Services
Project: Q1630504 **BatchID:** **R57920**

Sample ID **MB-22342** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: RunNo: **57920**
Client ID: **PBW** Batch ID: **R57920** TestNo: **E903.0** Analysis Date: **8/16/2016** SeqNo: **939774**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID **lcsd-22342** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: RunNo: **57920**
Client ID: **LCSS02** Batch ID: **R57920** TestNo: **E903.0** Analysis Date: **8/16/2016** SeqNo: **939775**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.01	1.00	5.000	0	100	70	130	4.550	9.62	20	

Sample ID **LCS-22342** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: RunNo: **57920**
Client ID: **LCSW** Batch ID: **R57920** TestNo: **E903.0** Analysis Date: **8/16/2016** SeqNo: **939776**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.55	1.00	5.000	0	91.0	70	130				

Sample ID **16080246-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: RunNo: **57920**
Client ID: **Q1630504001** Batch ID: **R57920** TestNo: **E903.0** Analysis Date: **8/16/2016** SeqNo: **939777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Original

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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **16080246**

25-Aug-16

Client: LCRA Environmental Laboratory Services

Project: Q1630504

BatchID: **R57920**

Sample ID **16080246-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: RunNo: **57920**

Client ID: **Q1630504001** Batch ID: **R57920** TestNo: **E903.0** Analysis Date: **8/16/2016** SeqNo: **939777**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	8.08	1.00	5.000	1.890	124	70	130				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45184171 - 7/28/16

PO # Q1630504

Report To	Subcontract To
LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Phone Summit Fax

16080246-001-008sc

Requested Analysis

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: 4L HNO3	Rad 226	Rad 228	LAB USE ONLY
1	Q1630504 001	7/27/16 1134			X	X	X	
2	002	1227			X			
3	003	1341			X			
4	004	7/26/16 1227			X			
5	005	1345			X			

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	7/28/16 1145		
2				
3			[signature]	
4				
5			8-3-16 1400	

2001.2.0.0

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45184171 - 7/28/16 PO # Q1630504

Report To	Subcontract To
LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Phone Fax Summit

Requested Analysis

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: 4L HNO3	Rad 226	Rad 228	LAB USE ONLY
1	Q1630504 006	7/27/16 1341			X	X	X	
2	| 007	| 1341			|	|	|	
3	| 008	7/26/16 1240			|	|	|	
4								
5								

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	7/28/16 1145		
2				
3			[signature]	
4				
5				

2001.2.0.0

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Initials of person inspecting cooler and samples: SC

Client: LCRA

Order Number: 16080246

Date Received: 8-3-16 Time Received: 1400 Date cooler(s) opened and samples inspected: 8-3-16

Number of Coolers/Boxes: 1 N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other:_____

Packaging: Peanuts Bubble Wrap Paper Foam None Other:_____

Tape on cooler/box:	Y	N	N/A
Custody Seals intact	Y	N	N/A
C-O-C in plastic	Y	N	N/A
Ice_____ Blue ice _____	present / absent / melted		N/A
Sample Temperature IR Gun #16020459 CF 0.0 °C	20.0 °C		N/A
Radiological Testing Instrument serial #35127 (see page 2 for scan results)	Y	N	N/A

****Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.**

C-O-C filled out properly	Y	N	N/A
Samples in separate bags	Y	N	N/A
Sample containers intact*	Y	N	N/A

*If no, list broken sample(s):_____

Sample label(s) complete (ID, date, etc.)	Y	N	N/A
Label(s) agree with C-O-C	Y	N	N/A
Correct containers used	Y	N	N/A
Sufficient sample received	Y	N	N/A
Samples received within holding time	Y	N	
Bubbles absent from 40 mL vials**	Y	N	N/A

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm. _____

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact:_____

Date/Time:_____

Logged in by:_____

Comments:_____

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# WC-03-1174 pH strip (2.8-4.6) SET#OES-01-0250
Total DPD packet SET#OES-02-0239 Free DPD packet SET#OES-01-0290
Disp. Pipette SET# WC-03-0510

Sample or OMEGA ID	Method	pH	Chlorine (±)	Comments
1	✓	2		
8				

Radiological scan on sample

ID	scan	CPM
1	✓	29
2		21
3		30
4		23
5		26
6		32
7		28
8		20

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for Total chlorine
552.2 checked for Free chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0250)
524.2 = pH and Chlorine checked at bench and not log in department

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

August 11, 2016

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1630521

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Susan Benavidez
Project Manager
susan.benavidez@lcra.org

Enclosures

T104704218

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

SAMPLE SUMMARY

Workorder: Q1630521

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1630521001	CBL - 340I	Aqueous	7/27/2016 11:34	7/27/2016 16:30
Q1630521002	CBL - 301I	Aqueous	7/27/2016 12:27	7/27/2016 16:30
Q1630521003	CBL - 302I	Aqueous	7/27/2016 13:41	7/27/2016 16:30
Q1630521004	CBL - 306I	Aqueous	7/26/2016 12:27	7/27/2016 16:30
Q1630521005	CBL - 308I	Aqueous	7/26/2016 13:45	7/27/2016 16:30
Q1630521006	CBL - 602I	Aqueous	7/27/2016 13:41	7/27/2016 16:30
Q1630521007	Field Blank	Aqueous	7/27/2016 13:41	7/27/2016 16:30
Q1630521008	EQ Blank	Aqueous	7/27/2016 12:40	7/27/2016 16:30

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521001**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	7/27/2016 11:34	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2350	mg/L	20.0	50.0		50	07/29/16 20:07	BC	07/29/16 20:07	BC	
Fluoride	1.06	mg/L	0.200	0.500		50	07/29/16 20:07	BC	07/29/16 20:07	BC	
Sulfate	668	mg/L	20.0	50.0		50	07/29/16 20:07	BC	07/29/16 20:07	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	08/01/16 10:42	MM	08/04/16 11:06	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	08/01/16 10:42	MM	08/04/16 11:06	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	08/01/16 10:42	MM	08/04/16 11:06	SLW	
Chromium Total	0.00146	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:06	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:06	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	08/01/16 10:42	MM	08/04/16 11:06	SLW	
Lithium Total	0.0711	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:06	SLW	N
Molybdenum Total	0.00301	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:06	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	08/01/16 10:42	MM	08/04/16 11:06	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	08/01/16 10:42	MM	08/04/16 11:06	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	08/01/16	FM	08/02/16 09:23	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6250	mg/L	250	250		100	08/01/16 11:59	FM	08/01/16 11:59	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0271	mg/L	0.00400	0.0100	2	1	08/01/16 10:44	MM	08/03/16 12:43	FO	

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Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521001**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	7/27/2016 11:34	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	08/01/16 10:44	MM	08/03/16 12:43	FO	
Boron Total	0.0810	mg/L	0.0200	0.0500		1	08/01/16 10:44	MM	08/03/16 12:43	FO	
Calcium Total	575	mg/L	0.700	2.00		10	08/01/16 10:44	MM	08/03/16 13:30	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	24.72	C				1	07/27/16 11:34	JBW	07/27/16 11:34	JBW	N
pH	6.95	pH				1	07/27/16 11:34	JBW	07/27/16 11:34	JBW	N
Dissolved Oxygen	6.99	mg/L				1	07/27/16 11:34	JBW	07/27/16 11:34	JBW	N
Dissolved Oxygen	84.4	%				1	07/27/16 11:34	JBW	07/27/16 11:34	JBW	N
Specific Conductance	1272	us/cm				1	07/27/16 11:34	JBW	07/27/16 11:34	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521002**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	7/27/2016 12:27	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2290	mg/L	20.0	50.0		50	07/29/16 21:46	BC	07/29/16 21:46	BC	
Fluoride	<0.0100	mg/L	0.00400	0.0100		1	08/04/16 13:55	BC	08/04/16 13:55	BC	
Sulfate	336	mg/L	20.0	50.0		50	07/29/16 21:46	BC	07/29/16 21:46	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	07/28/16 16:38	MM	07/29/16 13:56	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	07/28/16 16:38	MM	07/29/16 13:56	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	07/28/16 16:38	MM	07/29/16 13:56	SLW	
Chromium Total	0.0101	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 13:56	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 13:56	SLW	
Lead Total	0.00171	mg/L	0.000400	0.00100	0.015	1	07/28/16 16:38	MM	07/29/16 13:56	SLW	
Lithium Total	0.0869	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 13:56	SLW	N
Molybdenum Total	0.00156	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 13:56	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	07/28/16 16:38	MM	07/29/16 13:56	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	07/28/16 16:38	MM	07/29/16 13:56	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	08/01/16	FM	08/02/16 09:25	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6020	mg/L	250	250		100	08/01/16 11:59	FM	08/01/16 11:59	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0661	mg/L	0.00400	0.0100	2	1	08/01/16 10:44	MM	08/03/16 12:21	FO	

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521002**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	7/27/2016 12:27	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	08/01/16 10:44	MM	08/03/16 12:21	FO	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	08/01/16 10:44	MM	08/03/16 12:21	FO	
Calcium Total	925	mg/L	0.700	2.00		10	08/01/16 10:44	MM	08/03/16 13:26	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	23.47	C				1	07/27/16 12:27	JBW	07/27/16 12:27	JBW	N
pH	5.95	pH				1	07/27/16 12:27	JBW	07/27/16 12:27	JBW	N
Dissolved Oxygen	3.08	mg/L				1	07/27/16 12:27	JBW	07/27/16 12:27	JBW	N
Dissolved Oxygen	37.3	%				1	07/27/16 12:27	JBW	07/27/16 12:27	JBW	N
Specific Conductance	9807	us/cm				1	07/27/16 12:27	JBW	07/27/16 12:27	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521003**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	7/27/2016 13:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2210	mg/L	20.0	50.0		50	07/29/16 22:03	BC	07/29/16 22:03	BC	
Fluoride	<0.500	mg/L	0.200	0.500		50	07/29/16 22:03	BC	07/29/16 22:03	BC	
Sulfate	1090	mg/L	20.0	50.0		50	07/29/16 22:03	BC	07/29/16 22:03	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	08/01/16 10:42	MM	08/04/16 11:12	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	08/01/16 10:42	MM	08/04/16 11:12	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	08/01/16 10:42	MM	08/04/16 11:12	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:12	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:12	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	08/01/16 10:42	MM	08/04/16 11:12	SLW	
Lithium Total	0.0411	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:12	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:12	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	08/01/16 10:42	MM	08/04/16 11:12	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	08/01/16 10:42	MM	08/04/16 11:12	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	08/01/16	FM	08/02/16 09:27	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6850	mg/L	250	250		100	08/01/16 11:59	FM	08/01/16 11:59	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0251	mg/L	0.00400	0.0100	2	1	08/01/16 10:44	MM	08/03/16 12:57	FO	

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521003**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	7/27/2016 13:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	08/01/16 10:44	MM	08/03/16 12:57	FO	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	08/01/16 10:44	MM	08/03/16 12:57	FO	
Calcium Total	1030	mg/L	0.700	2.00		10	08/01/16 10:44	MM	08/03/16 13:37	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	21.98	C				1	07/27/16 13:41	JBW	07/27/16 13:41	JBW	N
pH	5.17	pH				1	07/27/16 13:41	JBW	07/27/16 13:41	JBW	N
Dissolved Oxygen	1.13	mg/L				1	07/27/16 13:41	JBW	07/27/16 13:41	JBW	N
Dissolved Oxygen	13.3	%				1	07/27/16 13:41	JBW	07/27/16 13:41	JBW	N
Specific Conductance	7906	us/cm				1	07/27/16 13:41	JBW	07/27/16 13:41	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521004**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	7/26/2016 12:27	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	114	mg/L	2.00	5.00		5	07/29/16 22:19	BC	07/29/16 22:19	BC	
Fluoride	1.37	mg/L	0.0200	0.0500		5	07/29/16 22:19	BC	07/29/16 22:19	BC	
Sulfate	139	mg/L	2.00	5.00		5	07/29/16 22:19	BC	07/29/16 22:19	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	07/28/16 16:38	MM	07/29/16 13:58	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	07/28/16 16:38	MM	07/29/16 13:58	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	07/28/16 16:38	MM	07/29/16 13:58	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 13:58	SLW	
Cobalt Total	0.00123	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 13:58	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	07/28/16 16:38	MM	07/29/16 13:58	SLW	
Lithium Total	0.0127	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 13:58	SLW	N
Molybdenum Total	0.00234	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 13:58	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	07/28/16 16:38	MM	07/29/16 13:58	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	07/28/16 16:38	MM	07/29/16 13:58	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	08/01/16	FM	08/02/16 09:29	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	790	mg/L	25.0	25.0		10	08/01/16 11:59	FM	08/01/16 11:59	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0976	mg/L	0.00400	0.0100	2	1	08/01/16 10:44	MM	08/03/16 13:04	FO	

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521004**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	7/26/2016 12:27	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	08/01/16 10:44	MM	08/03/16 13:04	FO	
Boron Total	0.0998	mg/L	0.0200	0.0500		1	08/01/16 10:44	MM	08/03/16 13:04	FO	
Calcium Total	105	mg/L	0.0700	0.200		1	08/01/16 10:44	MM	08/03/16 13:04	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	24.72	C				1	07/26/16 12:27	JBW	07/26/16 12:27	JBW	N
pH	6.95	pH				1	07/26/16 12:27	JBW	07/26/16 12:27	JBW	N
Dissolved Oxygen	6.99	mg/L				1	07/26/16 12:27	JBW	07/26/16 12:27	JBW	N
Dissolved Oxygen	84.4	%				1	07/26/16 12:27	JBW	07/26/16 12:27	JBW	N
Specific Conductance	1272	us/cm				1	07/26/16 12:27	JBW	07/26/16 12:27	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521005**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	7/26/2016 13:45	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2680	mg/L	20.0	50.0		50	07/29/16 22:36	BC	07/29/16 22:36	BC	
Fluoride	1.64	mg/L	0.200	0.500		50	07/29/16 22:36	BC	07/29/16 22:36	BC	
Sulfate	1490	mg/L	20.0	50.0		50	07/29/16 22:36	BC	07/29/16 22:36	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	07/28/16 16:38	MM	07/29/16 14:00	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	07/28/16 16:38	MM	07/29/16 14:00	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	07/28/16 16:38	MM	07/29/16 14:00	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 14:00	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 14:00	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	07/28/16 16:38	MM	07/29/16 14:00	SLW	
Lithium Total	0.0854	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 14:00	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	07/28/16 16:38	MM	07/29/16 14:00	SLW	
Selenium Total	0.00793	mg/L	0.00170	0.00500	0.05	1	07/28/16 16:38	MM	07/29/16 14:00	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	07/28/16 16:38	MM	07/29/16 14:00	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	08/01/16	FM	08/02/16 09:31	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	7890	mg/L	250	250		100	08/01/16 11:59	FM	08/01/16 11:59	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0462	mg/L	0.00400	0.0100	2	1	08/01/16 10:44	MM	08/03/16 13:11	FO	

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521005**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	7/26/2016 13:45	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	08/01/16 10:44	MM	08/03/16 13:11	FO	
Boron Total	0.186	mg/L	0.0200	0.0500		1	08/01/16 10:44	MM	08/03/16 13:11	FO	
Calcium Total	911	mg/L	0.700	2.00		10	08/01/16 10:44	MM	08/03/16 13:44	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	23.47	C	1	07/26/16 13:45	JBW	07/26/16 13:45	JBW	N
pH	5.95	pH	1	07/26/16 13:45	JBW	07/26/16 13:45	JBW	N
Dissolved Oxygen	3.08	mg/L	1	07/26/16 13:45	JBW	07/26/16 13:45	JBW	N
Dissolved Oxygen	37.3	%	1	07/26/16 13:45	JBW	07/26/16 13:45	JBW	N
Specific Conductance	9807	us/cm	1	07/26/16 13:45	JBW	07/26/16 13:45	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521006**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	7/27/2016 13:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	08/01/16 10:42	MM	08/04/16 11:14	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	08/01/16 10:42	MM	08/04/16 11:14	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	08/01/16 10:42	MM	08/04/16 11:14	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:14	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:14	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	08/01/16 10:42	MM	08/04/16 11:14	SLW	
Lithium Total	0.0406	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:14	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:14	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	08/01/16 10:42	MM	08/04/16 11:14	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	08/01/16 10:42	MM	08/04/16 11:14	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	08/01/16	FM	08/02/16 09:33	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0257	mg/L	0.00400	0.0100	2	1	08/01/16 10:44	MM	08/03/16 13:18	FO	
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	08/01/16 10:44	MM	08/03/16 13:18	FO	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	08/01/16 10:44	MM	08/03/16 13:18	FO	
Calcium Total	1050	mg/L	0.700	2.00		10	08/01/16 10:44	MM	08/03/16 13:50	FO	

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521007**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	7/27/2016 13:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	08/01/16 10:42	MM	08/04/16 11:02	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	08/01/16 10:42	MM	08/04/16 11:02	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	08/01/16 10:42	MM	08/04/16 11:02	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:02	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:02	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	08/01/16 10:42	MM	08/04/16 11:02	SLW	
Lithium Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:02	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:02	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	08/01/16 10:42	MM	08/04/16 11:02	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	08/01/16 10:42	MM	08/04/16 11:02	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	08/01/16	FM	08/02/16 09:35	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.00400	0.0100	2	1	08/01/16 10:44	MM	08/03/16 13:57	FO	
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	08/01/16 10:44	MM	08/03/16 13:57	FO	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	08/01/16 10:44	MM	08/03/16 13:57	FO	
Calcium Total	<0.200	mg/L	0.0700	0.200		1	08/01/16 10:44	MM	08/03/16 13:57	FO	

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ANALYTICAL RESULTS

Workorder: Q1630521

Lab ID:	**Q1630521008**	Date Received:	7/27/2016 16:30	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	7/27/2016 12:40	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	08/01/16 10:42	MM	08/04/16 11:04	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	08/01/16 10:42	MM	08/04/16 11:04	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	08/01/16 10:42	MM	08/04/16 11:04	SLW	
Chromium Total	0.00145	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:04	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:04	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	08/01/16 10:42	MM	08/04/16 11:04	SLW	
Lithium Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:04	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	08/01/16 10:42	MM	08/04/16 11:04	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	08/01/16 10:42	MM	08/04/16 11:04	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	08/01/16 10:42	MM	08/04/16 11:04	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	08/01/16	FM	08/02/16 09:36	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.00400	0.0100	2	1	08/01/16 10:44	MM	08/03/16 14:04	FO	
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	08/01/16 10:44	MM	08/03/16 14:04	FO	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	08/01/16 10:44	MM	08/03/16 14:04	FO	
Calcium Total	<0.200	mg/L	0.0700	0.200		1	08/01/16 10:44	MM	08/03/16 14:04	FO	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1630521

PARAMETER QUALIFIERS

Lab ID: Q1630521001

N Not Accredited

Lab ID: Q1630521002

N Not Accredited

Lab ID: Q1630521003

N Not Accredited

Lab ID: Q1630521004

N Not Accredited

Lab ID: Q1630521005

N Not Accredited

Lab ID: Q1630521006

N Not Accredited

Lab ID: Q1630521007

N Not Accredited

Lab ID: Q1630521008

N Not Accredited

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QUALITY CONTROL DATA

Workorder: Q1630521

QC Batch: MEP/5891 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1630521002, Q1630521004, Q1630521005

LABORATORY CONTROL SAMPLE: 692156

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.05	.05	100	100	85 - 115	.399	20	
Arsenic Total	mg/L	.05	.05	.05	95.3	95.4	85 - 115	.21	20	
Cadmium Total	mg/L	.05	.05	.05	96.2	98.8	85 - 115	2.67	20	
Chromium Total	mg/L	.05	.05	.05	94.5	95.7	85 - 115	1.05	20	
Cobalt Total	mg/L	.05	.05	.05	98.3	99.2	85 - 115	1.01	20	
Lead Total	mg/L	.05	.05	.05	96.3	97.4	85 - 115	1.24	20	
Lithium Total	mg/L	.05	.05	.05	106	106	85 - 115	.378	20	
Molybdenum Total	mg/L	.05	.05	.05	96.3	97.2	85 - 115	1.03	20	
Selenium Total	mg/L	.25	.24	.24	94.5	96.3	85 - 115	2.1	20	
Thallium Total	mg/L	.05	.05	.05	96.4	96.8	85 - 115	.414	20	

METHOD BLANK: 692158

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1630521

MATRIX SPIKE: 692161 DUPLICATE: 692162 ORIGINAL: Q1629950011

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Antimony Total	mg/L	0	.05	.05	.05	96.5	99.5	70 - 130	3.06	20	
Arsenic Total	mg/L	0	.05	.05	.05	92.4	95.8	70 - 130	3.61	20	
Cadmium Total	mg/L	0	.05	.05	.05	93.8	97.1	70 - 130	3.56	20	
Chromium Total	mg/L	0	.05	.05	.05	91.2	94.8	70 - 130	3.87	20	
Cobalt Total	mg/L	0	.05	.05	.05	93.3	96.5	70 - 130	3.58	20	
Lead Total	mg/L	0	.05	.05	.05	94.7	98	70 - 130	3.53	20	
Lithium Total	mg/L	.01	.05	.06	.06	87.7	90.5	70 - 130	2.43	20	
Molybdenum Total	mg/L	0	.05	.05	.05	97.8	101	70 - 130	3.61	20	
Selenium Total	mg/L	0	.25	.23	.23	91.9	93.7	70 - 130	1.72	20	
Thallium Total	mg/L	0	.05	.05	.05	95.1	98.7	70 - 130	3.72	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1630521

QC Batch: MEP/5898 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1630521001, Q1630521003, Q1630521006, Q1630521007, Q1630521008

LABORATORY CONTROL SAMPLE: 693649

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.05	.05	100	103	85 - 115	2.37	20	
Arsenic Total	mg/L	.05	.05	.05	98.1	98.3	85 - 115	.407	20	
Cadmium Total	mg/L	.05	.05	.05	98.5	99.8	85 - 115	1.21	20	
Chromium Total	mg/L	.05	.05	.05	95.7	98.8	85 - 115	3.29	20	
Cobalt Total	mg/L	.05	.05	.05	100	100	85 - 115	0	20	
Lead Total	mg/L	.05	.05	.05	99.3	100	85 - 115	.602	20	
Lithium Total	mg/L	.05	.05	.05	92	92.6	85 - 115	.65	20	
Molybdenum Total	mg/L	.05	.05	.05	99.5	101	85 - 115	1.79	20	
Selenium Total	mg/L	.25	.25	.25	98.5	99.8	85 - 115	1.21	20	
Thallium Total	mg/L	.05	.05	.05	98.7	99.2	85 - 115	.404	20	

METHOD BLANK: 693651

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1630521

MATRIX SPIKE: 693652 DUPLICATE: 693653 ORIGINAL: Q1630521001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Antimony Total	mg/L	0	.05	.05	.05	99.3	104	70 - 130	4.53	20	
Arsenic Total	mg/L	0	.05	.05	.05	95.8	100	70 - 130	4.69	20	
Cadmium Total	mg/L	0	.05	.05	.05	92.3	95.9	70 - 130	4.04	20	
Chromium Total	mg/L	0	.05	.05	.05	90.8	95.5	70 - 130	4.79	20	
Cobalt Total	mg/L	0	.05	.04	.05	89.2	94.3	70 - 130	5.66	20	
Lead Total	mg/L	0	.05	.05	.05	95.8	101	70 - 130	5.68	20	
Lithium Total	mg/L	.07	.05	.12	.11	87.8	85.3	70 - 130	.873	20	
Molybdenum Total	mg/L	0	.05	.05	.06	99.1	104	70 - 130	4.64	20	
Selenium Total	mg/L	0	.25	.24	.25	95.4	98.2	70 - 130	2.48	20	
Thallium Total	mg/L	0	.05	.05	.05	96.6	102	70 - 130	5.24	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1630521

QC Batch: MEP/5900 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1630521001, Q1630521002, Q1630521003, Q1630521004, Q1630521005, Q1630521006, Q1630521007,

LABORATORY CONTROL SAMPLE: 693661

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	.96	.96	96.3	96.3	80 - 120	0	20	
Beryllium Total	mg/L	1	.99	1	99.4	99.7	80 - 120	.301	20	
Boron Total	mg/L	1	.97	.98	96.6	97.6	80 - 120	1.03	20	
Calcium Total	mg/L	10	10.5	10.5	105	105	80 - 120	0	20	

METHOD BLANK: 693663

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	<0.0500	0.0500	
Calcium Total	mg/L	<0.200	0.200	

MATRIX SPIKE: 693664 DUPLICATE: 693665 ORIGINAL: Q1630521002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.07	1	1.05	.96	98.1	89.3	75 - 125	9.06	20	
Beryllium Total	mg/L	0	1	.92	.84	92.4	84	75 - 125	9.52	20	
Boron Total	mg/L	0	1	.95	.88	94.8	87.8	75 - 125	7.67	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1630521

QC Batch: WET/11365 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1630521001, Q1630521002, Q1630521003, Q1630521004, Q1630521005

METHOD BLANK: 693737

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 693738

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	400	364	374	91	93.6	80 - 120	2.71	20	

MATRIX SPIKE SAMPLE: 693740 ORIGINAL: Q1630712005

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	904	400	1360	113	70 - 130	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1630521

QC Batch: WET/11366 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1630521001, Q1630521002, Q1630521003, Q1630521004, Q1630521005

METHOD BLANK: 693759

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

LABORATORY CONTROL SAMPLE: 693765

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	30.4	101	90 - 110	
Fluoride	mg/L	1	1	100	90 - 110	
Sulfate	mg/L	30	30.3	101	90 - 110	

METHOD BLANK: 693767

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1630521

QC Batch: MEP/5905 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1630521001, Q1630521002, Q1630521003, Q1630521004, Q1630521005, Q1630521006, Q1630521007,

METHOD BLANK: 694002

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 694003

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	1.85	1.88	92.3	93.8	85 - 115	1.61	20	

MATRIX SPIKE: 694005 DUPLICATE: 694006 ORIGINAL: Q1630521003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	1.63	1.59	81.6	79.6	70 - 130	2.48	20	

MATRIX SPIKE: 694009 DUPLICATE: 694010 ORIGINAL: Q1630578004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	1.68	1.65	84.2	82.6	70 - 130	1.8	20	

METHOD BLANK: 694013

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1630521

LABORATORY CONTROL SAMPLE: 694014

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	1.99	1.95	99.4	97.4	85 - 115	2.03	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1630521

QC Batch: WET/11407 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1630521002

METHOD BLANK: 697091

Parameter	Units	Blank Result	Reporting Limit	Qual
Fluoride	mg/L	<0.0100	0.0100	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1630521

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1630521002	CBL - 301I	SW3010A, Metals Prep	MEP/5891	SW6020 ICP-MS	MET/4695
Q1630521004	CBL - 306I	SW3010A, Metals Prep	MEP/5891	SW6020 ICP-MS	MET/4695
Q1630521005	CBL - 308I	SW3010A, Metals Prep	MEP/5891	SW6020 ICP-MS	MET/4695
Q1630521001	CBL - 340I	SW3010A, Metals Prep	MEP/5898	SW6020 ICP-MS	MET/4714
Q1630521003	CBL - 302I	SW3010A, Metals Prep	MEP/5898	SW6020 ICP-MS	MET/4714
Q1630521006	CBL - 602I	SW3010A, Metals Prep	MEP/5898	SW6020 ICP-MS	MET/4714
Q1630521007	Field Blank	SW3010A, Metals Prep	MEP/5898	SW6020 ICP-MS	MET/4714
Q1630521008	EQ Blank	SW3010A, Metals Prep	MEP/5898	SW6020 ICP-MS	MET/4714
Q1630521001	CBL - 340I	SW3010A, Metals Prep	MEP/5900	SW6010B ICP-AES	MET/4709
Q1630521002	CBL - 301I	SW3010A, Metals Prep	MEP/5900	SW6010B ICP-AES	MET/4709
Q1630521003	CBL - 302I	SW3010A, Metals Prep	MEP/5900	SW6010B ICP-AES	MET/4709
Q1630521004	CBL - 306I	SW3010A, Metals Prep	MEP/5900	SW6010B ICP-AES	MET/4709
Q1630521005	CBL - 308I	SW3010A, Metals Prep	MEP/5900	SW6010B ICP-AES	MET/4709
Q1630521006	CBL - 602I	SW3010A, Metals Prep	MEP/5900	SW6010B ICP-AES	MET/4709
Q1630521007	Field Blank	SW3010A, Metals Prep	MEP/5900	SW6010B ICP-AES	MET/4709
Q1630521008	EQ Blank	SW3010A, Metals Prep	MEP/5900	SW6010B ICP-AES	MET/4709
Q1630521001	CBL - 340I			SM2540C, TDS	WET/11365
Q1630521002	CBL - 301I			SM2540C, TDS	WET/11365
Q1630521003	CBL - 302I			SM2540C, TDS	WET/11365
Q1630521004	CBL - 306I			SM2540C, TDS	WET/11365
Q1630521005	CBL - 308I			SM2540C, TDS	WET/11365
Q1630521001	CBL - 340I			E300.0, Anions	WET/11366
Q1630521002	CBL - 301I			E300.0, Anions	WET/11366
Q1630521003	CBL - 302I			E300.0, Anions	WET/11366
Q1630521004	CBL - 306I			E300.0, Anions	WET/11366
Q1630521005	CBL - 308I			E300.0, Anions	WET/11366
Q1630521001	CBL - 340I	SW7470A Hg in Liquid Waste	MEP/5905	SW7470A Hg in Liquid Waste	MET/4702

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1630521

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1630521002	CBL - 301I	SW7470A Hg in Liquid Waste	MEP/5905	SW7470A Hg in Liquid Waste	MET/4702
Q1630521003	CBL - 302I	SW7470A Hg in Liquid Waste	MEP/5905	SW7470A Hg in Liquid Waste	MET/4702
Q1630521004	CBL - 306I	SW7470A Hg in Liquid Waste	MEP/5905	SW7470A Hg in Liquid Waste	MET/4702
Q1630521005	CBL - 308I	SW7470A Hg in Liquid Waste	MEP/5905	SW7470A Hg in Liquid Waste	MET/4702
Q1630521006	CBL - 602I	SW7470A Hg in Liquid Waste	MEP/5905	SW7470A Hg in Liquid Waste	MET/4702
Q1630521007	Field Blank	SW7470A Hg in Liquid Waste	MEP/5905	SW7470A Hg in Liquid Waste	MET/4702
Q1630521008	EQ Blank	SW7470A Hg in Liquid Waste	MEP/5905	SW7470A Hg in Liquid Waste	MET/4702
Q1630521002	CBL - 301I			E300.0, Anions	WET/11407

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Q1630521

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

NELAP ACCREDITED TNI LABORATORY

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:	
Client PO:	

Project:	FPP CCR Rule	Client:	LCRA
Collector:	Jason Woods / Colt Petri	Contact:	
Event#:	1322561 / 3404	Phone:	

Report To: BECKY LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
La Grange, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	500PU	250PHNO3							6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28						
						Container(s) Type/Preservative/Number *										Requested Analysis *											
001	1	CBL - 340I	7/27/16	1134	AQ	N	N	1	1							X	X	X	X	X	X						
002	2	CBL - 301I	7/22/16	1227	AQ			1	1							X	X	X	X	X	X						
003	3	CBL - 302I	7/27/16	1341	AQ			1	1							X	X	X	X	X	X						
004	4	CBL - 306I	7/26/16	1227	AQ			1	1							X	X	X	X	X	X						
005	5	CBL - 308I	7/26/16	1345	AQ			1	1							X	X	X	X	X	X						
006	6	CBL - 602I	7/27/16	1341	AQ				1							X		X	X								
007	7	Field Blank	7/27/16	1345	AQ				1							X		X	X								
008	8	EQ Blank	7/27/16	1240	AQ				1							X		X	X								

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	[signature]	7/27/16 1630	[signature]	7/27/16 1630
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	1.5	1.5
2			

Client Special Instructions:

Lab Use Only:

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Q1630521 217959

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 7/26/16
Sample Time: 1227
Sample ID: CBL306I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160726		V= 0.9	2.8	3

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	9.15 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.81 (ft)	Pump Placement	14 (ft)

6.95 (STD) PH 1272 uS/cm Specific Conductivity Sample Temp. 24.72 (°C)

Bottle			Analysis	Field Filt.Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	No
P	500mL	ICE	Anions + TDS	No
P	4LC	HNO_3	Radium 226 + Combined.	No

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 3.03 ntu.
Weather Conditions: Partly cloudy, 85°, 5mph Southeast.
Other: CCR well, Purge water is clear w/no odor, Collected samples after field parameters stabilized, Pond near the well has been significantly lowered

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes R No _____
If No, Explain _____

Procedure: ELS - Groundwater SOP 5-70

Date: 7/26/16
Sampler: JBW
Employer: LCRA.

Rev. 1 (08/2009)

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 7/26/16
Sample Time: 1345
Sample ID: CBL308I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160926		V= 1.8	5.3	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	24.50 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	30 (ft)

PH: 5.95 (STD)
Specific Conductivity: 9807 uS/cm
Sample Temp. 23.47 (°C)

Bottle			Analysis	Field Filt.Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	No
P	500mL	ICE	Anions + TDS	No
P	4L	HNO_3	Radium 226 + Combined	NO

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 0.70 ntu.
Weather Conditions: Partly Cloudy, 5mph S wind, 90°
Other: Purge water is slightly cloudy, collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS-Groundwater SOP 5-7D
Date: 7/26/16
Sampler: JBW
Employer: LCRA.

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Field Information Form

Sample Date: 7/27/2016
Sample Time: 1341
Sample ID: CBL302I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160727		V= 2.6	7.9	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump C-Bladder Pump	E-Venturi Pump F-Dipper/Bottle	H-Scoop/Shovel I-Piston Pump	X- _____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	11.08 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.17 (ft)	Pump Placement	20 (ft)

PH: 5.17 (STD) Specific Conductivity: 7906 uS/cm Sample Temp. 24.98 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	NO
P	500mL	ICE	Anions + TDS	NO
P	4L Cube	HNO_3	Radium 226 + Combined	NO
P	4L Cube	HNO_3	Field Blank Collected @ 1341	NO
P	4L Cube	HNO_3	Radium and Metals Duplicate collected @ CBL302 named CBL-602I	NO

Sample Appearance: clear Odor: none Color: clear Turbidity: 1.40 NTU

Weather Conditions: Mostly Sunny, 95°, Calm

Other: Purge water is clear w/ no odor, collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS-Groundwater SOP 5-7D.

Date: 7/27/2016

Sampler: JBW/CP

Employer: LCRA.

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Field Information Form

Sample Date: 7/27/16
Sample Time: 1134
Sample ID: CBL340 I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160727		V= 3.0	9.1	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | I | N | Sampling Equipment ..... Dedicated | Y | I | N |

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation		(ft/msl)	Land Surface Elevation		(ft/msl)
Depth to water From top of well casing =D_w	21.47	(ft)	Depth to water From land surface		(ft)
Groundwater Elevation			Groundwater Elevation		(ft/msl)
Well Depth = D	40.18	(ft)	Pump Placement	30	(ft)

PH 6.36 (STD) Specific Conductivity 830 uS/cm Sample Temp. 22.67 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals -	N
P	500mL	ICE	TDS + Anions -	N
P	4LC	HNO_3	Radium 226, + Combined.	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 2.01 ntu
Weather Conditions: Partly Cloudy, 90°, Calm, Light Rain
Other: Purge water is clear w/ no odor, Collected samples after the field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w= depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS-Groundwater SOP 5-7D
Date: 7/27/16
Sampler: Jason Woods / Colt Petri
Employer: LCRA.

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Field Information Form

Sample Date: 7/27/2016
Sample Time: 1227
Sample ID: CBL301T

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160727		V= 30	89	4

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | (N) | Sampling Equipment ..... Dedicated (Y) | N |

Purging Device	A	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	A	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Spectfy)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	35.96 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.15 (ft)	Pump Placement	50 (ft)

6.11 (STD) PH — 7197 uS/cm Specific Conductivity — Sample Temp. 25.45 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	No.
P	500mL	ICE	TDS + Anions	No
P	250mL	HNO_3	Dissolved metals sample collected using	Yes
			10micron geotech inline filter Lot# 88711A.	

P - 4Lube - Equipment Blank 1240 Slightly — Radium 226 + Combined. Sample = 142

Sample Appearance: Cloudy Odor: none Color: Cloudy Turbidity: Filtered Sample = 33.1

Weather Conditions: Partly Cloudy, 90°, 5mph Sound

Other: Purge water is milky brown. Mostly cleared up still a little turbid. collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ galtft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS - Groundwater SOP 5-7D

Date: 7/27/16
Sampler: JBW/CP
Employer: LCRA

Rev. 1 (08/2009)

FPP - CCR Groundwater Purge Data - July 2016

Date M/D/Y	Time HH:MM:SS	Temp C	DO mg/L	DOsat %	pH	SpCond uS	Orp mV	Monitoring Well
7/26/2016	12:08:52	25.71	5.90	72.6	7.01	1618	114.1	CBL - 306I
7/26/2016	12:09:12	25.38	5.87	71.8	6.96	1769	66.3	CBL - 306I
7/26/2016	12:09:34	25.07	5.82	71.0	6.93	1944	26.0	CBL - 306I
7/26/2016	12:12:34	23.97	6.10	73.0	6.79	2346	47.3	CBL - 306I
7/26/2016	12:15:34	24.05	6.34	75.7	6.86	1761	92.3	CBL - 306I
7/26/2016	12:18:34	24.44	6.54	78.6	6.93	1303	130.1	CBL - 306I
7/26/2016	12:21:34	24.61	6.70	80.8	6.94	1221	157.1	CBL - 306I
7/26/2016	12:24:34	24.69	6.85	82.8	6.94	1231	173.2	CBL - 306I
7/26/2016	12:27:34	24.72	6.99	84.4	6.95	1272	188.2	CBL - 306I
7/26/2016	13:12:10	24.85	4.03	50.3	6.61	9917	252.0	CBL - 308I
7/26/2016	13:12:24	24.65	3.84	47.6	6.57	9909	256.5	CBL - 308I
7/26/2016	13:12:41	24.26	3.70	45.6	6.53	9972	261.5	CBL - 308I
7/26/2016	13:15:41	23.44	2.76	33.5	6.29	9880	311.3	CBL - 308I
7/26/2016	13:18:41	23.29	2.44	29.5	6.18	9858	351.1	CBL - 308I
7/26/2016	13:21:41	23.35	2.47	29.9	6.12	9823	383.6	CBL - 308I
7/26/2016	13:24:41	23.35	3.30	39.9	6.07	9824	410.4	CBL - 308I
7/26/2016	13:27:41	23.36	3.15	38.1	6.04	9819	428.9	CBL - 308I
7/26/2016	13:30:41	23.41	3.09	37.5	6.02	9807	443.9	CBL - 308I
7/26/2016	13:33:41	23.36	3.14	38.0	6.01	9823	454.6	CBL - 308I
7/26/2016	13:36:41	23.43	3.13	38.0	5.99	9811	465.6	CBL - 308I
7/26/2016	13:39:41	23.43	3.12	37.8	5.98	9807	472.6	CBL - 308I
7/26/2016	13:42:41	23.41	3.10	37.6	5.97	9812	480.6	CBL - 308I
7/26/2016	13:45:41	23.47	3.08	37.3	5.95	9807	487.7	CBL - 308I
7/27/2016	10:52:20	24.43	6.33	77.8	6.51	8425	321.4	CBL - 340I
7/27/2016	10:52:55	23.57	5.58	67.5	6.42	8471	337.3	CBL - 340I
7/27/2016	10:53:03	23.44	5.53	66.8	6.40	8487	340.0	CBL - 340I
7/27/2016	10:56:03	22.76	4.03	48.1	6.20	8587	395.7	CBL - 340I
7/27/2016	10:59:03	22.66	3.84	45.8	6.18	8594	420.6	CBL - 340I
7/27/2016	11:02:03	22.61	3.76	44.8	6.21	8576	433.4	CBL - 340I
7/27/2016	11:05:03	22.58	3.70	44.0	6.24	8580	440.1	CBL - 340I
7/27/2016	11:08:03	22.57	3.55	42.2	6.28	8578	441.3	CBL - 340I
7/27/2016	11:11:03	22.54	3.51	41.6	6.32	8552	437.2	CBL - 340I
7/27/2016	11:14:03	22.52	3.48	41.3	6.34	8523	432.3	CBL - 340I
7/27/2016	11:17:03	22.52	3.50	41.6	6.36	8499	427.4	CBL - 340I
7/27/2016	11:20:03	22.55	3.50	41.6	6.37	8456	423.1	CBL - 340I
7/27/2016	11:23:03	22.56	3.43	40.8	6.37	8419	419.9	CBL - 340I
7/27/2016	11:26:03	22.57	3.44	40.8	6.37	8398	417.6	CBL - 340I
7/27/2016	11:29:03	22.61	3.41	40.6	6.37	8351	416.4	CBL - 340I
7/27/2016	11:32:03	22.65	3.41	40.6	6.36	8320	416.3	CBL - 340I
7/27/2016	11:35:03	22.67	3.41	40.5	6.36	8300	417.3	CBL - 340I

7/27/2016	12:12:22	23.95	5.17	62.7	6.59	6527	245.4	CBL - 301I
7/27/2016	12:13:04	23.63	1.85	22.3	6.31	7074	195.4	CBL - 301I
7/27/2016	12:14:55	23.51	1.66	20.0	6.26	7144	186.1	CBL - 301I
7/27/2016	12:17:55	23.57	0.78	9.4	6.13	7247	136.1	CBL - 301I
7/27/2016	12:20:55	24.24	0.76	9.3	6.12	7238	137.3	CBL - 301I
7/27/2016	12:23:55	24.98	0.70	8.7	6.11	7227	140.9	CBL - 301I
7/27/2016	12:26:55	25.45	0.70	8.7	6.11	7197	146.5	CBL - 301I
7/27/2016	13:13:43	22.57	2.81	33.3	6.21	7938	256.9	CBL - 302I
7/27/2016	13:13:53	22.50	2.34	27.8	6.17	7945	265.5	CBL - 302I
7/27/2016	13:14:02	22.48	2.08	24.6	6.15	7941	271.4	CBL - 302I
7/27/2016	13:17:02	22.05	1.54	18.1	5.96	7945	370.8	CBL - 302I
7/27/2016	13:20:02	21.80	1.37	16.0	5.87	7936	400.4	CBL - 302I
7/27/2016	13:23:02	21.79	1.27	14.8	5.78	7930	423.6	CBL - 302I
7/27/2016	13:26:02	21.73	1.20	14.0	5.68	7926	446.7	CBL - 302I
7/27/2016	13:29:02	21.83	1.16	13.6	5.60	7919	459.5	CBL - 302I
7/27/2016	13:32:02	21.87	1.13	13.2	5.48	7916	472.3	CBL - 302I
7/27/2016	13:35:02	21.84	1.19	13.9	5.37	7915	484.7	CBL - 302I
7/27/2016	13:38:02	21.91	1.13	13.3	5.29	7912	491.4	CBL - 302I
7/27/2016	13:41:02	21.98	1.13	13.3	5.17	7906	499.2	CBL - 302I

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May 18, 2016

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1617456

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Susan Benavidez
Project Manager
susan.benavidez@lcra.org

Enclosures

T104704218

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SAMPLE SUMMARY

Workorder: Q1617456

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1617456001	CBL - 340I	Aqueous	5/4/2016 13:15	5/4/2016 16:10
Q1617456002	CBL - 301I	Aqueous	5/4/2016 10:21	5/4/2016 16:10
Q1617456003	CBL - 302I	Aqueous	5/4/2016 14:14	5/4/2016 16:10
Q1617456004	CBL - 306I	Aqueous	5/4/2016 11:07	5/4/2016 16:10
Q1617456005	CBL - 308I	Aqueous	5/4/2016 12:14	5/4/2016 16:10
Q1617456006	CBL - 602I	Aqueous	5/4/2016 14:14	5/4/2016 16:10
Q1617456007	Field Blank	Aqueous	5/4/2016 12:14	5/4/2016 16:10
Q1617456008	EQ Blank	Aqueous	5/4/2016 14:30	5/4/2016 16:10

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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PROJECT SUMMARY

Workorder: Q1617456

Workorder Comments

LOGIN COMMENTS: CBL - 602I IS DUPLICATE FOR CBL - 302I

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456001**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	5/4/2016 13:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2260	mg/L	20.0	50.0		50	05/05/16 17:15	FO	05/05/16 17:15	FO	
Fluoride	1.92	mg/L	0.200	0.500		50	05/05/16 17:15	FO	05/05/16 17:15	FO	
Sulfate	616	mg/L	20.0	50.0		50	05/05/16 17:15	FO	05/05/16 17:15	FO	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	05/10/16	FM	05/12/16 10:55	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	05/10/16	FM	05/11/16 11:06	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	05/10/16	FM	05/11/16 11:06	SLW	
Chromium Total	0.00114	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:06	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:06	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	05/10/16	FM	05/11/16 11:06	SLW	
Lithium Total	0.0850	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:06	SLW	N
Molybdenum Total	0.00309	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:06	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	05/10/16	FM	05/11/16 11:06	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	05/10/16	FM	05/11/16 11:06	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	05/10/16	FM	05/10/16 10:47	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5230	mg/L	250	250		100	05/05/16 11:00	ADG	05/05/16 11:00	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0235	mg/L	0.00400	0.0100	2	1	05/10/16	FM	05/12/16 10:26	MV	

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456001**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	5/4/2016 13:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	05/10/16	FM	05/12/16 10:26	MV	
Boron Total	0.0832	mg/L	0.0200	0.0500		1	05/10/16	FM	05/12/16 10:26	MV	
Calcium Total	560	mg/L	0.700	2.00		10	05/10/16	FM	05/12/16 11:28	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100	0.1	1	05/10/16	FM	05/12/16 10:26	MV	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	22.96	C	1	05/04/16 13:15	JBW	05/04/16 13:15	JBW	N
pH	6.13	pH	1	05/04/16 13:15	JBW	05/04/16 13:15	JBW	N
Dissolved Oxygen	4.12	mg/L	1	05/04/16 13:15	JBW	05/04/16 13:15	JBW	N
Dissolved Oxygen	49.3	%	1	05/04/16 13:15	JBW	05/04/16 13:15	JBW	N
Specific Conductance	8159	us/cm	1	05/04/16 13:15	JBW	05/04/16 13:15	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456002**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	5/4/2016 10:21	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2160	mg/L	20.0	50.0		50	05/05/16 17:32	FO	05/05/16 17:32	FO	
Fluoride	<0.500	mg/L	0.200	0.500		50	05/05/16 17:32	FO	05/05/16 17:32	FO	
Sulfate	311	mg/L	20.0	50.0		50	05/05/16 17:32	FO	05/05/16 17:32	FO	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	05/10/16	FM	05/12/16 10:57	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	05/10/16	FM	05/11/16 11:08	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	05/10/16	FM	05/11/16 11:08	SLW	
Chromium Total	0.00867	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:08	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:08	SLW	
Lead Total	0.00153	mg/L	0.000400	0.00100	0.015	1	05/10/16	FM	05/11/16 11:08	SLW	
Lithium Total	0.0847	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:08	SLW	N
Molybdenum Total	0.00189	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:08	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	05/10/16	FM	05/11/16 11:08	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	05/10/16	FM	05/11/16 11:08	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	05/10/16	FM	05/10/16 10:49	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5050	mg/L	250	250		100	05/05/16 11:00	ADG	05/05/16 11:00	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0423	mg/L	0.00400	0.0100	2	1	05/10/16	FM	05/12/16 10:44	MV	

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456002**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	5/4/2016 10:21	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	05/10/16	FM	05/12/16 10:44	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	05/10/16	FM	05/12/16 10:44	MV	
Calcium Total	949	mg/L	0.700	2.00		10	05/10/16	FM	05/12/16 11:32	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100	0.1	1	05/10/16	FM	05/12/16 10:44	MV	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	25.02	C	1	05/04/16 10:21	JBW	05/04/16 10:21	JBW	N
pH	6.26	pH	1	05/04/16 10:21	JBW	05/04/16 10:21	JBW	N
Dissolved Oxygen	1.21	mg/L	1	05/04/16 10:21	JBW	05/04/16 10:21	JBW	
Dissolved Oxygen	15.0	%	1	05/04/16 10:21	JBW	05/04/16 10:21	JBW	
Specific Conductance	7202	us/cm	1	05/04/16 10:21	JBW	05/04/16 10:21	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456003**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	5/4/2016 14:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	2130	mg/L	20.0	50.0		50	05/05/16 17:48	FO	05/05/16 17:48	FO	
Fluoride	<0.500	mg/L	0.200	0.500		50	05/05/16 17:48	FO	05/05/16 17:48	FO	
Sulfate	993	mg/L	20.0	50.0		50	05/05/16 17:48	FO	05/05/16 17:48	FO	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	05/10/16	FM	05/12/16 10:58	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	05/10/16	FM	05/11/16 11:10	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	05/10/16	FM	05/11/16 11:10	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:10	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:10	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	05/10/16	FM	05/11/16 11:10	SLW	
Lithium Total	0.0420	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:10	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:10	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	05/10/16	FM	05/11/16 11:10	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	05/10/16	FM	05/11/16 11:10	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	05/10/16	FM	05/10/16 10:51	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5390	mg/L	250	250		100	05/05/16 11:00	ADG	05/05/16 11:00	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0218	mg/L	0.00400	0.0100	2	1	05/10/16	FM	05/12/16 10:49	MV	

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456003**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	5/4/2016 14:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	05/10/16	FM	05/12/16 10:49	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	05/10/16	FM	05/12/16 10:49	MV	
Calcium Total	1010	mg/L	0.700	2.00		10	05/10/16	FM	05/12/16 11:36	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100	0.1	1	05/10/16	FM	05/12/16 10:49	MV	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	20.84	C	1	05/04/16 14:14	JBW	05/04/16 14:14	JBW	N	
pH	6.01	pH	1	05/04/16 14:14	JBW	05/04/16 14:14	JBW	N	
Dissolved Oxygen	1.51	mg/L	1	05/04/16 14:14	JBW	05/04/16 14:14	JBW	N	
Dissolved Oxygen	17.3	%	1	05/04/16 14:14	JBW	05/04/16 14:14	JBW	N	
Specific Conductance	7911	us/cm	1	05/04/16 14:14	JBW	05/04/16 14:14	JBW	N	

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456004**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	5/4/2016 11:07	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	20.0	mg/L	0.800	2.00		2	05/05/16 19:59	FO	05/05/16 19:59	FO	
Fluoride	1.00	mg/L	0.00800	0.0200		2	05/05/16 19:59	FO	05/05/16 19:59	FO	
Sulfate	29.5	mg/L	0.800	2.00		2	05/05/16 19:59	FO	05/05/16 19:59	FO	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	05/10/16	FM	05/12/16 11:00	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	05/10/16	FM	05/11/16 11:11	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	05/10/16	FM	05/11/16 11:11	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:11	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:11	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	05/10/16	FM	05/11/16 11:11	SLW	
Lithium Total	0.00600	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:11	SLW	N
Molybdenum Total	0.00305	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:11	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	05/10/16	FM	05/11/16 11:11	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	05/10/16	FM	05/11/16 11:11	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	05/10/16	FM	05/10/16 10:53	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	431	mg/L	25.0	25.0		10	05/05/16 11:00	ADG	05/05/16 11:00	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0313	mg/L	0.00400	0.0100	2	1	05/10/16	FM	05/12/16 10:54	MV	

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456004**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	5/4/2016 11:07	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	05/10/16	FM	05/12/16 10:54	MV	
Boron Total	0.0717	mg/L	0.0200	0.0500		1	05/10/16	FM	05/12/16 10:54	MV	
Calcium Total	47.2	mg/L	0.0700	0.200		1	05/10/16	FM	05/12/16 10:54	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100	0.1	1	05/10/16	FM	05/12/16 10:54	MV	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	21.13	C	1	05/04/16 11:07	JBW	05/04/16 11:07	JBW	N
pH	6.69	pH	1	05/04/16 11:07	JBW	05/04/16 11:07	JBW	N
Dissolved Oxygen	6.14	mg/L	1	05/04/16 11:07	JBW	05/04/16 11:07	JBW	N
Dissolved Oxygen	69.1	%	1	05/04/16 11:07	JBW	05/04/16 11:07	JBW	N
Specific Conductance	672	us/cm	1	05/04/16 11:07	JBW	05/04/16 11:07	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456005**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	5/4/2016 12:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2580	mg/L	20.0	50.0		50	05/05/16 19:42	FO	05/05/16 19:42	FO	
Fluoride	2.30	mg/L	0.200	0.500		50	05/05/16 19:42	FO	05/05/16 19:42	FO	
Sulfate	1410	mg/L	20.0	50.0		50	05/05/16 19:42	FO	05/05/16 19:42	FO	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	05/10/16	FM	05/12/16 11:05	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	05/10/16	FM	05/11/16 11:16	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	05/10/16	FM	05/11/16 11:16	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:16	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:16	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	05/10/16	FM	05/11/16 11:16	SLW	
Lithium Total	0.134	mg/L	0.00200	0.00500		5	05/10/16	FM	05/11/16 11:33	SLW	N
Molybdenum Total	0.00113	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:16	SLW	
Selenium Total	0.00823	mg/L	0.00170	0.00500	0.05	1	05/10/16	FM	05/11/16 11:16	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	05/10/16	FM	05/11/16 11:16	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	05/10/16	FM	05/10/16 10:54	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6120	mg/L	500	500		200	05/05/16 11:00	ADG	05/05/16 11:00	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0395	mg/L	0.00400	0.0100	2	1	05/10/16	FM	05/12/16 10:58	MV	

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456005**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	5/4/2016 12:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	05/10/16	FM	05/12/16 10:58	MV	
Boron Total	0.121	mg/L	0.0200	0.0500		1	05/10/16	FM	05/12/16 10:58	MV	
Calcium Total	870	mg/L	0.700	2.00		10	05/10/16	FM	05/12/16 11:41	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100	0.1	1	05/10/16	FM	05/12/16 10:58	MV	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	22.87	C	1	05/04/16 12:14	JBW	05/04/16 12:14	JBW	N
pH	6.13	pH	1	05/04/16 12:14	JBW	05/04/16 12:14	JBW	N
Dissolved Oxygen	2.81	mg/L	1	05/04/16 12:14	JBW	05/04/16 12:14	JBW	N
Dissolved Oxygen	33.8	%	1	05/04/16 12:14	JBW	05/04/16 12:14	JBW	N
Specific Conductance	9726	us/cm	1	05/04/16 12:14	JBW	05/04/16 12:14	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456006**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	5/4/2016 14:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	05/10/16	FM	05/12/16 11:06	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	05/10/16	FM	05/11/16 11:17	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	05/10/16	FM	05/11/16 11:17	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:17	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:17	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	05/10/16	FM	05/11/16 11:17	SLW	
Lithium Total	0.0452	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:17	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:17	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	05/10/16	FM	05/11/16 11:17	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	05/10/16	FM	05/11/16 11:17	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	05/10/16	FM	05/10/16 10:56	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0223	mg/L	0.00400	0.0100	2	1	05/10/16	FM	05/12/16 11:03	MV	
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	05/10/16	FM	05/12/16 11:03	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	05/10/16	FM	05/12/16 11:03	MV	
Calcium Total	1070	mg/L	0.700	2.00		10	05/10/16	FM	05/12/16 11:45	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100	0.1	1	05/10/16	FM	05/12/16 11:03	MV	

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456007**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	5/4/2016 12:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	05/10/16	FM	05/12/16 11:08	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	05/10/16	FM	05/11/16 11:19	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	05/10/16	FM	05/11/16 11:19	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:19	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:19	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	05/10/16	FM	05/11/16 11:19	SLW	
Lithium Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:19	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:19	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	05/10/16	FM	05/11/16 11:19	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	05/10/16	FM	05/11/16 11:19	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	05/10/16	FM	05/10/16 10:58	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.00400	0.0100	2	1	05/10/16	FM	05/12/16 11:08	MV	
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	05/10/16	FM	05/12/16 11:08	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	05/10/16	FM	05/12/16 11:08	MV	
Calcium Total	<0.200	mg/L	0.0700	0.200		1	05/10/16	FM	05/18/16 11:59	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100	0.1	1	05/10/16	FM	05/12/16 11:08	MV	

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ANALYTICAL RESULTS

Workorder: Q1617456

Lab ID:	**Q1617456008**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	5/4/2016 14:30	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.000400	0.00100	0.006	1	05/10/16	FM	05/12/16 11:10	SLW	
Arsenic Total	<0.00200	mg/L	0.000700	0.00200	0.01	1	05/10/16	FM	05/11/16 11:20	SLW	
Cadmium Total	<0.00100	mg/L	0.000400	0.00100	0.005	1	05/10/16	FM	05/11/16 11:20	SLW	
Chromium Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:20	SLW	
Cobalt Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:20	SLW	
Lead Total	<0.00100	mg/L	0.000400	0.00100	0.015	1	05/10/16	FM	05/11/16 11:20	SLW	
Lithium Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:20	SLW	N
Molybdenum Total	<0.00100	mg/L	0.000400	0.00100		1	05/10/16	FM	05/11/16 11:20	SLW	
Selenium Total	<0.00500	mg/L	0.00170	0.00500	0.05	1	05/10/16	FM	05/11/16 11:20	SLW	
Thallium Total	<0.00100	mg/L	0.000400	0.00100	0.002	1	05/10/16	FM	05/11/16 11:20	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.0700	0.200	2	1	05/10/16	FM	05/10/16 11:00	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.00400	0.0100	2	1	05/10/16	FM	05/12/16 11:15	MV	
Beryllium Total	<0.00400	mg/L	0.00100	0.00400	0.004	1	05/10/16	FM	05/12/16 11:15	MV	
Boron Total	<0.0500	mg/L	0.0200	0.0500		1	05/10/16	FM	05/12/16 11:15	MV	
Calcium Total	<0.200	mg/L	0.0700	0.200		1	05/10/16	FM	05/12/16 11:15	MV	
Chromium Total	<0.0100	mg/L	0.00400	0.0100	0.1	1	05/10/16	FM	05/12/16 11:15	MV	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1617456

PARAMETER QUALIFIERS

Lab ID: Q1617456001

N Not Accredited

Lab ID: Q1617456002

N Not Accredited

Lab ID: Q1617456003

N Not Accredited

Lab ID: Q1617456004

N Not Accredited

Lab ID: Q1617456005

N Not Accredited

Lab ID: Q1617456006

N Not Accredited

Lab ID: Q1617456007

N Not Accredited

Lab ID: Q1617456008

N Not Accredited

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QUALITY CONTROL DATA

Workorder: Q1617456

QC Batch: WET/10577 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1617456001, Q1617456002, Q1617456003, Q1617456004, Q1617456005

METHOD BLANK: 641216

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 641217

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	400	433	410	108	102	80 - 120	5.46	20	

MATRIX SPIKE SAMPLE: 641219 ORIGINAL: Q1617286003

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	375	400	798	106	70 - 130	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1617456

QC Batch: WET/10584 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1617456001, Q1617456002, Q1617456003, Q1617456004, Q1617456005

METHOD BLANK: 641812

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

MATRIX SPIKE: 641816 DUPLICATE: 641817 ORIGINAL: Q1617146001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	mg/L	3.14	100	100	100	100	100	80 - 120	0	20	
Fluoride	mg/L	.03	5	5.16	5.16	103	103	80 - 120	0	20	
Sulfate	mg/L	.2	100	93.9	93.8	93.9	93.8	80 - 120	.107	20	

LABORATORY CONTROL SAMPLE: 641818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	30	100	90 - 110	
Fluoride	mg/L	1	1.02	102	90 - 110	
Sulfate	mg/L	30	29.4	98.1	90 - 110	

METHOD BLANK: 641820

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1617456

MATRIX SPIKE: 641821 DUPLICATE: 641822 ORIGINAL: Q1617524001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	mg/L	33.2	100	132	132	98.7	98.9	80 - 120	0	20	
Fluoride	mg/L	5.04	5	10	10	99.7	99.7	80 - 120	0	20	
Sulfate	mg/L	53.8	100	164	165	111	111	80 - 120	.608	20	

LABORATORY CONTROL SAMPLE: 641823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	30	100	90 - 110	
Fluoride	mg/L	1	1.02	102	90 - 110	
Sulfate	mg/L	30	29.5	98.2	90 - 110	

METHOD BLANK: 641825

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1617456

QC Batch: MEP/5567 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1617456001, Q1617456002, Q1617456003, Q1617456004, Q1617456005, Q1617456006, Q1617456007,

METHOD BLANK: 643031

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 643032

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	2.08	1.98	104	98.9	85 - 115	4.93	20	

MATRIX SPIKE: 643034 DUPLICATE: 643035 ORIGINAL: Q1616751002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	.06	2	1.82	1.77	90.8	88.7	70 - 130	2.79	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1617456

QC Batch: MEP/5568 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1617456001, Q1617456002, Q1617456003, Q1617456004, Q1617456005, Q1617456006, Q1617456007,

LABORATORY CONTROL SAMPLE: 643050

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.05	.05	96.6	91.3	85 - 115	5.75	20	
Arsenic Total	mg/L	.05	.05	.04	92.5	88.5	85 - 115	4.42	20	
Cadmium Total	mg/L	.05	.05	.05	94.8	92.2	85 - 115	2.78	20	
Chromium Total	mg/L	.05	.05	.04	91.5	88.4	85 - 115	3.56	20	
Cobalt Total	mg/L	.05	.05	.05	96.9	94.7	85 - 115	2.09	20	
Lead Total	mg/L	.05	.05	.05	94.2	91.8	85 - 115	2.58	20	
Lithium Total	mg/L	.05	.05	.05	98.9	92.8	85 - 115	6.26	20	
Molybdenum Total	mg/L	.05	.05	.05	93.5	91.3	85 - 115	2.6	20	
Selenium Total	mg/L	.25	.23	.22	92	89.4	85 - 115	2.64	20	
Thallium Total	mg/L	.05	.05	.05	92.7	90.7	85 - 115	2.18	20	

METHOD BLANK: 643052

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1617456

MATRIX SPIKE: 643053 DUPLICATE: 643054 ORIGINAL: Q1617456004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Antimony Total	mg/L	0	.05	.05	.05	91.7	92.6	70 - 130	1.09	20	
Arsenic Total	mg/L	0	.05	.05	.05	93.4	94	70 - 130	.64	20	
Cadmium Total	mg/L	0	.05	.05	.05	95.3	96.3	70 - 130	.835	20	
Chromium Total	mg/L	0	.05	.05	.05	91.4	92.8	70 - 130	1.52	20	
Cobalt Total	mg/L	0	.05	.05	.05	97.1	97.9	70 - 130	1.03	20	
Lead Total	mg/L	0	.05	.05	.05	95.9	97.1	70 - 130	1.04	20	
Lithium Total	mg/L	.01	.05	.06	.06	99.9	105	70 - 130	4.2	20	
Molybdenum Total	mg/L	0	.05	.05	.05	98	98.8	70 - 130	.765	20	
Selenium Total	mg/L	0	.25	.23	.24	92.1	96.5	70 - 130	4.67	20	
Thallium Total	mg/L	0	.05	.05	.05	95.5	96.7	70 - 130	1.46	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1617456

QC Batch: MEP/5569 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1617456001, Q1617456002, Q1617456003, Q1617456004, Q1617456005, Q1617456006, Q1617456007,

LABORATORY CONTROL SAMPLE: 643064

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	.95	.95	95.1	95.3	80 - 120	.21	20	
Beryllium Total	mg/L	1	.98	1	97.5	99.5	80 - 120	2.03	20	
Boron Total	mg/L	1	.97	1	96.8	100	80 - 120	3.25	20	
Calcium Total	mg/L	10	10.4	10.4	104	104	80 - 120	0	20	
Chromium Total	mg/L	1	1	1.02	99.6	102	80 - 120	2.38	20	

METHOD BLANK: 643066

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	<0.0500	0.0500	
Calcium Total	mg/L	<0.200	0.200	
Chromium Total	mg/L	<0.0100	0.0100	

MATRIX SPIKE: 643067 DUPLICATE: 643068 ORIGINAL: Q1617456001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.02	1	.96	.95	93.4	93.1	75 - 125	.418	20	
Beryllium Total	mg/L	0	1	.89	.89	88.7	88.9	75 - 125	.225	20	
Boron Total	mg/L	.08	1	1	1.02	91.3	93.8	75 - 125	2.28	20	
Chromium Total	mg/L	0	1	.89	.89	89.2	89	75 - 125	.224	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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LCRA Environmental Laboratory Services
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Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1617456

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1617456001	CBL - 340I			SM2540C, TDS	WET/10577
Q1617456002	CBL - 301I			SM2540C, TDS	WET/10577
Q1617456003	CBL - 302I			SM2540C, TDS	WET/10577
Q1617456004	CBL - 306I			SM2540C, TDS	WET/10577
Q1617456005	CBL - 308I			SM2540C, TDS	WET/10577
Q1617456001	CBL - 340I			E300.0, Anions	WET/10584
Q1617456002	CBL - 301I			E300.0, Anions	WET/10584
Q1617456003	CBL - 302I			E300.0, Anions	WET/10584
Q1617456004	CBL - 306I			E300.0, Anions	WET/10584
Q1617456005	CBL - 308I			E300.0, Anions	WET/10584
Q1617456001	CBL - 340I	SW7470A Hg in Liquid Waste	MEP/5567	SW7470A Hg in Liquid Waste	MET/4449
Q1617456002	CBL - 301I	SW7470A Hg in Liquid Waste	MEP/5567	SW7470A Hg in Liquid Waste	MET/4449
Q1617456003	CBL - 302I	SW7470A Hg in Liquid Waste	MEP/5567	SW7470A Hg in Liquid Waste	MET/4449
Q1617456004	CBL - 306I	SW7470A Hg in Liquid Waste	MEP/5567	SW7470A Hg in Liquid Waste	MET/4449
Q1617456005	CBL - 308I	SW7470A Hg in Liquid Waste	MEP/5567	SW7470A Hg in Liquid Waste	MET/4449
Q1617456006	CBL - 602I	SW7470A Hg in Liquid Waste	MEP/5567	SW7470A Hg in Liquid Waste	MET/4449
Q1617456007	Field Blank	SW7470A Hg in Liquid Waste	MEP/5567	SW7470A Hg in Liquid Waste	MET/4449
Q1617456008	EQ Blank	SW7470A Hg in Liquid Waste	MEP/5567	SW7470A Hg in Liquid Waste	MET/4449
Q1617456001	CBL - 340I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4452
Q1617456002	CBL - 301I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4452
Q1617456003	CBL - 302I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4452
Q1617456004	CBL - 306I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4452
Q1617456005	CBL - 308I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4452
Q1617456006	CBL - 602I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4452
Q1617456007	Field Blank	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4452
Q1617456008	EQ Blank	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4452
Q1617456001	CBL - 340I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4460
Q1617456002	CBL - 301I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4460

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1617456

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1617456003	CBL - 302I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4460
Q1617456004	CBL - 306I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4460
Q1617456005	CBL - 308I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4460
Q1617456006	CBL - 602I	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4460
Q1617456007	Field Blank	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4460
Q1617456008	EQ Blank	SW3010A, Metals Prep	MEP/5568	SW6020 ICP-MS	MET/4460
Q1617456001	CBL - 340I	SW3010A, Metals Prep	MEP/5569	SW6010B ICP-AES	MET/4453
Q1617456002	CBL - 301I	SW3010A, Metals Prep	MEP/5569	SW6010B ICP-AES	MET/4453
Q1617456003	CBL - 302I	SW3010A, Metals Prep	MEP/5569	SW6010B ICP-AES	MET/4453
Q1617456004	CBL - 306I	SW3010A, Metals Prep	MEP/5569	SW6010B ICP-AES	MET/4453
Q1617456005	CBL - 308I	SW3010A, Metals Prep	MEP/5569	SW6010B ICP-AES	MET/4453
Q1617456006	CBL - 602I	SW3010A, Metals Prep	MEP/5569	SW6010B ICP-AES	MET/4453
Q1617456007	Field Blank	SW3010A, Metals Prep	MEP/5569	SW6010B ICP-AES	MET/4453
Q1617456008	EQ Blank	SW3010A, Metals Prep	MEP/5569	SW6010B ICP-AES	MET/4453
Q1617456007	Field Blank	SW3010A, Metals Prep	MEP/5569	SW6010B ICP-AES	MET/4480

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Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

NELAP ACCREDITED TNI LABORATORY

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#: Q1617456.
Client PO:

Project:	FPP CCR Rule	Client:	LCRA
Collector:	Jason Woods / Colt Petri	Contact:	
Event#:	1302337 / 3110	Phone:	

Report To: BECKY LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
La Grange, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	500PU	250PHNO3	6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28
1	CBL - 340I	5/4/16	1315	AQ	N	N	1	1	X	X	X	X	X	X
2	CBL - 301I		1021	AQ			1	1	X	X	X	X	X	X
3	CBL - 302I		1414	AQ			1	1	X	X	X	X	X	X
4	CBL - 306I		1107	AQ			1	1	X	X	X	X	X	X
5	CBL - 308I		1214	AQ			1	1	X	X	X	X	X	X
6	CBL - 602I		1414	AQ				1	X		X	X		
7	Field Blank		1214	AQ				1	X		X	X		
8	EQ Blank		1430	AQ				1	X		X	X		

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	[signature]	5/4/16 1610	[signature]	5/4/16 1610
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	T6	0.4	0.4
2			

Client Special Instructions:

Lab

Q1617456
204894

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

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Field Information Form

Sample Date: 5/4/2016 (1)
Sample Time: 1021
Sample ID: CBL301I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	V= WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160504		27	81	3

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | | N | Sampling Equipment ..... Dedicated | Y | | N |

Purging Device [A] A-Submersible Pump D-Gas Litf Pump G-Bailer X- _____ Purging Other (Specify)
Sampling Device [A] B-Perisataltic Pump E-Venturi Pump H-Scoop/Shovel X- _____ Sampling Other (Specify)
C-Bladder Pump F-Dipper/Bottle I-Piston Pump

Purging Material [E] A-Teflon C-Polypropylene E-Polyethylene X- _____ Purging Other (Specify)
Sampling Material [E] B-Stainless Steel D-PVC X- _____ Sampling Other (Specify)

Tubing-Purging [E] A-Teflon D-Polypropylene F-Silicon X- _____ Purging Other (Spectfy)
Tubing-Sampling [E] B-Tygon E-Polyethylene G-Combination teflon/Polypropylene X- _____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	37.60 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.17 (ft)	Pump Placement	50 (ft)

PH 6.26 (STD) Specific Conductivity 7202 uS/cm Sample Temp. 25.02 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metal	N
P	500mL	ICE	Anions + TDS	N
P	4L Cube	HNO_3	Radium 226 + 228 Combined	N

Sample Appearance: Cloudy Odor: none Color: ~~Clear~~ / JBW 5/4/16 Light Brown Slightly Turbidity: 86.4 ntu
Weather Conditions: Sunny, Calm, 70°
Other: Purge water is milky grey, clearing up after 2 gallons. Collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ galtft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS-Groundwater SOP
Date: 5/4/2016
Sampler: Jason Woods + Colt Petri
Employer: LCRA.

CCR Well

Rev. 1 (08/2009)

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Field Information Form

Sample Date: 5/4/16 (2)
Sample Time: 1107
Sample ID: CBL3016I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160504		V= 15	44	4

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | | N | Sampling Equipment ..... Dedicated | Y | | N |

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- ____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	5.75 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.81 (ft)	Pump Placement	12 (ft)

PH: 6.69 (STD) Specific Conductivity: 672 uS/cm Sample Temp. 21.13 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions + TDS	N
P	4L Cube	HNO_3	Radium 226 + Combined 228	N

Sample Appearance: Clear Odor: none Color: clear Turbidity: 0.93 ntu
Weather Conditions: Sunny, Calm, 70°
Other: Purge water is clear w/ no odor, collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS-Groundwater SOP-5-70
Date: 5/4/2016
Sampler: JBW/CP
Employer: LCRA.

CCR Well

Rev. 1 (08/2009)

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Field Information Form

Sample Date: 5/4/16 (3)
Sample Time: 1214
Sample ID: CBL3081

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160504	1145	V= 1.7	5.2	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- ____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	24.72 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	30 (ft)

6.13 (STD) PH — 9726 uS/cm Specific Conductivity — Sample Temp. 22.87 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
250mL	P	HNO_3	Metals	N
500mL	P	ICE	Anions	N
4L Cube	P	HNO_3	Radium 226+228 Combined –	N
4L Cube	P	HNO_3	Metals Blank – Collected @ 1214	N
250mL	P	HNO_3	Radium Field Blank collected @ 1214	

Sample Appearance: clear Odor: none Color: clear Turbidity: 2.65
Weather Conditions: Sunny Calm 80
Other: Purge water is clear w/ no odor, Collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
(2" dia. A= 0.0218) 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS Groundwater SOP 5.7D
Date: 5/4/16
Sampler: JBW/CP
Employer: LCRA

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Field Information Form

Sample Date: 5/4/16 (4)
Sample Time: 1315
Sample ID: CBL3401

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160504		V= 33	100	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- ____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	19.82 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.23 (ft)	Pump Placement	30 (ft)

PH: 6.13 (STD) Specific Conductivity: 8159 uS/cm Sample Temp. ~~22.96~~ 22.96 (°C) 5/4/16

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	metal	N
P	500mL	ICE	Anions + TDS	N
P	4L Cube	HNO_3	Radium 226 + Combined 228	N

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 1.68 ntu
Weather Conditions: Sunny, Calm, 75°
Other: Purge water is clear w/ no odor, Collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes K No ____
If No, Explain ____

Procedure: ECS-Groundwater SOP 5-70
Date: 5/4/16
Sampler: Jason Woods + Colt Petrl
Employer: LCRA

CCR Well

Rev. 1 (08/2009)

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 5/4/16 (5)
Sample Time: 1414
Sample ID: CBL-3012I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160504		V= 2.9	8.8	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	9.15 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.17 (ft)	Pump Placement	(ft)

6.01 (STD) PH — 791.1 uS/cm Specific Conductivity — Sample Temp. 20.84 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions + TDS	N
P	4L Cube	HNO_3	Radium 226 + Combined 228	N
P	4L Cube	HNO_3	Radium 226 + Combined 228 - Duplicate	N

Sample Appearance: Clear Odor: none Color: clear Turbidity: 4.00
Weather Conditions: Sunny calm 80°
Other: Purge water is clear w/no odor, collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No
If No, Explain

Procedure: ELS Groundwater SOP 5-70
Date: 5/04/16
Sampler: JBL
Employer: LCRA

Rev. 1 (08/2009)

FPP - Groundwater Purge Data - CCR Wells - April 2016

Date M/D/Y	Time HH:MM:SS	Temp C	DO mg/L	DOsat %	pH	SpCond uS	Orp mV	Monitoring Well
5/4/2016	10:02:55	21.48	8.08	93.1	7.43	5673	260.8	CBL 301 I
5/4/2016	10:03:05	21.58	5.46	63.1	7.17	6039	230.1	CBL 301 I
5/4/2016	10:03:14	21.64	4.49	52.1	7.04	6485	216.7	CBL 301 I
5/4/2016	10:03:26	21.70	3.71	43.0	6.94	6670	208.7	CBL 301 I
5/4/2016	10:06:26	22.26	1.27	15.0	6.42	7243	136.8	CBL 301 I
5/4/2016	10:09:26	23.31	1.46	17.5	6.32	7237	122.3	CBL 301 I
5/4/2016	10:12:26	24.08	1.30	15.8	6.28	7233	123.1	CBL 301 I
5/4/2016	10:15:26	24.49	1.25	15.3	6.27	7224	120.9	CBL 301 I
5/4/2016	10:18:26	24.79	1.20	14.8	6.27	7211	121.6	CBL 301 I
5/4/2016	10:21:26	25.02	1.21	15.0	6.26	7202	125.5	CBL 301 I
5/4/2016	10:46:00	21.76	6.21	70.9	7.67	793	128.4	CBL 306 I
5/4/2016	10:46:13	21.67	5.85	66.6	7.65	777	131.3	CBL 306 I
5/4/2016	10:46:41	21.60	5.74	65.3	7.64	764	132.5	CBL 306 I
5/4/2016	10:49:13	20.90	5.21	58.5	7.40	596	176.7	CBL 306 I
5/4/2016	10:52:13	20.92	5.54	62.2	7.22	577	237.1	CBL 306 I
5/4/2016	10:55:13	21.00	5.78	64.9	7.08	598	307.5	CBL 306 I
5/4/2016	10:58:13	21.01	5.93	66.6	6.98	616	366.9	CBL 306 I
5/4/2016	11:01:13	21.09	6.09	68.5	6.88	625	411.0	CBL 306 I
5/4/2016	11:04:13	21.11	6.22	70.1	6.78	648	441.9	CBL 306 I
5/4/2016	11:07:13	21.13	6.14	69.1	6.69	672	464.8	CBL 306 I
5/4/2016	11:37:49	23.90	4.80	58.7	6.52	9644	431.3	CBL 308 I
5/4/2016	11:38:04	23.86	4.35	53.2	6.47	9663	436.3	CBL 308 I
5/4/2016	11:38:09	23.82	4.25	51.9	6.46	9662	437.4	CBL 308 I
5/4/2016	11:41:09	22.97	3.13	37.6	6.25	9752	466.1	CBL 308 I
5/4/2016	11:44:09	22.82	2.90	34.7	6.22	9771	472.8	CBL 308 I
5/4/2016	11:47:09	22.83	2.73	32.8	6.21	9766	475.7	CBL 308 I
5/4/2016	11:50:09	22.84	2.68	32.1	6.21	9752	477.5	CBL 308 I
5/4/2016	11:53:09	22.83	2.82	33.8	6.22	9756	478.7	CBL 308 I
5/4/2016	11:56:09	22.86	2.92	35.0	6.21	9758	479.0	CBL 308 I
5/4/2016	11:59:09	22.83	2.84	34.1	6.21	9754	481.1	CBL 308 I
5/4/2016	12:02:09	22.84	2.77	33.3	6.20	9754	483.5	CBL 308 I
5/4/2016	12:05:09	22.87	2.80	33.6	6.18	9741	487.0	CBL 308 I
5/4/2016	12:08:09	22.89	2.86	34.3	6.15	9744	492.2	CBL 308 I
5/4/2016	12:11:09	22.87	2.90	34.8	6.13	9734	500.3	CBL 308 I
5/4/2016	12:14:09	22.87	2.81	33.8	6.13	9726	504.3	CBL 308 I
5/4/2016	12:44:43	23.86	5.70	69.4	6.66	8449	403.5	CBL 340 I
5/4/2016	12:45:04	23.50	5.15	62.3	6.59	8451	413.2	CBL 340 I
5/4/2016	12:45:23	23.29	4.85	58.4	6.54	8466	420.3	CBL 340 I
5/4/2016	12:48:23	22.86	4.32	51.6	6.31	8503	468.3	CBL 340 I

5/4/2016	12:51:23	22.83	4.23	50.5	6.23	8500	492.1	CBL 340 I
5/4/2016	12:54:23	22.85	4.23	50.5	6.19	8484	505.2	CBL 340 I
5/4/2016	12:57:23	22.84	4.21	50.3	6.16	8496	512.4	CBL 340 I
5/4/2016	13:00:23	22.82	4.24	50.6	6.15	8474	517.7	CBL 340 I
5/4/2016	13:03:23	22.86	4.21	50.3	6.14	8424	523.1	CBL 340 I
5/4/2016	13:06:23	22.88	4.16	49.7	6.13	8360	526.5	CBL 340 I
5/4/2016	13:09:23	22.90	4.18	50.0	6.13	8294	529.5	CBL 340 I
5/4/2016	13:12:23	22.91	4.16	49.7	6.12	8258	531.7	CBL 340 I
5/4/2016	13:15:23	22.96	4.12	49.3	6.13	8159	533.4	CBL 340 I
5/4/2016	13:40:59	22.61	6.51	77.3	6.51	8098	369.7	CBL 302 I
5/4/2016	13:41:09	22.18	5.77	67.9	6.46	8058	385.9	CBL 302 I
5/4/2016	13:44:09	20.39	1.88	21.3	6.08	7951	525.5	CBL 302 I
5/4/2016	13:47:09	20.50	1.77	20.2	6.02	7935	530.4	CBL 302 I
5/4/2016	13:50:09	20.62	1.70	19.5	6.00	7943	522.0	CBL 302 I
5/4/2016	13:53:09	20.73	1.65	18.8	6.01	7937	506.1	CBL 302 I
5/4/2016	13:56:09	20.79	1.60	18.3	6.02	7928	490.2	CBL 302 I
5/4/2016	13:59:09	20.79	1.55	17.8	6.03	7924	480.5	CBL 302 I
5/4/2016	14:02:09	20.79	1.50	17.2	6.03	7921	473.9	CBL 302 I
5/4/2016	14:05:09	20.82	1.51	17.4	6.02	7914	470.6	CBL 302 I
5/4/2016	14:08:09	20.84	1.51	17.3	6.00	7916	469.0	CBL 302 I
5/4/2016	14:11:09	20.82	1.52	17.4	6.00	7908	468.3	CBL 302 I
5/4/2016	14:14:09	20.84	1.51	17.3	6.01	7911	462.5	CBL 302 I

LCRA Environmental Laboratory Services
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Austin, TX 78744
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Fax: (512)356-6021

June 27, 2016

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1617473

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Susan Benavidez
Project Manager
susan.benavidez@lcra.org

Enclosures

T104704218

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SAMPLE SUMMARY

Workorder: Q1617473

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1617473001	CBL - 340I	Aqueous	5/4/2016 13:15	5/4/2016 16:10
Q1617473002	CBL - 301I	Aqueous	5/4/2016 10:21	5/4/2016 16:10
Q1617473003	CBL - 302I	Aqueous	5/4/2016 14:14	5/4/2016 16:10
Q1617473004	CBL - 306I	Aqueous	5/4/2016 11:07	5/4/2016 16:10
Q1617473005	CBL - 308I	Aqueous	5/4/2016 12:14	5/4/2016 16:10
Q1617473006	CBL - 602I	Aqueous	5/4/2016 14:14	5/4/2016 16:10
Q1617473007	Field Blank	Aqueous	5/4/2016 12:14	5/4/2016 16:10
Q1617473008	EQ Blank	Aqueous	5/4/2016 14:30	5/4/2016 16:10

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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ANALYTICAL RESULTS

Workorder: Q1617473

Lab ID:	**Q1617473001**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	5/4/2016 13:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	06/27/16 14:19	SB	06/27/16 14:19	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	06/27/16 14:19	SB	06/27/16 14:19	SB	

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ANALYTICAL RESULTS

Workorder: Q1617473

Lab ID:	**Q1617473002**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	5/4/2016 10:21	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	06/27/16 14:19	SB	06/27/16 14:19	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	06/27/16 14:19	SB	06/27/16 14:19	SB	

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ANALYTICAL RESULTS

Workorder: Q1617473

Lab ID:	**Q1617473003**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	5/4/2016 14:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	06/27/16 14:20	SB	06/27/16 14:20	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	06/27/16 14:20	SB	06/27/16 14:20	SB	

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ANALYTICAL RESULTS

Workorder: Q1617473

Lab ID:	**Q1617473004**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	5/4/2016 11:07	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	06/27/16 14:20	SB	06/27/16 14:20	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	06/27/16 14:20	SB	06/27/16 14:20	SB	

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ANALYTICAL RESULTS

Workorder: Q1617473

Lab ID:	**Q1617473005**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	5/4/2016 12:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	06/27/16 14:20	SB	06/27/16 14:20	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	06/27/16 14:20	SB	06/27/16 14:20	SB	

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ANALYTICAL RESULTS

Workorder: Q1617473

Lab ID:	**Q1617473006**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	5/4/2016 14:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	06/27/16 14:20	SB	06/27/16 14:20	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	06/27/16 14:21	SB	06/27/16 14:21	SB	

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ANALYTICAL RESULTS

Workorder: Q1617473

Lab ID:	**Q1617473007**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	5/4/2016 12:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	06/27/16 14:21	SB	06/27/16 14:21	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	06/27/16 14:21	SB	06/27/16 14:21	SB	

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ANALYTICAL RESULTS

Workorder: Q1617473

Lab ID:	**Q1617473008**	Date Received:	5/4/2016 16:10	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	5/4/2016 14:30	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOD	LOQ	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: SM7500-RA-B, Radium 226	Preparation Method: SM7500-RA-B, Radium 226 Analytical Method: SM7500-RA-B, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	06/27/16 14:21	SB	06/27/16 14:21	SB	
Analysis Desc: SM7500-RA-D, Radium 228	Preparation Method: SM7500-RA-D, Radium 228 Analytical Method: SM7500-RA-D, Radium 228										
Reference Lab Report	see attached.					1	06/27/16 14:21	SB	06/27/16 14:21	SB	

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Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

NELAP ACCREDITED TNI LABORATORY

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#: Q1617473
Client PO:

Project:	FPP CCR Rule Sub	Client:	LCRA
Collector:	Jason Woods / Colt Petri	Contact:	
Event#:	1302339 / 3111	Phone:	

Report To: BECKY LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
La Grange, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU								Requested Analysis * S-Rad228	S-Rad226										
1	CBL - 340I	5/4/16	1315	AQ	N	N	1								X	X										
2	CBL - 301I		1021	AQ			1								X	X										
3	CBL - 302I		1414	AQ			1								X	X										
4	CBL - 306I		1107	AQ			1								X	X										
5	CBL - 308I		1214	AQ			1								X	X										
6	CBL - 602I		1414	AQ			1								X	X										
7	Field Blank		1214	AQ			1								X	X										
8	EQ Blank		1430	AQ			1								X	X										

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	[signature]	5/4/16 1610	[signature]	5/4/16 1610
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	T6	0.4	0.4
2			

Client Special Instructions: Preserve in Lab.

Q1617473 204911

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45173254 - HBN 44521 **PO #Q1617473** **Results Requested By**

Report To	Subcontract To
Susan Benavidez LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: SM7500-RA-B, Radium 226	SM7500-RA-D, Radium 228											LAB USE ONLY
1	Q1617473001	5/4/2016 13:15		Aqueous	1						X	X											
2	Q1617473002	5/4/2016 10:21		Aqueous	1						X	X											
3	Q1617473003	5/4/2016 14:14		Aqueous	1						X	X											
4	Q1617473004	5/4/2016 11:07		Aqueous	1						X	X											
5	Q1617473005	5/4/2016 12:14		Aqueous	1						X	X											
6	Q1617473006	5/4/2016 14:14		Aqueous	1						X	X											
7	Q1617473007	5/4/2016 12:14		Aqueous	1						X	X											
8	Q1617473008	5/4/2016 14:30		Aqueous	1						X	X											

Q1617473
204911

2001.2.0.0

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45173254 - HBN 44521 PO # Results Requested By

Report To	Subcontract To
Susan Benavidez LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: SM7500-RA-B, Radium 226	SM7500-RA-D, Radium 228										LAB USE ONLY
9																						
10																						
11																						
12																						

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1617473 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	5/6/16 0930		
2				
3				
4				
5				

2001.2.0.0

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

May 31, 2016

Susan Benavidez
LCRA Environmental Laboratory Services
P.O. Box 220 78767-02203505 Montopolis
Austin, TX 78744
TEL: 512-356-6022
FAX: 512-356-6021

RE: Q1617473

Dear Susan Benavidez: Order No.: 16050830

Summit Environmental Technologies, Inc. received 8 sample(s) on 5/12/2016 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Bachar Najm
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0105, Delaware, Florida NELAC E87688, Georgia E87688 and 943, Idaho OH00923, Illinois 200061 and Reg.5, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061 and LA12004, Maine 2012015, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, Montana CERT0099, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 248 and 9957C and E87688, Wisconsin 399013010

Summit Environmental Technologies, Inc.
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Website: http://www.settek.com

Case Narrative

WO#: **16050830**
Date: **5/31/2016**

CLIENT: LCRA Environmental Laboratory Services
Project: Q1617473

This report in its entirety consists of the documents listed below. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Paginated Report including Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports, and copies of the Chain of Custody Documents are supplied with this sample set.

Concentrations reported with a J-Flag in the Qualifier Field are values below the Limit of Quantitation (LOQ) but greater than the established Method Detection Limit (MDL).

Method numbers, unless specified as SM (Standard Methods) or ASTM, are EPA methods.

Estimated uncertainty values are available upon request.

Analysis performed by DBM, VRM, or SFG were performed at Summit Labs 2704 Eatonton Highway Haddock, GA 31033

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

This report is believed to meet all of the requirements of NELAC or the accrediting / certifying agency. Any comments or problems with the analytical events associated with this report are noted below.

Summit Environmental Technologies, In
3310 Win S
Cuyahoga Falls, Ohio 4422
TEL: (330) 253-8211 FAX: (330) 253-448
Website: http://www.settek.co

Qualifiers and Acronyms

WO#: **16050830**
Date: **5/31/2016**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

Summit Environmental Technologies, Inc.
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Workorder Sample Summary

WO#: **16050830**

31-May-16

CLIENT: LCRA Environmental Laboratory Services
Project: Q1617473

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
16050830-001	Q1617473001		5/4/2016 1:15:00 PM	5/12/2016 11:30:00 AM	Drinking Water
16050830-002	Q1617473002		5/4/2016 10:21:00 AM	5/12/2016 11:30:00 AM	Drinking Water
16050830-003	Q1617473003		5/4/2016 2:14:00 PM	5/12/2016 11:30:00 AM	Drinking Water
16050830-004	Q1617473004		5/4/2016 11:07:00 AM	5/12/2016 11:30:00 AM	Drinking Water
16050830-005	Q1617473005		5/4/2016 12:14:00 PM	5/12/2016 11:30:00 AM	Drinking Water
16050830-006	Q1617473006		5/4/2016 2:14:00 PM	5/12/2016 11:30:00 AM	Drinking Water
16050830-007	Q1617473007		5/4/2016 12:14:00 PM	5/12/2016 11:30:00 AM	Drinking Water
16050830-008	Q1617473008		5/4/2016 2:30:00 PM	5/12/2016 11:30:00 AM	Drinking Water

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Analytical Report

(consolidated)

WO#: **16050830**

Date Reported: **5/31/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/4/2016 1:15:00 PM

Project: Q1617473

Lab ID: 16050830-001 **Matrix:** DRINKING WATER

Client Sample ID Q1617473001

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.14	1	5/26/2016 7:45:00 AM
Yield	0.698					1	5/26/2016 7:45:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.22	1.00		pCi/L	± 0.62	1	5/25/2016 2:16:00 PM
Yield	0.700					1	5/25/2016 2:16:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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Analytical Report

(consolidated)

WO#: **16050830**

Date Reported: **5/31/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/4/2016 10:21:00 AM

Project: Q1617473

Lab ID: 16050830-002 **Matrix:** DRINKING WATER

Client Sample ID Q1617473002

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.11	1	5/26/2016 8:33:00 AM
Yield	1.00					1	5/26/2016 8:33:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.48	1	5/25/2016 2:49:00 PM
Yield	1.00					1	5/25/2016 2:49:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **16050830**

Date Reported: **5/31/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/4/2016 2:14:00 PM

Project: Q1617473

Lab ID: 16050830-003 **Matrix:** DRINKING WATER

Client Sample ID Q1617473003

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.1	1	5/26/2016 8:33:00 AM
Yield	1.00					1	5/26/2016 8:33:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.44	1	5/25/2016 3:58:00 PM
Yield	1.00					1	5/25/2016 3:58:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16050830**

Date Reported: **5/31/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/4/2016 11:07:00 AM

Project: Q1617473

Lab ID: 16050830-004 **Matrix:** DRINKING WATER

Client Sample ID Q1617473004

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.07	1	5/26/2016 8:33:00 AM
Yield	1.00					1	5/26/2016 8:33:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.37	1	5/25/2016 3:58:00 PM
Yield	1.00					1	5/25/2016 3:58:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **16050830**

Date Reported: **5/31/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/4/2016 12:14:00 PM

Project: Q1617473

Lab ID: 16050830-005 **Matrix:** DRINKING WATER

Client Sample ID Q1617473005

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.09	1	5/26/2016 8:33:00 AM
Yield	1.00					1	5/26/2016 8:33:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.52	1	5/25/2016 3:59:00 PM
Yield	1.00					1	5/25/2016 3:59:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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Analytical Report

(consolidated)

WO#: **16050830**

Date Reported: **5/31/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/4/2016 2:14:00 PM

Project: Q1617473

Lab ID: 16050830-006 **Matrix:** DRINKING WATER

Client Sample ID Q1617473006

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.08	1	5/26/2016 8:33:00 AM
Yield	1.00					1	5/26/2016 8:33:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.36	1	5/25/2016 3:59:00 PM
Yield	1.00					1	5/25/2016 3:59:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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Analytical Report

(consolidated)

WO#: **16050830**

Date Reported: **5/31/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/4/2016 12:14:00 PM

Project: Q1617473

Lab ID: 16050830-007 **Matrix:** DRINKING WATER

Client Sample ID Q1617473007

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.08	1	5/26/2016 8:33:00 AM
Yield	1.00					1	5/26/2016 8:33:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.53	1	5/25/2016 3:59:00 PM
Yield	1.00					1	5/25/2016 3:59:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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Analytical Report

(consolidated)

WO#: **16050830**

Date Reported: **5/31/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/4/2016 2:30:00 PM

Project: Q1617473

Lab ID: 16050830-008 **Matrix:** DRINKING WATER

Client Sample ID Q1617473008

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.08	1	5/26/2016 8:33:00 AM
Yield	1.00					1	5/26/2016 8:33:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.43	1	5/25/2016 4:32:00 PM
Yield	1.00					1	5/25/2016 4:32:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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Website: http://www.settek.com

Accreditation Program Analytes Report

WO#: **16050830**
31-May-16

Client: LCRA Environmental Laboratory Servic
Project: Q1617473

Program Name	Sample ID	ClientSampleID	Matrix	Test Name	Analyte	Status
Alabama DEM	16050830-001A	Q1617473001	Drinking Water	Radium-226 (903.0)	Radium-226	A
				Radium-228 (904.0)	Radium-228	A
	16050830-002A	Q1617473002			Radium-228	A
				Radium-226 (903.0)	Radium-226	A
	16050830-003A	Q1617473003		Radium-228 (904.0)	Radium-228	A
				Radium-226 (903.0)	Radium-226	A
	16050830-004A	Q1617473004		Radium-228 (904.0)	Radium-228	A
				Radium-226 (903.0)	Radium-226	A
	16050830-005A	Q1617473005		Radium-228 (904.0)	Radium-228	A
				Radium-226 (903.0)	Radium-226	A
	16050830-006A	Q1617473006		Radium-228 (904.0)	Radium-228	A
				Radium-226 (903.0)	Radium-226	A
	16050830-007A	Q1617473007			Radium-226	A
				Radium-228 (904.0)	Radium-228	A
	16050830-008A	Q1617473008		Radium-226 (903.0)	Radium-226	A
				Radium-228 (904.0)	Radium-228	A
Conneticut Department	16050830-001A	Q1617473001		Radium-226 (903.0)	Radium-226	
				Radium-228 (904.0)	Radium-228	
	16050830-002A	Q1617473002			Radium-228	
				Radium-226 (903.0)	Radium-226	
	16050830-003A	Q1617473003			Radium-226	
				Radium-228 (904.0)	Radium-228	
	16050830-004A	Q1617473004		Radium-226 (903.0)	Radium-226	
				Radium-228 (904.0)	Radium-228	
	16050830-005A	Q1617473005			Radium-228	
				Radium-226 (903.0)	Radium-226	
	16050830-006A	Q1617473006		Radium-228 (904.0)	Radium-228	
				Radium-226 (903.0)	Radium-226	
	16050830-007A	Q1617473007		Radium-228 (904.0)	Radium-228	
				Radium-226 (903.0)	Radium-226	
	16050830-008A	Q1617473008			Radium-226	
				Radium-228 (904.0)	Radium-228	

AL A Accredited ;L-NELAI A Accredited ;L-NELAI NA Not Accredited

ACCRED

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Accreditation Program Analytes Report

WO#: **16050830**

31-May-16

Client: LCRA Environmental Laboratory Servic

Project: Q1617473

Program Name	Sample ID	ClientSampleID	Matrix	Test Name	Analyte	Status
Florida DOH	16050830-001A	Q1617473001	Drinking Water	Radium-228 (904.0)	Radium-228	A
				Radium-226 (903.0)	Yield	NA
					Radium-226	A
				Radium-228 (904.0)	Yield	NA
	16050830-002A	Q1617473002		Radium-226 (903.0)	Radium-226	A
					Yield	NA
				Radium-228 (904.0)	Radium-228	A
					Yield	NA
	16050830-003A	Q1617473003		Radium-226 (903.0)	Yield	NA
					Radium-226	A
				Radium-228 (904.0)	Radium-228	A
					Yield	NA
	16050830-004A	Q1617473004		Radium-226 (903.0)	Radium-226	A
					Yield	NA
				Radium-228 (904.0)	Radium-228	A
					Yield	NA
	16050830-005A	Q1617473005		Radium-226 (903.0)	Radium-226	A
					Yield	NA
				Radium-228 (904.0)	Yield	NA
					Radium-228	A
	16050830-006A	Q1617473006		Radium-226 (903.0)	Radium-226	A
					Yield	NA
				Radium-228 (904.0)	Radium-228	A
					Yield	NA
	16050830-007A	Q1617473007		Radium-226 (903.0)	Yield	NA
				Radium-228 (904.0)	Radium-228	A
					Yield	NA
				Radium-226 (903.0)	Radium-226	A
	16050830-008A	Q1617473008		Radium-228 (904.0)	Yield	NA
				Radium-226 (903.0)	Radium-226	A
					Yield	NA
				Radium-228 (904.0)	Radium-228	A

AL A Accredited FL-NELAI A Accredited FL-NELAI NA Not Accredited

ACCRED

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Accreditation Program Analytes Report

WO#: **16050830**

31-May-16

Client: LCRA Environmental Laboratory Servic

Project: Q1617473

Program Name	Sample ID	ClientSampleID	Matrix	Test Name	Analyte	Status
Georgia Department of	16050830-001A	Q1617473001	Drinking Water	Radium-228 (904.0)	Radium-228	
				Radium-226 (903.0)	Radium-226	
	16050830-002A	Q1617473002		Radium-228 (904.0)	Radium-228	
				Radium-226 (903.0)	Radium-226	
	16050830-003A	Q1617473003			Radium-226	
				Radium-228 (904.0)	Radium-228	
	16050830-004A	Q1617473004		Radium-226 (903.0)	Radium-226	
				Radium-228 (904.0)	Radium-228	
	16050830-005A	Q1617473005			Radium-228	
				Radium-226 (903.0)	Radium-226	
	16050830-006A	Q1617473006		Radium-228 (904.0)	Radium-228	
				Radium-226 (903.0)	Radium-226	
	16050830-007A	Q1617473007			Radium-226	
				Radium-228 (904.0)	Radium-228	
	16050830-008A	Q1617473008		Radium-226 (903.0)	Radium-226	
				Radium-228 (904.0)	Radium-228	

AL A Accredited ?L-NELAI A Accredited ?L-NELAI NA Not Accredited

ACCRED

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QC SUMMARY REPORT

WO#: **16050830**
31-May-16

Client: LCRA Environmental Laboratory Services
Project: Q1617473 **BatchID:** **20739**

Sample ID **mb-20739** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/23/2016** RunNo: **54415**
Client ID: **PBW** Batch ID: **20739** TestNo: **E904.0** **E903-904** Analysis Date: **5/25/2016** SeqNo: **867010**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00									
Yield	1.00										

Sample ID **lcs-20739** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/23/2016** RunNo: **54415**
Client ID: **LCSW** Batch ID: **20739** TestNo: **E904.0** **E903-904** Analysis Date: **5/25/2016** SeqNo: **867011**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.70	1.00	5.000	0	73.9	70	130				

Sample ID **lcsd-20739** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/23/2016** RunNo: **54415**
Client ID: **LCSS02** Batch ID: **20739** TestNo: **E904.0** **E903-904** Analysis Date: **5/25/2016** SeqNo: **867012**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.84	1.00	5.000	0	76.8	70	130	3.697	3.84	20	

Sample ID **16050830-001aMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/23/2016** RunNo: **54415**
Client ID: **Q1617473001** Batch ID: **20739** TestNo: **E904.0** **E903-904** Analysis Date: **5/25/2016** SeqNo: **867014**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **16050830**

31-May-16

Client: LCRA Environmental Laboratory Services

Project: Q1617473

BatchID: **20739**

Sample ID **16050830-001aMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/23/2016** RunNo: **54415**

Client ID: **Q1617473001** Batch ID: **20739** TestNo: **E904.0** **E903-904** Analysis Date: **5/25/2016** SeqNo: **867014**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	5.27	1.00	5.000	1.223	80.9	70	130				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **16050830**
31-May-16

Client: LCRA Environmental Laboratory Services
Project: Q1617473 **BatchID:** **20739**

Sample ID	**mb-20739**	SampType:	**MBLK**	TestCode:	**Radium-226_**	Units:	**pCi/L**	Prep Date:	**5/23/2016**	RunNo:	**54416**
Client ID:	**PBW**	Batch ID:	**20739**	TestNo:	**E903.0**	**E903-904**		Analysis Date:	**5/26/2016**	SeqNo:	**867039**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID	**lcs-20739**	SampType:	**LCS**	TestCode:	**Radium-226_**	Units:	**pCi/L**	Prep Date:	**5/23/2016**	RunNo:	**54416**
Client ID:	**LCSW**	Batch ID:	**20739**	TestNo:	**E903.0**	**E903-904**		Analysis Date:	**5/26/2016**	SeqNo:	**867040**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.48	1.00	5.000	0	110	70	130				

Sample ID	**lcsd-20739**	SampType:	**LCSD**	TestCode:	**Radium-226_**	Units:	**pCi/L**	Prep Date:	**5/23/2016**	RunNo:	**54416**
Client ID:	**LCSS02**	Batch ID:	**20739**	TestNo:	**E903.0**	**E903-904**		Analysis Date:	**5/26/2016**	SeqNo:	**867041**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.01	1.00	5.000	0	100	70	130	5.480	8.96	20	

Sample ID	**16050830-001aMS**	SampType:	**MS**	TestCode:	**Radium-226_**	Units:	**pCi/L**	Prep Date:	**5/23/2016**	RunNo:	**54416**
Client ID:	**Q1617473001**	Batch ID:	**20739**	TestNo:	**E903.0**	**E903-904**		Analysis Date:	**5/26/2016**	SeqNo:	**867043**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **16050830**

31-May-16

Client: LCRA Environmental Laboratory Services

Project: Q1617473

BatchID: **20739**

Sample ID **16050830-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/23/2016** RunNo: **54416**

Client ID: **Q1617473001** Batch ID: **20739** TestNo: **E903.0** **E903-904** Analysis Date: **5/26/2016** SeqNo: **867043**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.22	1.00	5.000	0	104	70	130				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45173254 - HBN 44521

PO #Q1617473

Results Requested By

Report To

Susan Benavidez
LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)356-6022
Fax (512)356-6021
Email envlab@lcra.org

Subcontract To

Summit Environmental Lab Technologies, Inc.
3310 Win Street
Cuyahoga Falls, OH 44223
Phone (800)278-0140
Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL	Requested Analysis: SM7500-RA-B, Radium 226	SM7500-RA-D, Radium 228	LAB USE ONLY
1	Q1617473001	5/4/2016 13:15		Aqueous	1	X	X	
2	Q1617473002	5/4/2016 10:21		Aqueous	1	X	X	
3	Q1617473003	5/4/2016 14:14		Aqueous	1	X	X	
4	Q1617473004	5/4/2016 11:07		Aqueous	1	X	X	
5	Q1617473005	5/4/2016 12:14		Aqueous	1	X	X	
6	Q1617473006	5/4/2016 14:14		Aqueous	1	X	X	
7	Q1617473007	5/4/2016 12:14		Aqueous	1	X	X	
8	Q1617473008	5/4/2016 14:30		Aqueous	1	X	X	

16050830 - 001 - 008 se

SM Campbell
5-12-16 1130

2001.2.0.0

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Client: LCRA

Initials of person inspecting cooler and samples: SC

Order Number: 16050830

Date Received: 5/12/16 Time Received: 1130 Date cooler(s) opened and samples inspected: 5-12-16

Number of Coolers/Boxes: 8 N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other:

Packaging: Peanuts Bubble Wrap Paper Foam None Other:

Tape on cooler/box:	Y	N	N/A
Custody Seals intact	Y	N	N/A
C-O-C in plastic	Y	N	N/A
Ice_____ Blue ice _____	present / absent / melted		N/A
Sample Temperature IR Gun #16020459 CF 0.0 °C	16.0 °C		N/A
Radiological Testing Instrument serial #35127 (see page 2 for scan results)	Y	N	N/A

Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.

C-O-C filled out properly	Y	N	N/A
Samples in separate bags	Y	N	N/A
Sample containers intact*	Y	N	N/A

*If no, list broken sample(s):

Sample label(s) complete (ID, date, etc.)	Y	N	N/A
Label(s) agree with C-O-C	Y	N	N/A
Correct containers used	Y	N	N/A
Sufficient sample received	Y	N	N/A
Samples received within holding time	Y	N	
Bubbles absent from 40 mL vials**	Y	N	N/A

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm.

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact:

Date/Time:

Logged in by:

Comments:

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# WC-03-0919 pH strip (2.8-4.6) SET#OES-01-0250
Total DPD packet SET#OES-02-0239 Free DPD packet SET#OES-01-0290
Disp. Pipette SET# WC-03-0510

ID	Method	pH	Chlorine (±)	Comments
RADSX8	✓	2		

Radiological scan on sample

ID	scan	CPM
1	✓	37
2		32
3		33
4		29
5		40
6		27
7		28
8		32

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for **Total** chlorine
552.2 checked for **Free** chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0250)
524.2 = pH and Chlorine checked at bench and not log in department

ProjectName	DateReceived	DateCollected	ClientSampID	SampID	Matrix
				lcs-20739	
				mb-20739	
				mb-20739	
				16050830-001aMS	
				lcsd-20739	
				16050830-001aMS	
				lcs-20739	
				lcsd-20739	
				mb-20739	
				mb-20739	
Q1617473	5/12/2016	5/4/2016	Q1617473001	16050830-001a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473001	16050830-001a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473001	16050830-001a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473001	16050830-001a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473002	16050830-002a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473002	16050830-002a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473002	16050830-002a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473002	16050830-002a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473003	16050830-003a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473003	16050830-003a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473003	16050830-003a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473003	16050830-003a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473004	16050830-004a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473004	16050830-004a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473004	16050830-004a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473004	16050830-004a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473005	16050830-005a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473005	16050830-005a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473005	16050830-005a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473005	16050830-005a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473006	16050830-006a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473006	16050830-006a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473006	16050830-006a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473006	16050830-006a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473007	16050830-007a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473007	16050830-007a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473007	16050830-007a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473007	16050830-007a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473008	16050830-008a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473008	16050830-008a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473008	16050830-008a	Drinking Water
Q1617473	5/12/2016	5/4/2016	Q1617473008	16050830-008a	Drinking Water

TestCode	TestName	Analyte	CAS	R_Rslt	PQL	Units	DF	R_Qual
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	5.48	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Yield		1.00			1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	ND	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	5.22	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	5.01	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	5.27	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	3.70	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	3.84	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	ND	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Yield		1.00			1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	ND	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Yield		0.698			1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Yield		0.700			1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	1.22	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Yield		1.00			1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	ND	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	ND	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Yield		1.00			1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Yield		1.00			1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	ND	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Yield		1.00			1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	ND	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	ND	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Yield		1.00			1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	ND	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Yield		1.00			1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	ND	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Yield		1.00			1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Yield		1.00			1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	ND	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Yield		1.00			1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	ND	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	ND	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Yield		1.00			1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	ND	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Yield		1.00			1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	ND	1	pCi/L	1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Yield		1.00			1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Radium-226	13982-63-3	ND	1	pCi/L	1	
Radium-226_DW(903.0)	Radium-226 (903.0)	Yield		1.00			1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Yield		1.00			1	
Radium-228_DW(904.0)	Radium-228 (904.0)	Radium-228	15262-20-1	ND	1	pCi/L	1	

AnalDate	ListOrder	Initials	Uncertainty Limit High	Uncertainty Limit Low	Uncertainty Units	SeqNo
5/26/2016	0	BRD				867040
5/26/2016	0	BRD				867039
5/26/2016	0	BRD				867039
5/26/2016	0	BRD				867043
5/26/2016	0	BRD				867041
5/25/2016	0	BRD				867014
5/25/2016	0	BRD				867011
5/25/2016	0	BRD				867012
5/25/2016	0	BRD				867010
5/25/2016	0	BRD				867010
5/26/2016	0	BRD	0.140	0.140		867044
5/26/2016	0	BRD				867044
5/25/2016	0	BRD				867015
5/25/2016	0	BRD	0.620	0.620		867015
5/26/2016	0	BRD				867052
5/26/2016	0	BRD	0.110	0.110		867052
5/25/2016	0	BRD	0.480	0.480		867028
5/25/2016	0	BRD				867028
5/26/2016	0	BRD				867054
5/26/2016	0	BRD	0.100	0.100		867054
5/25/2016	0	BRD				867030
5/25/2016	0	BRD	0.440	0.440		867030
5/26/2016	0	BRD	0.0700	0.0700		867055
5/26/2016	0	BRD				867055
5/25/2016	0	BRD	0.370	0.370		867031
5/25/2016	0	BRD				867031
5/26/2016	0	BRD	0.0900	0.0900		867056
5/26/2016	0	BRD				867056
5/25/2016	0	BRD				867032
5/25/2016	0	BRD	0.520	0.520		867032
5/26/2016	0	BRD				867057
5/26/2016	0	BRD	0.0800	0.0800		867057
5/25/2016	0	BRD	0.360	0.360		867033
5/25/2016	0	BRD				867033
5/26/2016	0	BRD	0.0800	0.0800		867058
5/26/2016	0	BRD				867058
5/25/2016	0	BRD	0.530	0.530		867034
5/25/2016	0	BRD				867034
5/26/2016	0	BRD	0.0800	0.0800		867059
5/26/2016	0	BRD				867059
5/25/2016	0	BRD				867035
5/25/2016	0	BRD	0.430	0.430		867035

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Field Information Form

Sample Date: 10/24/16
Sample Time: 1059
Sample ID: CBL301I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
161024	1929	V= 2.92	8.8	4.5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) (N) Sampling Equipment ..... Dedicated (Y) (N) CP 10/24/16

Purging Device	A	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	A	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	36.17 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.10 (ft)	Pump Placement	53 (ft)

6.23 (STD) PH 7261 uS/cm Specific Conductivity Sample Temp. 25.09 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	No
P	500mL	ICE	Cations	No
P	4L	ICE	Radium 226 + 228 Combined	No
			Dissolved metals collect using 10micra filter lot# ~~35844~~ 35094 exp 11/16	Yess

Initial/Tr 362

Sample Appearance: Cloudy Odor: None Color: milky white Turbidity: after filter 323
Weather Conditions: Partly Cloudy 72°F South East wind 5-10mph
Other: Purge water is milky white. clearing up after 2 gallons. still turbid. Collected samples after parameters stabilized. Stop pumping let water recharge for one hour Came back & Ran for 1.5 gallon before Sampling

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes Yes No
If No, Explain

Procedure: ELS Groundwater SOP 5-7D

Date: 10/24/16
Sampler: CCP/JEG
Employer: LCRA

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Field Information Form

Sample Date: 10/24/16
Sample Time: 1223
Sample ID: CBL3061

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
161024	1148	V= .68	2.04	1.5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	10.62 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.80 (ft)	Pump Placement	14 (ft)

6.72 (STD) PH 2423 uS/cm Specific Conductivity Sample Temp. 26.13 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	NO
P	500mL	ICE	Anions	NO
P	4L	HNO_3	Radium 226 + 228 Combined	NO

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 3.25
Weather Conditions: Partly Cloudy South east wind 5mph
Other: Purge water is clear with no odor, collected sample after parameters stabilized

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-7P
Date: 10/24/16
Sampler: CP / JG
Employer: LCRA

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Field Information Form

Sample Date: 10/24/16
Sample Time: 1342
Sample ID: CBL3081

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
161024	1313	V= 1.6	4.9	3.5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	25.21 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.16 (ft)	Pump Placement	34 (ft)

6.27 (STD) PH 10000 uS/cm Specific Conductivity Sample Temp. 23.06 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	HNO_3	Radium 226 + 228 Combined	N

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 2.48
Weather Conditions: Partly Cloudy 85° south eastwind
Other: Purge water until parameter became stabilize + collected samples

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS Groundwater SOP 5-7D
Date: 10/24/16
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 10/24/16
Sample Time: 1441
Sample ID: CB2340I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
161024	1416	V= 2.7	8.2	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated I (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	23.31 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.14 (ft)	Pump Placement	39 (ft)

PH 6.19 (STD) Specific Conductivity 8427 uS/cm Sample Temp. 22.76 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	metals	✓
P	500mL	ICE	anions	✓
P	4L	HNO_3	Radium 226 + 228 Combined	✓

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 3.28
Weather Conditions: Partly Cloudy South east wind 5mph 86°
Other: Purge water until parameters where stable + Collected Samples

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes Y No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-70
Date: 10/24/16
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 10/24/16
Sample Time: 1526
Sample ID: CBL302I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	V= WATER VOL IN CASING (Gallons)	3 X WELL VOL IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
161024	1507	2.5	7.5	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	11.82 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.11 (ft)	Pump Placement	26 (ft)

PH: 5.77 (STD) Specific Conductivity: 7804 uS/cm Sample Temp. 22.88 (°C)

Bottle Type	Bottle Size	Bottle Preservative	Analysis	Field Filt. Y/N
P	250mL	HNO3	Metals	N
P	250mL	HNO3	Metals Dup	N
P	4L	HNO3	Radium 226 & 228 Combined	N
P	500mL	ICE	Anions	N
P	4L	HNO3	Dup Rads	

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 8.63

Weather Conditions: Partly Cloudy South east wind 87°

Other: Purge water until Parameters where stable & Collect Samples. Collect Dup for Rads & metals @ site

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS SOP 5-7D Groundwater

Date: 10/24/16

Sampler: CP/JG

Employer: LCRA

Rev. 1 (08/2009)

FPP - CCR Groundwater - Purge Data - October 2016

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
10/24/2016	9:29:00	22.40	5.63	4.20	49.4	6731	202.2	CBL - 301I
10/24/2016	9:29:17	22.35	5.68	2.53	29.7	6896	185.3	CBL - 301I
10/24/2016	9:32:17	22.59	6.02	0.68	8.1	7357	108.7	CBL - 301I
10/24/2016	9:35:17	23.02	6.13	0.67	8.0	7378	74.9	CBL - 301I
10/24/2016	9:38:17	23.45	6.19	0.67	8.0	7406	69.7	CBL - 301I
10/24/2016	9:41:17	24.07	6.22	0.62	7.5	7390	68.7	CBL - 301I
10/24/2016	9:44:17	24.88	6.24	0.59	7.3	7379	76.7	CBL - 301I
10/24/2016	9:47:17	25.25	6.26	0.61	7.5	7370	113.1	CBL - 301I
10/24/2016	9:49:49	25.32	6.28	0.66	8.2	7374	120.2	CBL - 301I
10/24/2016	9:50:02	25.36	6.27	0.65	8.1	7370	122.3	CBL - 301I
10/24/2016	9:53:02	25.49	6.28	0.67	8.4	7376	97.1	CBL - 301I
10/24/2016	9:55:20	25.82	6.28	0.68	8.5	7333	75.7	CBL - 301I
10/24/2016	10:50:40	25.92	6.25	1.45	18.3	7373	98.6	CBL - 301I
10/24/2016	10:50:48	25.66	6.25	1.42	17.8	7386	99.6	CBL - 301I
10/24/2016	10:53:48	24.09	6.22	1.09	13.3	7293	34.0	CBL - 301I
10/24/2016	10:56:48	24.44	6.23	0.88	10.7	7248	-116.1	CBL - 301I
10/24/2016	10:59:48	25.09	6.23	0.77	9.6	7261	-36.5	CBL - 301I
10/24/2016	11:48:06	25.90	7.84	7.11	88.1	2739	48.7	CBL - 306I
10/24/2016	11:48:16	25.85	7.82	7.05	87.4	2737	48.0	CBL - 306I
10/24/2016	11:51:16	25.28	7.49	7.35	90.2	2653	52.0	CBL - 306I
10/24/2016	11:54:16	25.19	7.33	7.44	91.0	2497	85.3	CBL - 306I
10/24/2016	11:57:16	25.19	7.25	7.57	92.6	2382	124.4	CBL - 306I
10/24/2016	12:01:57	25.32	7.21	8.09	99.2	2285	157.9	CBL - 306I
10/24/2016	12:02:07	25.33	7.20	7.92	97.1	2284	160.8	CBL - 306I
10/24/2016	12:05:07	25.69	7.07	7.65	94.4	2286	182.3	CBL - 306I
10/24/2016	12:08:07	25.89	6.99	7.71	95.4	2306	184.0	CBL - 306I
10/24/2016	12:09:28	25.85	6.98	7.69	95.1	2314	177.2	CBL - 306I
10/24/2016	12:12:28	25.87	6.96	7.66	94.8	2330	161.5	CBL - 306I
10/24/2016	12:13:49	25.95	6.95	7.93	98.3	2337	156.2	CBL - 306I
10/24/2016	12:16:49	26.18	6.78	7.82	97.3	2368	164.5	CBL - 306I
10/24/2016	12:19:05	26.32	6.67	7.79	97.3	2394	181.5	CBL - 306I
10/24/2016	12:20:14	26.30	6.66	7.79	97.3	2401	188.2	CBL - 306I
10/24/2016	12:23:14	26.13	6.72	7.93	98.6	2423	189.5	CBL - 306I
10/24/2016	13:13:38	26.05	7.01	5.33	68.0	10273	246.9	CBL - 308I
10/24/2016	13:13:45	25.90	6.99	5.24	66.6	10292	246.7	CBL - 308I
10/24/2016	13:16:45	23.34	6.64	3.02	36.7	10300	245.9	CBL - 308I
10/24/2016	13:19:45	23.15	6.50	2.43	29.4	10290	249.4	CBL - 308I
10/24/2016	13:22:45	23.12	6.42	2.11	25.4	10231	260.2	CBL - 308I
10/24/2016	13:25:45	23.09	6.38	1.97	23.8	10187	274.6	CBL - 308I
10/24/2016	13:28:45	23.06	6.35	1.86	22.4	10148	287.0	CBL - 308I

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
10/24/2016	13:31:45	23.04	6.32	1.73	20.8	10100	297.0	CBL - 308I
10/24/2016	13:34:45	23.05	6.30	1.69	20.3	10074	305.4	CBL - 308I
10/24/2016	13:37:45	23.03	6.29	1.63	19.7	10016	313.1	CBL - 308I
10/24/2016	13:38:46	23.02	6.29	1.63	19.6	10012	315.6	CBL - 308I
10/24/2016	13:41:46	23.03	6.27	1.63	19.6	10027	322.8	CBL - 308I
10/24/2016	13:44:46	23.06	6.27	1.60	19.3	10000	326.0	CBL - 308I
10/24/2016	14:16:41	24.38	6.81	5.25	64.5	8456	321.1	CBL - 340I
10/24/2016	14:17:15	24.14	6.80	5.11	62.5	8466	321.4	CBL - 340I
10/24/2016	14:22:23	22.80	6.54	3.92	46.8	8504	263.6	CBL - 340I
10/24/2016	14:25:23	22.99	6.32	3.58	42.9	8496	354.2	CBL - 340I
10/24/2016	14:28:23	22.99	6.18	3.53	42.3	8508	385.1	CBL - 340I
10/24/2016	14:31:23	22.90	6.07	3.53	42.2	8468	409.0	CBL - 340I
10/24/2016	14:34:50	22.80	6.30	3.65	43.5	8460	289.4	CBL - 340I
10/24/2016	14:35:01	22.79	6.23	3.60	42.9	8457	303.5	CBL - 340I
10/24/2016	14:38:01	22.76	6.15	3.37	40.1	8453	410.0	CBL - 340I
10/24/2016	14:41:01	22.76	6.19	3.34	39.8	8427	419.4	CBL - 340I
10/24/2016	15:07:46	25.58	6.59	4.17	52.3	7948	311.2	CBL - 302I
10/24/2016	15:07:53	25.36	6.57	4.05	50.6	7947	314.1	CBL - 302I
10/24/2016	15:10:53	23.75	6.22	1.71	20.7	7834	382.5	CBL - 302I
10/24/2016	15:14:35	23.17	6.23	1.37	16.4	7810	252.2	CBL - 302I
10/24/2016	15:14:40	23.17	6.20	1.61	19.3	7810	256.0	CBL - 302I
10/24/2016	15:17:40	23.02	5.92	1.34	16.0	7807	407.2	CBL - 302I
10/24/2016	15:20:40	22.96	5.87	1.25	14.9	7811	431.9	CBL - 302I
10/24/2016	15:23:40	22.92	5.81	1.23	14.7	7804	442.1	CBL - 302I
10/24/2016	15:26:01	22.88	5.77	1.23	14.7	7804	448.0	CBL - 302I

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November 9, 2016

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1644983

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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SAMPLE SUMMARY

Workorder: Q1644983

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1644983001	CBL - 340I	Aqueous	10/24/2016 14:41	10/24/2016 17:00
Q1644983002	CBL - 301I	Aqueous	10/24/2016 10:59	10/24/2016 17:00
Q1644983003	CBL - 302I	Aqueous	10/24/2016 15:26	10/24/2016 17:00
Q1644983004	CBL - 306I	Aqueous	10/24/2016 12:23	10/24/2016 17:00
Q1644983005	CBL - 308I	Aqueous	10/24/2016 13:44	10/24/2016 17:00
Q1644983006	CBL - 602I	Aqueous	10/24/2016 15:28	10/24/2016 17:00
Q1644983007	Field Blank	Aqueous	10/24/2016 15:10	10/24/2016 17:00
Q1644983008	EQ Blank	Aqueous	10/24/2016 11:05	10/24/2016 17:00

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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PROJECT SUMMARY

Workorder: Q1644983

Workorder Comments

LOGIN COMMENTS: CBL - 602I is a metals duplicate for CBL - 302I

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Environmental Laboratory Services
The Solution Lab

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983001**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	10/24/2016 14:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2380	mg/L	50.0	20.0		50	10/25/16 18:22	ML	10/25/16 18:22	ML	
Fluoride	1.26	mg/L	0.500	0.200		50	10/25/16 18:22	ML	10/25/16 18:22	ML	
Sulfate	675	mg/L	50.0	20.0		50	10/25/16 18:22	ML	10/25/16 18:22	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	10/27/16 17:23	MM	10/28/16 17:47	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	10/27/16 17:23	MM	10/28/16 17:47	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	10/27/16 17:23	MM	10/28/16 17:47	SLW	
Chromium Total	0.00176	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:47	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:47	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	10/27/16 17:23	MM	10/28/16 17:47	SLW	
Lithium Total	0.0843	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:47	SLW	N
Molybdenum Total	0.00334	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:47	SLW	
Selenium Total	0.00725	mg/L	0.00500	0.00170	0.05	1	10/27/16 17:23	MM	10/28/16 17:47	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	10/27/16 17:23	MM	10/28/16 17:47	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	10/26/16 15:31	FM	10/27/16 08:05	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5670	mg/L	250	250		100	10/27/16 15:36	CG	10/27/16 15:36	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0303	mg/L	0.0100	0.00400	2	1	11/03/16 17:36	BS	11/03/16 18:53	FO	

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983001**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	10/24/2016 14:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	11/03/16 17:36	BS	11/03/16 18:53	FO	
Boron Total	0.158	mg/L	0.0500	0.0200		1	11/03/16 17:36	BS	11/03/16 18:53	FO	
Calcium Total	607	mg/L	1.00	0.350		5	10/27/16 17:22	MM	11/02/16 16:26	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	22.76	C				1	10/24/16 14:41	CCP	10/24/16 14:41	CCP	N
pH	6.19	pH				1	10/24/16 14:41	CCP	10/24/16 14:41	CCP	N
Dissolved Oxygen	3.34	mg/L				1	10/24/16 14:41	CCP	10/24/16 14:41	CCP	N
Dissolved Oxygen	39.8	%				1	10/24/16 14:41	CCP	10/24/16 14:41	CCP	N
Specific Conductance	8427	us/cm				1	10/24/16 14:41	CCP	10/24/16 14:41	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983002**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	10/24/2016 10:59	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2250	mg/L	50.0	20.0		50	10/25/16 18:39	ML	10/25/16 18:39	ML	
Fluoride	<0.250	mg/L	0.250	0.100		25	10/27/16 22:50	ML	10/27/16 22:50	ML	
Sulfate	326	mg/L	50.0	20.0		50	10/25/16 18:39	ML	10/25/16 18:39	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	10/27/16 17:23	MM	10/28/16 17:53	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	10/27/16 17:23	MM	10/28/16 17:53	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	10/27/16 17:23	MM	10/28/16 17:53	SLW	
Chromium Total	0.0142	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:53	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:53	SLW	
Lead Total	0.00168	mg/L	0.00100	0.000400	0.015	1	10/27/16 17:23	MM	10/28/16 17:53	SLW	
Lithium Total	0.0932	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:53	SLW	N
Molybdenum Total	0.00252	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:53	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	10/27/16 17:23	MM	10/28/16 17:53	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	10/27/16 17:23	MM	10/28/16 17:53	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	10/26/16 15:31	FM	10/27/16 08:07	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4570	mg/L	250	250		100	10/27/16 15:36	CG	10/27/16 15:36	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0907	mg/L	0.0100	0.00400	2	1	11/03/16 17:36	BS	11/03/16 18:46	FO	

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983002**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	10/24/2016 10:59	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	11/03/16 17:36	BS	11/03/16 18:46	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	11/03/16 17:36	BS	11/03/16 18:46	FO	
Calcium Total	978	mg/L	1.00	0.350		5	10/27/16 17:22	MM	11/02/16 16:20	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	25.09	C				1	10/24/16 10:59	CCP	10/24/16 10:59	CCP	N
pH	6.23	pH				1	10/24/16 10:59	CCP	10/24/16 10:59	CCP	N
Dissolved Oxygen	0.77	mg/L				1	10/24/16 10:59	CCP	10/24/16 10:59	CCP	N
Dissolved Oxygen	9.6	%				1	10/24/16 10:59	CCP	10/24/16 10:59	CCP	N
Specific Conductance	7261	us/cm				1	10/24/16 10:59	CCP	10/24/16 10:59	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983003**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	10/24/2016 15:26	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2170	mg/L	50.0	20.0		50	10/25/16 18:55	ML	10/25/16 18:55	ML	
Fluoride	<0.250	mg/L	0.250	0.100		25	10/28/16 01:15	ML	10/28/16 01:15	ML	
Sulfate	1180	mg/L	50.0	20.0		50	10/25/16 18:55	ML	10/25/16 18:55	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	10/27/16 17:23	MM	10/28/16 17:54	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	10/27/16 17:23	MM	10/28/16 17:54	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	10/27/16 17:23	MM	10/28/16 17:54	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:54	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:54	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	10/27/16 17:23	MM	10/28/16 17:54	SLW	
Lithium Total	0.0483	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:54	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:54	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	10/27/16 17:23	MM	10/28/16 17:54	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	10/27/16 17:23	MM	10/28/16 17:54	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	10/26/16 15:31	FM	10/27/16 08:09	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4210	mg/L	250	250		100	10/27/16 15:36	CG	10/27/16 15:36	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0269	mg/L	0.0100	0.00400	2	1	11/03/16 17:36	BS	11/03/16 19:00	FO	

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983003**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	10/24/2016 15:26	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	11/03/16 17:36	BS	11/03/16 19:00	FO	
Boron Total	0.156	mg/L	0.0500	0.0200		1	11/03/16 17:36	BS	11/03/16 19:00	FO	
Calcium Total	1070	mg/L	1.00	0.350		5	10/27/16 17:22	MM	11/02/16 16:56	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	22.00	C	1	10/24/16 15:26	CCP	10/24/16 15:26	CCP	N
pH	7.75	pH	1	10/24/16 15:26	CCP	10/24/16 15:26	CCP	N
Dissolved Oxygen	8.71	mg/L	1	10/24/16 15:26	CCP	10/24/16 15:26	CCP	N
Dissolved Oxygen	103.3	%	1	10/24/16 15:26	CCP	10/24/16 15:26	CCP	N
Specific Conductance	11017	us/cm	1	10/24/16 15:26	CCP	10/24/16 15:26	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983004**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	10/24/2016 12:23	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	330	mg/L	25.0	10.0		25	10/25/16 19:12	ML	10/25/16 19:12	ML	
Fluoride	2.38	mg/L	0.250	0.100		25	10/25/16 19:12	ML	10/25/16 19:12	ML	
Sulfate	432	mg/L	25.0	10.0		25	10/25/16 19:12	ML	10/25/16 19:12	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	10/27/16 17:23	MM	10/28/16 17:56	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	10/27/16 17:23	MM	10/28/16 17:56	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	10/27/16 17:23	MM	10/28/16 17:56	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:56	SLW	
Cobalt Total	0.00287	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:56	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	10/27/16 17:23	MM	10/28/16 17:56	SLW	
Lithium Total	0.0265	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:56	SLW	N
Molybdenum Total	0.00327	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:56	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	10/27/16 17:23	MM	10/28/16 17:56	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	10/27/16 17:23	MM	10/28/16 17:56	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	10/26/16 15:31	FM	10/27/16 08:11	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	1150	mg/L	125	125		50	10/27/16 15:36	CG	10/27/16 15:36	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0841	mg/L	0.0100	0.00400	2	1	11/03/16 17:36	BS	11/03/16 19:06	FO	

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983004**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	10/24/2016 12:23	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	11/03/16 17:36	BS	11/03/16 19:06	FO	
Boron Total	0.0556	mg/L	0.0500	0.0200		1	11/03/16 17:36	BS	11/03/16 19:06	FO	
Calcium Total	198	mg/L	0.200	0.0700		1	10/27/16 17:22	MM	11/02/16 14:49	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	26.13	C				1	10/24/16 12:23	CCP	10/24/16 12:23	CCP	N
pH	6.72	pH				1	10/24/16 12:23	CCP	10/24/16 12:23	CCP	N
Dissolved Oxygen	7.93	mg/L				1	10/24/16 12:23	CCP	10/24/16 12:23	CCP	N
Dissolved Oxygen	98.6	%				1	10/24/16 12:23	CCP	10/24/16 12:23	CCP	N
Specific Conductance	2423	us/cm				1	10/24/16 12:23	CCP	10/24/16 12:23	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983005**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	10/24/2016 13:44	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	2870	mg/L	50.0	20.0		50	10/25/16 19:28	ML	10/25/16 19:28	ML	
Fluoride	1.59	mg/L	0.500	0.200		50	10/25/16 19:28	ML	10/25/16 19:28	ML	
Sulfate	1550	mg/L	50.0	20.0		50	10/25/16 19:28	ML	10/25/16 19:28	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	10/27/16 17:23	MM	10/28/16 17:58	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	10/27/16 17:23	MM	10/28/16 17:58	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	10/27/16 17:23	MM	10/28/16 17:58	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:58	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:58	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	10/27/16 17:23	MM	10/28/16 17:58	SLW	
Lithium Total	0.106	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:58	SLW	N
Molybdenum Total	0.00104	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 17:58	SLW	
Selenium Total	0.00887	mg/L	0.00500	0.00170	0.05	1	10/27/16 17:23	MM	10/28/16 17:58	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	10/27/16 17:23	MM	10/28/16 17:58	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	10/26/16 15:31	FM	10/27/16 08:13	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	10200	mg/L	500	500		200	10/27/16 15:36	CG	10/27/16 15:36	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0500	mg/L	0.0500	0.0200	2	5	11/03/16 17:36	BS	11/07/16 12:52	FO	

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983005**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	10/24/2016 13:44	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	11/03/16 17:36	BS	11/03/16 19:13	FO	
Boron Total	0.256	mg/L	0.0500	0.0200		1	11/03/16 17:36	BS	11/03/16 19:13	FO	
Calcium Total	939	mg/L	1.00	0.350		5	10/27/16 17:22	MM	11/02/16 16:33	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	23.06	C				1	10/24/16 13:44	CCP	10/24/16 13:44	CCP	N
pH	6.27	pH				1	10/24/16 13:44	CCP	10/24/16 13:44	CCP	N
Dissolved Oxygen	1.6	mg/L				1	10/24/16 13:44	CCP	10/24/16 13:44	CCP	N
Dissolved Oxygen	19.3	%				1	10/24/16 13:44	CCP	10/24/16 13:44	CCP	N
Specific Conductance	10000	us/cm				1	10/24/16 13:44	CCP	10/24/16 13:44	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983006**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	10/24/2016 15:28	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	10/27/16 17:23	MM	10/28/16 18:00	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	10/27/16 17:23	MM	10/28/16 18:00	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	10/27/16 17:23	MM	10/28/16 18:00	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:00	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:00	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	10/27/16 17:23	MM	10/28/16 18:00	SLW	
Lithium Total	0.0481	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:00	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:00	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	10/27/16 17:23	MM	10/28/16 18:00	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	10/27/16 17:23	MM	10/28/16 18:00	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	10/26/16 15:31	FM	10/27/16 08:14	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0312	mg/L	0.0100	0.00400	2	1	11/03/16 17:36	BS	11/03/16 19:32	FO	
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	11/03/16 17:36	BS	11/03/16 19:32	FO	
Boron Total	0.189	mg/L	0.0500	0.0200		1	11/03/16 17:36	BS	11/03/16 19:32	FO	
Calcium Total	1070	mg/L	1.00	0.350		5	10/27/16 17:22	MM	11/02/16 16:40	FO	

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983007**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	10/24/2016 15:10	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	10/27/16 17:23	MM	10/28/16 18:02	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	10/27/16 17:23	MM	10/28/16 18:02	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	10/27/16 17:23	MM	10/28/16 18:02	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:02	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:02	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	10/27/16 17:23	MM	10/28/16 18:02	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:02	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:02	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	10/27/16 17:23	MM	10/28/16 18:02	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	10/27/16 17:23	MM	10/28/16 18:02	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	10/26/16 15:31	FM	10/27/16 08:16	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	11/03/16 17:36	BS	11/03/16 19:39	FO	
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	11/03/16 17:36	BS	11/03/16 19:39	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	11/03/16 17:36	BS	11/03/16 19:39	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	10/27/16 17:22	MM	11/02/16 15:09	FO	

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ANALYTICAL RESULTS

Workorder: Q1644983

Lab ID:	**Q1644983008**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	10/24/2016 11:05	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	10/27/16 17:23	MM	10/28/16 18:04	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	10/27/16 17:23	MM	10/28/16 18:04	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	10/27/16 17:23	MM	10/28/16 18:04	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:04	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:04	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	10/27/16 17:23	MM	10/28/16 18:04	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:04	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	10/27/16 17:23	MM	10/28/16 18:04	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	10/27/16 17:23	MM	10/28/16 18:04	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	10/27/16 17:23	MM	10/28/16 18:04	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	10/26/16 15:31	FM	10/27/16 08:18	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	11/03/16 17:36	BS	11/03/16 19:46	FO	
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	11/03/16 17:36	BS	11/03/16 19:46	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	11/03/16 17:36	BS	11/03/16 19:46	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	10/27/16 17:22	MM	11/02/16 15:16	FO	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1644983

PARAMETER QUALIFIERS

Lab ID: Q1644983001

N Not Accredited

Lab ID: Q1644983002

N Not Accredited

Lab ID: Q1644983003

N Not Accredited

Lab ID: Q1644983004

N Not Accredited

Lab ID: Q1644983005

N Not Accredited

Lab ID: Q1644983006

N Not Accredited

Lab ID: Q1644983007

N Not Accredited

Lab ID: Q1644983008

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QUALITY CONTROL DATA

Workorder: Q1644983

QC Batch: WET/12128 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1644983001, Q1644983002, Q1644983003, Q1644983004, Q1644983005

METHOD BLANK: 752232

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

LABORATORY CONTROL SAMPLE: 752235

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	30.7	102	90 - 110	
Fluoride	mg/L	1	1	100	90 - 110	
Sulfate	mg/L	30	30.5	102	90 - 110	

MATRIX SPIKE: 752509 DUPLICATE: 752510 ORIGINAL: Q1644986003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	***mg/L***	***284***	***100***	***356***	***356***	***72.2***	***72.3***	***80 - 120***	***0***	***20***	***S***
Fluoride	mg/L	.26	5	5.2	5.21	98.8	99	80 - 120	.192	20	
Sulfate	mg/L	177	100	264	264	87.6	87.5	80 - 120	0	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1644983

QC Batch: WET/12144 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1644983002, Q1644983003

METHOD BLANK: 753233

Parameter	Units	Blank Result	Reporting Limit	Qual
Fluoride	mg/L	<0.0100	0.0100	

LABORATORY CONTROL SAMPLE: 753234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Fluoride	mg/L	1	.99	98.9	90 - 110	

MATRIX SPIKE: 754980 DUPLICATE: 754981 ORIGINAL: Q1645210017

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Fluoride	mg/L	1.7	1	2.61	2.54	91.5	83.9	80 - 120	2.72	20	

METHOD BLANK: 753236

Parameter	Units	Blank Result	Reporting Limit	Qual
Fluoride	mg/L	<0.0100	0.0100	

LABORATORY CONTROL SAMPLE: 753237

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Fluoride	mg/L	1	.97	97.1	90 - 110	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1644983

MATRIX SPIKE: 753208 DUPLICATE: 753209 ORIGINAL: Q1645210003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Fluoride	mg/L	.35	1	1.26	1.28	91.2	93.4	80 - 120	1.57	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1644983

QC Batch: MEP/6338 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1644983001, Q1644983002, Q1644983003, Q1644983004, Q1644983005, Q1644983006, Q1644983007, Q1644983008

METHOD BLANK: 753360

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 753361

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	1.99	2.01	99.4	100	85 - 115	1	20	

MATRIX SPIKE: 753363 DUPLICATE: 753364 ORIGINAL: Q1644983001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	1.54	1.5	77	75	70 - 130	2.63	20	

MATRIX SPIKE: 753367 DUPLICATE: 753368 ORIGINAL: Q1645223002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	.2	2	1.89	1.76	84.2	78.1	70 - 130	7.12	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1644983

QC Batch: WET/12155 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1644983001, Q1644983002, Q1644983003, Q1644983004, Q1644983005

METHOD BLANK: 754253

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 754254

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	400	340	351	85	87.8	80 - 120	3.18	20	

MATRIX SPIKE SAMPLE: 754256 ORIGINAL: Q1644984001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	766	400	1120	89.5	70 - 130	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1644983

QC Batch: MEP/6345 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1644983001, Q1644983002, Q1644983003, Q1644983004, Q1644983005, Q1644983006, Q1644983007, Q1644983008

LABORATORY CONTROL SAMPLE: 754306

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Calcium Total	mg/L	10	10.3	10.2	103	102	80 - 120	.976	20	

METHOD BLANK: 754308

Parameter	Units	Blank Result	Reporting Limit	Qual
Calcium Total	mg/L	<0.200	0.200	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1644983

QC Batch: MEP/6346 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1644983001, Q1644983002, Q1644983003, Q1644983004, Q1644983005, Q1644983006, Q1644983007, Q1644983008

LABORATORY CONTROL SAMPLE: 754314

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.05	.05	103	99.6	85 - 115	3.16	20	
Arsenic Total	mg/L	.05	.05	.05	98.3	97.9	85 - 115	.204	20	
Cadmium Total	mg/L	.05	.05	.05	101	99.5	85 - 115	1.2	20	
Chromium Total	mg/L	.05	.05	.05	97.5	96.8	85 - 115	.823	20	
Cobalt Total	mg/L	.05	.05	.05	98.8	100	85 - 115	1.21	20	
Lead Total	mg/L	.05	.05	.05	106	106	85 - 115	.755	20	
Lithium Total	mg/L	.05	.05	.05	96.3	96.4	85 - 115	.208	20	
Molybdenum Total	mg/L	.05	.05	.05	103	103	85 - 115	.777	20	
Selenium Total	mg/L	.25	.24	.25	97.6	97.8	85 - 115	.409	20	
Thallium Total	mg/L	.05	.05	.05	103	102	85 - 115	1.17	20	

METHOD BLANK: 754316

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1644983

MATRIX SPIKE: 754317 DUPLICATE: 754318 ORIGINAL: Q1644983001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Antimony Total	mg/L	0	.05	.05	.05	105	107	70 - 130	1.7	20	
Arsenic Total	mg/L	0	.05	.05	.05	102	105	70 - 130	2.32	20	
Cadmium Total	mg/L	0	.05	.05	.05	98.5	100	70 - 130	1.81	20	
Chromium Total	mg/L	0	.05	.05	.05	94.9	98.7	70 - 130	3.79	20	
Cobalt Total	mg/L	0	.05	.05	.05	97.2	99.3	70 - 130	2.04	20	
Lead Total	mg/L	0	.05	.05	.05	107	109	70 - 130	1.3	20	
Lithium Total	mg/L	.08	.05	.13	.13	89.5	94.4	70 - 130	1.54	20	
Molybdenum Total	mg/L	0	.05	.06	.06	109	112	70 - 130	2.22	20	
Selenium Total	mg/L	.01	.25	.26	.26	99.5	102	70 - 130	2.32	20	
Thallium Total	mg/L	0	.05	.05	.05	106	107	70 - 130	1.13	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1644983

QC Batch: MEP/6372 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1644983001, Q1644983002, Q1644983003, Q1644983004, Q1644983005, Q1644983006, Q1644983007, Q1644983008

LABORATORY CONTROL SAMPLE: 758366

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	.96	.98	95.7	97.7	80 - 120	2.07	20	
Beryllium Total	mg/L	1	1.03	1.05	103	105	80 - 120	1.92	20	
Boron Total	mg/L	1	.95	.98	95	97.9	80 - 120	3.01	20	

METHOD BLANK: 758368

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	<0.0500	0.0500	

MATRIX SPIKE: 758369 DUPLICATE: 758370 ORIGINAL: Q1644983005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.04	1	1.01	1.01	101	101	75 - 125	0	20	
Beryllium Total	mg/L	0	1	.98	.98	98.4	97.5	75 - 125	.919	20	
Boron Total	mg/L	.26	1	1.03	1.03	77.5	77	75 - 125	0	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1644983

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1644983001	CBL - 340I			E300.0, Anions	WET/12128
Q1644983002	CBL - 301I			E300.0, Anions	WET/12128
Q1644983003	CBL - 302I			E300.0, Anions	WET/12128
Q1644983004	CBL - 306I			E300.0, Anions	WET/12128
Q1644983005	CBL - 308I			E300.0, Anions	WET/12128
Q1644983002	CBL - 301I			E300.0, Anions	WET/12144
Q1644983003	CBL - 302I			E300.0, Anions	WET/12144
Q1644983001	CBL - 340I	SW7470A Hg in Liquid Waste	MEP/6338	SW7470A Hg in Liquid Waste	MET/4965
Q1644983002	CBL - 301I	SW7470A Hg in Liquid Waste	MEP/6338	SW7470A Hg in Liquid Waste	MET/4965
Q1644983003	CBL - 302I	SW7470A Hg in Liquid Waste	MEP/6338	SW7470A Hg in Liquid Waste	MET/4965
Q1644983004	CBL - 306I	SW7470A Hg in Liquid Waste	MEP/6338	SW7470A Hg in Liquid Waste	MET/4965
Q1644983005	CBL - 308I	SW7470A Hg in Liquid Waste	MEP/6338	SW7470A Hg in Liquid Waste	MET/4965
Q1644983006	CBL - 602I	SW7470A Hg in Liquid Waste	MEP/6338	SW7470A Hg in Liquid Waste	MET/4965
Q1644983007	Field Blank	SW7470A Hg in Liquid Waste	MEP/6338	SW7470A Hg in Liquid Waste	MET/4965
Q1644983008	EQ Blank	SW7470A Hg in Liquid Waste	MEP/6338	SW7470A Hg in Liquid Waste	MET/4965
Q1644983001	CBL - 340I			SM2540C, TDS	WET/12155
Q1644983002	CBL - 301I			SM2540C, TDS	WET/12155
Q1644983003	CBL - 302I			SM2540C, TDS	WET/12155
Q1644983004	CBL - 306I			SM2540C, TDS	WET/12155
Q1644983005	CBL - 308I			SM2540C, TDS	WET/12155
Q1644983001	CBL - 340I	SW3010A, Metals Prep	MEP/6345	SW6010B ICP-AES	MET/4984
Q1644983002	CBL - 301I	SW3010A, Metals Prep	MEP/6345	SW6010B ICP-AES	MET/4984
Q1644983003	CBL - 302I	SW3010A, Metals Prep	MEP/6345	SW6010B ICP-AES	MET/4984
Q1644983004	CBL - 306I	SW3010A, Metals Prep	MEP/6345	SW6010B ICP-AES	MET/4984
Q1644983005	CBL - 308I	SW3010A, Metals Prep	MEP/6345	SW6010B ICP-AES	MET/4984
Q1644983006	CBL - 602I	SW3010A, Metals Prep	MEP/6345	SW6010B ICP-AES	MET/4984
Q1644983007	Field Blank	SW3010A, Metals Prep	MEP/6345	SW6010B ICP-AES	MET/4984

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Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1644983

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1644983008	EQ Blank	SW3010A, Metals Prep	MEP/6345	SW6010B ICP-AES	MET/4984
Q1644983001	CBL - 340I	SW3010A, Metals Prep	MEP/6346	SW6020 ICP-MS	MET/4977
Q1644983002	CBL - 301I	SW3010A, Metals Prep	MEP/6346	SW6020 ICP-MS	MET/4977
Q1644983003	CBL - 302I	SW3010A, Metals Prep	MEP/6346	SW6020 ICP-MS	MET/4977
Q1644983004	CBL - 306I	SW3010A, Metals Prep	MEP/6346	SW6020 ICP-MS	MET/4977
Q1644983005	CBL - 308I	SW3010A, Metals Prep	MEP/6346	SW6020 ICP-MS	MET/4977
Q1644983006	CBL - 602I	SW3010A, Metals Prep	MEP/6346	SW6020 ICP-MS	MET/4977
Q1644983007	Field Blank	SW3010A, Metals Prep	MEP/6346	SW6020 ICP-MS	MET/4977
Q1644983008	EQ Blank	SW3010A, Metals Prep	MEP/6346	SW6020 ICP-MS	MET/4977
Q1644983001	CBL - 340I	SW3010A, Metals Prep	MEP/6372	SW6010B ICP-AES	MET/4997
Q1644983002	CBL - 301I	SW3010A, Metals Prep	MEP/6372	SW6010B ICP-AES	MET/4997
Q1644983003	CBL - 302I	SW3010A, Metals Prep	MEP/6372	SW6010B ICP-AES	MET/4997
Q1644983004	CBL - 306I	SW3010A, Metals Prep	MEP/6372	SW6010B ICP-AES	MET/4997
Q1644983005	CBL - 308I	SW3010A, Metals Prep	MEP/6372	SW6010B ICP-AES	MET/4997
Q1644983006	CBL - 602I	SW3010A, Metals Prep	MEP/6372	SW6010B ICP-AES	MET/4997
Q1644983007	Field Blank	SW3010A, Metals Prep	MEP/6372	SW6010B ICP-AES	MET/4997
Q1644983008	EQ Blank	SW3010A, Metals Prep	MEP/6372	SW6010B ICP-AES	MET/4997
Q1644983005	CBL - 308I	SW3010A, Metals Prep	MEP/6372	SW6010B ICP-AES	MET/5000

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Q1644983

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services

Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:
Client PO:

Project:	FPP - CCR Rule 10/24/2016	Client:	LCRA
Collector:	Colt Petri / John Gallagher	Contact:	
Event#:	1334729 / 3770	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	500PU	250PHNO3	6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28
001	1	CBL - 340I	10/24/16	1441	AQ	N	N	1	1	X	X	X	X	X	X
002	2	CBL - 301I	10/24/16	1059	AQ	N	N	1	1	X	X	X	X	X	X
003	3	CBL - 302I	10/24/16	1526	AQ			1	1	X	X	X	X	X	X
004	4	CBL - 306I	10/24/16	1223	AQ			1	1	X	X	X	X	X	X
005	5	CBL - 308I	10/24/16	1344	AQ			1	1	X	X	X	X	X	X
006	6	CBL - 602I	10/24/16	1528	AQ				1	X		X	X		
007	7	Field Blank	10/24/16	1510	AQ				1	X		X	X		
008	8	EQ Blank	10/24/16	1105	AQ				1	X		X	X		

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Colt Petri	10/24/16 1700	[illegible]	10/24/16 1700
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	0.8°C	0.8°C
2			

Client Special Instructions:
301 I has a Dissolved metal sample Due to high turbidity. Need to hold to run later.

Lab Use Only:
Q1644983
232421

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

FPP - CCR Groundwater - Purge Data - October 2016

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
10/24/2016	9:29:00	22.40	5.63	4.20	49.4	6731	202.2	CBL - 301I
10/24/2016	9:29:17	22.35	5.68	2.53	29.7	6896	185.3	CBL - 301I
10/24/2016	9:32:17	22.59	6.02	0.68	8.1	7357	108.7	CBL - 301I
10/24/2016	9:35:17	23.02	6.13	0.67	8.0	7378	74.9	CBL - 301I
10/24/2016	9:38:17	23.45	6.19	0.67	8.0	7406	69.7	CBL - 301I
10/24/2016	9:41:17	24.07	6.22	0.62	7.5	7390	68.7	CBL - 301I
10/24/2016	9:44:17	24.88	6.24	0.59	7.3	7379	76.7	CBL - 301I
10/24/2016	9:47:17	25.25	6.26	0.61	7.5	7370	113.1	CBL - 301I
10/24/2016	9:49:49	25.32	6.28	0.66	8.2	7374	120.2	CBL - 301I
10/24/2016	9:50:02	25.36	6.27	0.65	8.1	7370	122.3	CBL - 301I
10/24/2016	9:53:02	25.49	6.28	0.67	8.4	7376	97.1	CBL - 301I
10/24/2016	9:55:20	25.82	6.28	0.68	8.5	7333	75.7	CBL - 301I
10/24/2016	10:50:40	25.92	6.25	1.45	18.3	7373	98.6	CBL - 301I
10/24/2016	10:50:48	25.66	6.25	1.42	17.8	7386	99.6	CBL - 301I
10/24/2016	10:53:48	24.09	6.22	1.09	13.3	7293	34.0	CBL - 301I
10/24/2016	10:56:48	24.44	6.23	0.88	10.7	7248	-116.1	CBL - 301I
10/24/2016	10:59:48	25.09	6.23	0.77	9.6	7261	-36.5	CBL - 301I
10/24/2016	11:48:06	25.90	7.84	7.11	88.1	2739	48.7	CBL - 306I
10/24/2016	11:48:16	25.85	7.82	7.05	87.4	2737	48.0	CBL - 306I
10/24/2016	11:51:16	25.28	7.49	7.35	90.2	2653	52.0	CBL - 306I
10/24/2016	11:54:16	25.19	7.33	7.44	91.0	2497	85.3	CBL - 306I
10/24/2016	11:57:16	25.19	7.25	7.57	92.6	2382	124.4	CBL - 306I
10/24/2016	12:01:57	25.32	7.21	8.09	99.2	2285	157.9	CBL - 306I
10/24/2016	12:02:07	25.33	7.20	7.92	97.1	2284	160.8	CBL - 306I
10/24/2016	12:05:07	25.69	7.07	7.65	94.4	2286	182.3	CBL - 306I
10/24/2016	12:08:07	25.89	6.99	7.71	95.4	2306	184.0	CBL - 306I
10/24/2016	12:09:28	25.85	6.98	7.69	95.1	2314	177.2	CBL - 306I
10/24/2016	12:12:28	25.87	6.96	7.66	94.8	2330	161.5	CBL - 306I
10/24/2016	12:13:49	25.95	6.95	7.93	98.3	2337	156.2	CBL - 306I
10/24/2016	12:16:49	26.18	6.78	7.82	97.3	2368	164.5	CBL - 306I
10/24/2016	12:19:05	26.32	6.67	7.79	97.3	2394	181.5	CBL - 306I
10/24/2016	12:20:14	26.30	6.66	7.79	97.3	2401	188.2	CBL - 306I
10/24/2016	12:23:14	26.13	6.72	7.93	98.6	2423	189.5	CBL - 306I
10/24/2016	13:13:38	26.05	7.01	5.33	68.0	10273	246.9	CBL - 308I
10/24/2016	13:13:45	25.90	6.99	5.24	66.6	10292	246.7	CBL - 308I
10/24/2016	13:16:45	23.34	6.64	3.02	36.7	10300	245.9	CBL - 308I
10/24/2016	13:19:45	23.15	6.50	2.43	29.4	10290	249.4	CBL - 308I
10/24/2016	13:22:45	23.12	6.42	2.11	25.4	10231	260.2	CBL - 308I
10/24/2016	13:25:45	23.09	6.38	1.97	23.8	10187	274.6	CBL - 308I
10/24/2016	13:28:45	23.06	6.35	1.86	22.4	10148	287.0	CBL - 308I

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
10/24/2016	13:31:45	23.04	6.32	1.73	20.8	10100	297.0	CBL - 308I
10/24/2016	13:34:45	23.05	6.30	1.69	20.3	10074	305.4	CBL - 308I
10/24/2016	13:37:45	23.03	6.29	1.63	19.7	10016	313.1	CBL - 308I
10/24/2016	13:38:46	23.02	6.29	1.63	19.6	10012	315.6	CBL - 308I
10/24/2016	13:41:46	23.03	6.27	1.63	19.6	10027	322.8	CBL - 308I
10/24/2016	13:44:46	23.06	6.27	1.60	19.3	10000	326.0	CBL - 308I
10/24/2016	14:16:41	24.38	6.81	5.25	64.5	8456	321.1	CBL - 340I
10/24/2016	14:17:15	24.14	6.80	5.11	62.5	8466	321.4	CBL - 340I
10/24/2016	14:22:23	22.80	6.54	3.92	46.8	8504	263.6	CBL - 340I
10/24/2016	14:25:23	22.99	6.32	3.58	42.9	8496	354.2	CBL - 340I
10/24/2016	14:28:23	22.99	6.18	3.53	42.3	8508	385.1	CBL - 340I
10/24/2016	14:31:23	22.90	6.07	3.53	42.2	8468	409.0	CBL - 340I
10/24/2016	14:34:50	22.80	6.30	3.65	43.5	8460	289.4	CBL - 340I
10/24/2016	14:35:01	22.79	6.23	3.60	42.9	8457	303.5	CBL - 340I
10/24/2016	14:38:01	22.76	6.15	3.37	40.1	8453	410.0	CBL - 340I
10/24/2016	14:41:01	22.76	6.19	3.34	39.8	8427	419.4	CBL - 340I
10/24/2016	15:07:46	25.58	6.59	4.17	52.3	7948	311.2	CBL - 302I
10/24/2016	15:07:53	25.36	6.57	4.05	50.6	7947	314.1	CBL - 302I
10/24/2016	15:10:53	23.75	6.22	1.71	20.7	7834	382.5	CBL - 302I
10/24/2016	15:14:35	23.17	6.23	1.37	16.4	7810	252.2	CBL - 302I
10/24/2016	15:14:40	23.17	6.20	1.61	19.3	7810	256.0	CBL - 302I
10/24/2016	15:17:40	23.02	5.92	1.34	16.0	7807	407.2	CBL - 302I
10/24/2016	15:20:40	22.96	5.87	1.25	14.9	7811	431.9	CBL - 302I
10/24/2016	15:23:40	22.92	5.81	1.23	14.7	7804	442.1	CBL - 302I
10/24/2016	15:26:01	22.88	5.77	1.23	14.7	7804	448.0	CBL - 302I

①

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Field Information Form

Sample Date: 10/24/16
Sample Time: 1059
Sample ID: CBL301I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
161024	1929	V= 2.92	8.8	4.5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) (N) Sampling Equipment ..... Dedicated (Y) (N) CP 10/24/16

Purging Device	A	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	A	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	36.17 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.10 (ft)	Pump Placement	53 (ft)

6.23 (STD) PH 7261 uS/cm Specific Conductivity Sample Temp. 25.09 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	No
P	500mL	ICE	Cations	No
P	4L	ICE	Radium 226 + 228 Combined	No
			Dissolved metals collect using 10micra filter lot# ~~35844~~ 35094 exp 11/16	Yess

Initial/Tr 362

Sample Appearance: Cloudy Odor: None Color: milky white Turbidity: after filter 323
Weather Conditions: Partly Cloudy 72°F South East wind 5-10mph
Other: Purge water is milky white. clearing up after 2 gallons. still turbid. Collected samples after parameters stabilized. Stop pumping let water recharge for one hour Came back & Ran for 1.5 gallon before Sampling

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes Yes No
If No, Explain

Procedure: ELS Groundwater SOP 5-7D

Date: 10/24/16
Sampler: CCP/JEG
Employer: LCRA

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②

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Field Information Form

Sample Date: 10/24/16
Sample Time: 1223
Sample ID: CBL3061

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
161024	1148	V= .68	2.04	1.5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	10.62 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.80 (ft)	Pump Placement	14 (ft)

6.72 (STD) PH 2423 uS/cm Specific Conductivity Sample Temp. 26.13 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	NO
P	500mL	ICE	Anions	NO
P	4L	HNO_3	Radium 226 + 228 Combined	NO

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 3.25
Weather Conditions: Partly Cloudy South east wind 5mph
Other: Purge water is clear with no odor, collected sample after parameters stabilized

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-7P
Date: 10/24/16
Sampler: CP / JG
Employer: LCRA

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Field Information Form

Sample Date: 10/24/16
Sample Time: 1342
Sample ID: CBL3081

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
161024	1313	V= 1.6	4.9	3.5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	25.21 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.16 (ft)	Pump Placement	34 (ft)

6.27 (STD) PH 10000 uS/cm Specific Conductivity Sample Temp. 23.06 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	HNO_3	Radium 226 + 228 Combined	N

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 2.48
Weather Conditions: Partly Cloudy 85° south eastwind
Other: Purge water until parameter became stabilize + collected samples

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS Groundwater SOP 5-7D
Date: 10/24/16
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 10/24/16
Sample Time: 1441
Sample ID: CB2340I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
161024	1416	V= 2.7	8.2	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated I (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	23.31 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.14 (ft)	Pump Placement	39 (ft)

PH 6.19 (STD) Specific Conductivity 8427 uS/cm Sample Temp. 22.76 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	metals	✓
P	500mL	ICE	anions	✓
P	4L	HNO_3	Radium 226 + 228 Combined	✓

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 3.28
Weather Conditions: Partly Cloudy South east wind 5mph 86°
Other: Purge water until parameters where stable + Collected Samples

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes Y No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-70
Date: 10/24/16
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 10/24/16
Sample Time: 1526
Sample ID: CBL302I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	V= WATER VOL IN CASING (Gallons)	3 X WELL VOL IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
161024	1507	2.5	7.5	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	11.82 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.11 (ft)	Pump Placement	26 (ft)

PH: 5.77 (STD) Specific Conductivity: 7804 uS/cm Sample Temp. 22.88 (°C)

Bottle Type	Bottle Size	Bottle Preservative	Analysis	Field Filt. Y/N
P	250mL	HNO3	Metals	N
P	250mL	HNO3	Metals Dup	N
P	4L	HNO3	Radium 226 & 228 Combined	N
P	500mL	ICE	Anions	N
P	4L	HNO3	Dup Rads	

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 8.63

Weather Conditions: Partly Cloudy South east wind 87°

Other: Purge water until Parameters where stable & Collect Samples. Collect Dup for Rads & metals @ site

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS SOP 5-7D Groundwater

Date: 10/24/16

Sampler: CP/JG

Employer: LCRA

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
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Phone: (512)356-6022
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December 8, 2016

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1644985

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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SAMPLE SUMMARY

Workorder: Q1644985

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1644985001	CBL - 340I	Aqueous	10/24/2016 14:41	10/24/2016 17:00
Q1644985002	CBL - 301I	Aqueous	10/24/2016 10:59	10/24/2016 17:00
Q1644985003	CBL - 302I	Aqueous	10/24/2016 15:26	10/24/2016 17:00
Q1644985004	CBL - 306I	Aqueous	10/24/2016 12:23	10/24/2016 17:00
Q1644985005	CBL - 308I	Aqueous	10/24/2016 13:44	10/24/2016 17:00
Q1644985006	CBL - 602I	Aqueous	10/24/2016 15:28	10/24/2016 17:00
Q1644985007	Field Blank	Aqueous	10/24/2016 11:00	10/24/2016 17:00
Q1644985008	EQ Blank	Aqueous	10/24/2016 11:05	10/24/2016 17:00

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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ANALYTICAL RESULTS

Workorder: Q1644985

Lab ID:	**Q1644985001**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	10/24/2016 14:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226	Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	10/24/16 14:41	JBW	10/24/16 14:41	JBW	
Analysis Desc: E904.0, Radium 228	Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228										
Reference Lab Report	see attached.					1	10/24/16 14:41	JBW	10/24/16 14:41	JBW	

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ANALYTICAL RESULTS

Workorder: Q1644985

Lab ID:	**Q1644985002**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	10/24/2016 10:59	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	10/24/16 10:59	JBW	10/24/16 10:59	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	10/24/16 10:59	JBW	10/24/16 10:59	JBW	

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ANALYTICAL RESULTS

Workorder: Q1644985

Lab ID:	**Q1644985003**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	10/24/2016 15:26	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226			Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226								
Reference Lab Report	see attached.	pCi/L				1	10/24/16 15:26	JBW	10/24/16 15:26	JBW	
Analysis Desc: E904.0, Radium 228			Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228								
Reference Lab Report	see attached.					1	10/24/16 15:26	JBW	10/24/16 15:26	JBW	

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ANALYTICAL RESULTS

Workorder: Q1644985

Lab ID:	**Q1644985004**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	10/24/2016 12:23	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226	Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	10/24/16 12:23	JBW	10/24/16 12:23	JBW	
Analysis Desc: E904.0, Radium 228	Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228										
Reference Lab Report	see attached.					1	10/24/16 12:23	JBW	10/24/16 12:23	JBW	

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ANALYTICAL RESULTS

Workorder: Q1644985

Lab ID:	**Q1644985005**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	10/24/2016 13:44	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226	Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	10/24/16 13:44	JBW	10/24/16 13:44	JBW	
Analysis Desc: E904.0, Radium 228	Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228										
Reference Lab Report	see attached.					1	10/24/16 13:44	JBW	10/24/16 13:44	JBW	

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ANALYTICAL RESULTS

Workorder: Q1644985

Lab ID:	**Q1644985006**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	10/24/2016 15:28	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	10/24/16 15:28	JBW	10/24/16 15:28	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	10/24/16 15:28	JBW	10/24/16 15:28	JBW	

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ANALYTICAL RESULTS

Workorder: Q1644985

Lab ID:	**Q1644985007**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	10/24/2016 11:00	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	10/24/16 11:00	JBW	10/24/16 11:00	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	10/24/16 11:00	JBW	10/24/16 11:00	JBW	

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ANALYTICAL RESULTS

Workorder: Q1644985

Lab ID:	**Q1644985008**	Date Received:	10/24/2016 17:00	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	10/24/2016 11:05	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	10/24/16 11:05	JBW	10/24/16 11:05	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	10/24/16 11:05	JBW	10/24/16 11:05	JBW	

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Summit Environmental Technologies, Inc.
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Website: http://www.settek.com

November 22, 2016

Susan Benavidez
LCRA Environmental Laboratory Services
P.O. Box 220 78767-02203505 Montopolis
Austin, TX 78744
TEL: 512-356-6022
FAX: 512-356-6021

RE: Q1644985

Order No.: 16101701

Dear Susan Benavidez:

Summit Environmental Technologies, Inc. received 8 sample(s) on 10/31/2016 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Holly Florea
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0105, Delaware, Florida NELAC E87688, Georgia E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 248 and 9957C and E87688, Wisconsin 399013010

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Case Narrative

WO#: **16101701**
Date: **11/22/2016**

CLIENT: LCRA Environmental Laboratory Services
Project: Q1644985

Paginated Report including Cover Letter, Case Narrative, Analytical Results, Applicable Quality Control Summary Reports, and copies of the Chain of Custody Documents are supplied with this sample set.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

This report is believed to meet all of the requirements of NELAC or the accrediting / certifying agency. Any comments or problems with the analytical events associated with this report are noted below.

Summit Environmental Technologies, Inc.
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Workorder Sample Summary

WO#: **16101701**

22-Nov-16

CLIENT: LCRA Environmental Laboratory Services
Project: Q1644985

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
16101701-001	Q1644985001		10/24/2016 2:41:00 PM	10/31/2016 12:00:00 PM	Non-Potable Water
16101701-002	Q1644985002		10/24/2016 10:59:00 AM	10/31/2016 12:00:00 PM	Non-Potable Water
16101701-003	Q1644985003		10/24/2016 3:26:00 PM	10/31/2016 12:00:00 PM	Non-Potable Water
16101701-004	Q1644985004		10/24/2016 3:26:00 PM	10/31/2016 12:00:00 PM	Non-Potable Water
16101701-005	Q1644985005		10/24/2016 1:44:00 PM	10/31/2016 12:00:00 PM	Non-Potable Water
16101701-006	Q1644985006		10/24/2016 3:28:00 PM	10/31/2016 12:00:00 PM	Non-Potable Water
16101701-007	Q1644985007		10/24/2016 11:00:00 AM	10/31/2016 12:00:00 PM	Non-Potable Water
16101701-008	Q1644985008		10/24/2016 11:05:00 AM	10/31/2016 12:00:00 PM	Non-Potable Water

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Analytical Report

(consolidated)

WO#: **16101701**

Date Reported: **11/22/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 10/24/2016 2:41:00 PM

Project: Q1644985

Lab ID: 16101701-001 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1644985001

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	1.47	1.00		pCi/L	± 0.34	1	11/18/2016 7:17:00 AM
Yield	1.00					1	11/18/2016 7:17:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.39	1.00		pCi/L	± 0.64	1	11/17/2016 1:58:00 PM
Yield	1.00					1	11/17/2016 1:58:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16101701**

Date Reported: **11/22/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 10/24/2016 10:59:00 AM

Project: Q1644985

Lab ID: 16101701-002 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1644985002

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.19	1	11/18/2016 7:17:00 AM
Yield	1.00					1	11/18/2016 7:17:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.15	1.00		pCi/L	± 0.65	1	11/17/2016 1:50:00 PM
Yield	1.00					1	11/17/2016 1:50:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16101701**

Date Reported: **11/22/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 10/24/2016 3:26:00 PM

Project: Q1644985

Lab ID: 16101701-003 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1644985003

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.22	1	11/18/2016 8:03:00 AM
Yield	1.00					1	11/18/2016 8:03:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.13	1.00		pCi/L	± 0.59	1	11/17/2016 1:50:00 PM
Yield	0.940					1	11/17/2016 1:50:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

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WO#: **16101701**

Date Reported: **11/22/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 10/24/2016 3:26:00 PM

Project: Q1644985

Lab ID: 16101701-004 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1644985004

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.16	1	11/18/2016 8:04:00 AM
Yield	1.00					1	11/18/2016 8:04:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.05	1.00		pCi/L	± 0.54	1	11/17/2016 1:50:00 PM
Yield	1.00					1	11/17/2016 1:50:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16101701**

Date Reported: **11/22/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 10/24/2016 1:44:00 PM

Project: Q1644985

Lab ID: 16101701-005 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1644985005

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.27	1	11/18/2016 8:04:00 AM
Yield	1.00					1	11/18/2016 8:04:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.66	1.00		pCi/L	± 0.72	1	11/17/2016 1:50:00 PM
Yield	0.980					1	11/17/2016 1:50:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16101701**

Date Reported: **11/22/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 10/24/2016 3:28:00 PM

Project: Q1644985

Lab ID: 16101701-006 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1644985006

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.23	1	11/18/2016 8:04:00 AM
Yield	1.00					1	11/18/2016 8:04:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.62	1	11/17/2016 1:50:00 PM
Yield	0.800					1	11/17/2016 1:50:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **16101701**

Date Reported: **11/22/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 10/24/2016 11:00:00 AM

Project: Q1644985

Lab ID: 16101701-007 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1644985007

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.2	1	11/18/2016 8:04:00 AM
Yield	1.00					1	11/18/2016 8:04:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.04	1.00		pCi/L	± 0.59	1	11/17/2016 1:50:00 PM
Yield	1.00					1	11/17/2016 1:50:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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Analytical Report

(consolidated)

WO#: **16101701**

Date Reported: **11/22/2016**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 10/24/2016 11:05:00 AM

Project: Q1644985

Lab ID: 16101701-008 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1644985008

Analyses	Result	RL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.19	1	11/18/2016 8:04:00 AM
Yield	1.00					1	11/18/2016 8:04:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.59	1	11/17/2016 1:50:00 PM
Yield	1.00					1	11/17/2016 1:50:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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QC SUMMARY REPORT

WO#: **16101701**

22-Nov-16

Client: LCRA Environmental Laboratory Services
Project: Q1644985 **BatchID:** **23984**

Sample ID: **mb-23984** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/10/2016** RunNo: **62111**
Client ID: **PBW** Batch ID: **23984** TestNo: **E904.0** **E903-904** Analysis Date: **11/17/2016** SeqNo: **1022029**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	1.00			0	0						

Sample ID: **lcs-23984** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **11/10/2016** RunNo: **62111**
Client ID: **LCSW** Batch ID: **23984** TestNo: **E904.0** **E903-904** Analysis Date: **11/17/2016** SeqNo: **1022030**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	5.06	1.00	5.000	0	101	70	130				
Yield	1.00			0	0						

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine a
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **16101701**

22-Nov-16

Client: LCRA Environmental Laboratory Services
Project: Q1644985 **BatchID:** **23984**

Sample ID: **mb-23984** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/10/2016** RunNo: **62113**
Client ID: **PBW** Batch ID: **23984** TestNo: **E903.0** **E903-904** Analysis Date: **11/18/2016** SeqNo: **1022111**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID: **lcs-23984** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/10/2016** RunNo: **62113**
Client ID: **LCSW** Batch ID: **23984** TestNo: **E903.0** **E903-904** Analysis Date: **11/18/2016** SeqNo: **1022112**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.80	1.00	5.000	0	116	70	130				QLR

Sample ID: **lcsd-23984** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **11/10/2016** RunNo: **62113**
Client ID: **LCSS02** Batch ID: **23984** TestNo: **E903.0** **E903-904** Analysis Date: **11/18/2016** SeqNo: **1022113**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.52	1.00	5.000	0	90.4	70	130	5.800	24.8	20	R

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine a
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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Qualifiers and Acronyms

WO#: **16101701**
Date: **11/22/2016**

These commonly used Qualifiers and Acronyms may or may not be present in this repor

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45195106 - HBN 51862

PO #Q1644985

Results Requested By

Report To

Susan Benavidez
LCRA Environmental Laboratory Services
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Austin, TX 78744
Phone (512)356-6022
Fax (512)356-6021
Email envlab@lcra.org

Subcontract To

Summit Environmental Lab Technologies, Inc.
3310 Win Street
Cuyahoga Falls, OH 44223
Phone (800)278-0140
Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1644985001	10/24/2016 14:41		Aqueous	1						X	X											
2	Q1644985002	10/24/2016 10:59		Aqueous	1						X	X											
3	Q1644985003	10/24/2016 15:26		Aqueous	1						X	X											
4	Q1644985004	10/24/2016 15:26		Aqueous	1						X	X											
5	Q1644985005	10/24/2016 13:44		Aqueous	1						X	X											
6	Q1644985006	10/24/2016 15:28		Aqueous	1						X	X											
7	Q1644985007	10/24/2016 11:00		Aqueous	1						X	X											
8	Q1644985008	10/24/2016 11:05		Aqueous	1						X	X											

16101701-001-008sc

2001.2.0.0

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45195106 - HBN 51862

PO #

Results Requested By

Report To	Subcontract To
Susan Benavidez LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228										LAB USE ONLY
9																						
10																						
11																						
12																						

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1644985 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	10/25/16 1200		
2				
3			[illegible]	10-31-16
4				1200
5				

2001.2.0.0

DC-7
Rev. 16

Effective Date: 07/14/16

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Initials of person inspecting cooler and samples: SC

Client: LCRA

Order Number: 16101701

Date Received: 10-31-16 Time Received: 1200 Date cooler(s) opened and samples inspected: 10-31-16

Number of Coolers/Boxes: 3 N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other:

Packaging: Peanuts Bubble Wrap Tape Foam None Other:

Tape on cooler/box:	Y	N	N/A
Custody Seals intact	Y	N	N/A
C-O-C in plastic	Y	N	N/A
Ice_____ Blue ice _____	present / absent / melted		N/A
Sample Temperature IR Gun #16020459 CF 0.0 °C	17.2 °C		N/A
Radiological Testing Instrument serial #35127 (see page 2 for scan results)	Y	N	N/A

**Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately

C-O-C filled out properly	Y	N	N/A
Samples in separate bags	Y	N	N/A
Sample containers intact*	Y	N	N/A

*if no, list broken sample(s):

Sample label(s) complete (ID, date, etc.)	Y	N	N/A
Label(s) agree with C-O-C	Y	N	N/A
Correct containers used	Y	N	N/A
Sufficient sample received	Y	N	N/A
Samples received within holding time	Y	N	
Bubbles absent from 40 mL vials**	Y	N	N/A

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm.

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact:

Date/Time:

Logged in by:

Comments:

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# WC-03-1174 pH strip (2.8-4.6) SET#OES-01-0250
Total DPD packet SET#OES-02-0239 Free DPD packet SET#OES-01-0290
Disp. Pipette SET# WC-03-0510

Sample or OMEGA ID	Method	pH	Chlorine (±)	Comments
1	✓	2		
2				
3				
4				
5				
6				
7				
8				

Radiological scan on sample

ID	Scan	CPM
1	✓	40
2		30
3		32
4		22
5		28
6		26
7		31
8		41

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for Total chlorine
552.2 checked for Free chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0250)
524.2 = pH and Chlorine checked at bench and not log in department

Q1644985

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:	
Client PO:	
Invoice To:	BECKIE LOEVE FAYETTE POWER PLANT 6549 POWER PLANT RD MAIL STOP: FPP LA GRANGE, TX 78945

Project:	FPP CCR Rule - Sub	Client:	LCRA
Collector:	Colt Petri / John Gallagher	Contact:	
Event#:	1334655 / 3771	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* AQ = Aqueous S = Solid T = Tissue DW = Drinking Water	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU	Requested Analysis * S-Rad228	S-Rad226
001	1	CBL - 340I	10/24/16	1441	AQ	N	N	1	X	X
002	2	CBL - 301I	10/24/16 ~~1059~~ CP 10/24/16	CP 10/24/16 ~~10/24/16~~ 1059	AQ	N	N	1	X	X
003	3	CBL - 302I	10/24/16	1526	AQ			1	X	X
004	4	CBL - 306I	10/24/16	1223	AQ			1	X	X
005	5	CBL - 308I	10/24/16	1344	AQ			1	X	X
006	6	CBL - 602I	10/24/16	1528	AQ			1	X	X
007	7	Field Blank	10/24/16	1100	AQ			1	X	X
008	8	EQ Blank	10/24/16	1105	AQ			1	X	X

Transfers	Relinquished By	Date/Time	Received By	Date/Time	Cooler Temp: #	T#	Obs.	Corr.
1	Colt Petri	10/24/16 1700	[signature]	10/24/16 1700				
2					1	6	224°C	224°C
3					2			

Client Special Instructions:

Lab Use Only:

Q1644985 232423

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45195106 - HBN 51862

PO #Q1644985

Results Requested By

Report To	Subcontract To
Susan Benavidez LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1644985001	10/24/2016 14:41		Aqueous	1						X	X											
2	Q1644985002	10/24/2016 10:59		Aqueous	1						X	X											
3	Q1644985003	10/24/2016 15:26		Aqueous	1						X	X											
4	Q1644985004	10/24/2016 15:26		Aqueous	1						X	X											
5	Q1644985005	10/24/2016 13:44		Aqueous	1						X	X											
6	Q1644985006	10/24/2016 15:28		Aqueous	1						X	X											
7	Q1644985007	10/24/2016 11:00		Aqueous	1						X	X											
8	Q1644985008	10/24/2016 11:05		Aqueous	1						X	X											

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45195106 - HBN 51862 | PO # | Results Requested By

Report To	Subcontract To
Susan Benavidez LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
9																							
10																							
11																							
12																							

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1644985 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative
COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	10/25/16 1200		
2				
3				
4				
5				

FedEx Shipment Receipt

Address Information

Ship to:	**Ship from:**
Sample Receiving- Summit Env	Sample Receiving
SUMMIT ENVIRONMENTAL TECHNOLOGIES	ENVIRONMENTAL LABORATORY SERVICES
3310 WIN ST	3505 MONTOPOLIS DRIVE LCRA-ENVIRONMENTAL LAB ONLY
CUYAHOGA FALLS, OH	AUSTIN, TX
442233790	78744
US	US
8002780140	5123566022

Shipment Information:
Tracking no.: 777551217955
Ship date: 10/25/2016
Estimated shipping charges: 0.00

Package Information
Pricing option: FedEx Standard Rate
Service type: FedEx Ground
Package type: Your Packaging
Number of packages: 2
Total weight: 104 LBS
Declared Value: 0.00 USD
Special Services:
Pickup/Drop-off: pickup confirmation number:CPU897962990

Billing Information:
Bill transportation to: Third party
Your reference: 3533318
P.O. no.:
Invoice no.:
Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits. Consult the applicable FedEx Service Guide for details.
The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

May 16, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1716255

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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and with written approval from LCRA Environmental Laboratory Services.

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

SAMPLE SUMMARY

Workorder: Q1716255

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1716255001	CBL - 341I	Aqueous	4/20/2017 13:14	4/20/2017 15:30
Q1716255002	CBL - 641I	Aqueous	4/20/2017 13:15	4/20/2017 15:30
Q1716255003	FB # 1	Aqueous	4/20/2017 13:17	4/20/2017 15:30
Q1716255004	EB # 1	Aqueous	4/20/2017 13:25	4/20/2017 15:30

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

PROJECT SUMMARY

Workorder: Q1716255

Workorder Comments

ANALYTICAL COMMENTS: All samples subcontracted with customer's approval. Data provided in full with the ELS final report.

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1716255

Lab ID:	**Q1716255001**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	4/20/2017 13:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/20/17 13:14	JBW	04/20/17 13:14	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/20/17 13:14	JBW	04/20/17 13:14	JBW	

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1716255

Lab ID:	**Q1716255002**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	4/20/2017 13:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/20/17 13:15	JBW	04/20/17 13:15	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/20/17 13:15	JBW	04/20/17 13:15	JBW	

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1716255

Lab ID:	**Q1716255003**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	4/20/2017 13:17	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/20/17 13:17	JBW	04/20/17 13:17	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/20/17 13:17	JBW	04/20/17 13:17	JBW	

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1716255

Lab ID:	**Q1716255004**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**EB # 1**	Date Collected:	4/20/2017 13:25	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/20/17 13:25	JBW	04/20/17 13:25	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/20/17 13:25	JBW	04/20/17 13:25	JBW	

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and with written approval from LCRA Environmental Laboratory Services.

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

May 10, 2017

Jason Woods
LCRA Environmental Laboratory Services
P.O. Box 220 78767-02203505 Montopolis
Austin, TX 78744
TEL: 512-356-6022
FAX: 512-356-6021

RE: Q1716255

Dear Jason Woods:

Order No.: 17041664

Summit Environmental Technologies, Inc. received 4 sample(s) on 4/28/2017 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0108, Delaware, Florida NELAC E87688, Georgia E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 9957C

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Case Narrative

WO#: **17041664**
Date: **5/10/2017**

CLIENT: LCRA Environmental Laboratory Services
Project: Q1716255

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. State Certificates and Scopes of Accreditation are attached as applicable. Results provided in this report for any parameter not listed on the Scope of Accreditation should be considered “not certified.”

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Workorder Sample Summary

WO#: **17041664**

10-May-17

CLIENT: LCRA Environmental Laboratory Services
Project: Q1716255

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
17041664-001	Q1716255001		4/20/2017 1:14:00 PM	4/28/2017 1:20:00 PM	Aqueous
17041664-002	Q1716255002		4/20/2017 1:15:00 PM	4/28/2017 1:20:00 PM	Aqueous
17041664-003	Q1716255003		4/20/2017 1:17:00 PM	4/28/2017 1:20:00 PM	Aqueous
17041664-004	Q1716255004		4/20/2017 1:25:00 PM	4/28/2017 1:20:00 PM	Aqueous

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17041664**

Date Reported: **5/10/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 4/20/2017 1:14:00 PM

Project: Q1716255

Lab ID: 17041664-001 **Matrix:** AQUEOUS

Client Sample ID Q1716255001

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	2.21	1.00	QM+	pCi/L	± 0.34	1	5/9/2017 8:57:00 AM
Yield	1.00					1	5/9/2017 8:57:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.90	1.00		pCi/L	± 0.69	1	5/8/2017 1:40:00 PM
Yield	1.00					1	5/8/2017 1:40:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17041664**

Date Reported: **5/10/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 4/20/2017 1:15:00 PM

Project: Q1716255

Lab ID: 17041664-002 **Matrix:** AQUEOUS

Client Sample ID Q1716255002

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	1.25	1.00		pCi/L	± 0.24	1	5/9/2017 9:45:00 AM
Yield	1.00					1	5/9/2017 9:45:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	2.60	1.00		pCi/L	± 0.83	1	5/8/2017 1:40:00 PM
Yield	1.00					1	5/8/2017 1:40:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17041664**

Date Reported: **5/10/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 4/20/2017 1:17:00 PM

Project: Q1716255

Lab ID: 17041664-003 **Matrix:** AQUEOUS

Client Sample ID Q1716255003

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.11	1	5/9/2017 9:45:00 AM
Yield	1.00					1	5/9/2017 9:45:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.84	1	5/8/2017 1:40:00 PM
Yield	1.00					1	5/8/2017 1:40:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17041664**

Date Reported: **5/10/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 4/20/2017 1:25:00 PM

Project: Q1716255

Lab ID: 17041664-004 **Matrix:** AQUEOUS

Client Sample ID Q1716255004

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.11	1	5/9/2017 9:45:00 AM
Yield	1.00					1	5/9/2017 9:45:00 AM
RADIUM-228 (904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00	QDR	pCi/L	± 0.69	1	5/8/2017 1:40:00 PM
Yield	1.00					1	5/8/2017 1:40:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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QC SUMMARY REPORT

WO#: **17041664**

10-May-17

Client: LCRA Environmental Laboratory Services
Project: Q1716255 **BatchID:** **26782**

Sample ID **mb-26782** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/5/2017** RunNo: **69176**
Client ID: **PBW** Batch ID: **26782** TestNo: **E904.0** **E903-904** Analysis Date: **5/8/2017** SeqNo: **1142882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	0.940			0	0						

Sample ID **lcs-26782** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/5/2017** RunNo: **69176**
Client ID: **LCSW** Batch ID: **26782** TestNo: **E904.0** **E903-904** Analysis Date: **5/8/2017** SeqNo: **1142883**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.83	1.00	5.000	0	76.6	70	130				QLR
Yield	1.00			0	0						

Sample ID **lcsd-26782** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/5/2017** RunNo: **69176**
Client ID: **LCSS02** Batch ID: **26782** TestNo: **E904.0** **E903-904** Analysis Date: **5/8/2017** SeqNo: **1142884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	5.08	1.00	5.000	0	102	70	130	3.828	28.1	20	R
Yield	1.00			0	0			1.000	0		

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **17041664**

10-May-17

Client: LCRA Environmental Laboratory Services

Project: Q1716255 **BatchID:** **26782**

Sample ID **17041664-001aMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **5/5/2017** RunNo: **69176**

Client ID: **Q1716255001** Batch ID: **26782** TestNo: **E904.0** **E903-904** Analysis Date: **5/8/2017** SeqNo: **1142886**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	6.05	1.00	5.000	1.903	82.9	70	130				
Yield	0.980			1.000	0						

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **17041664**
10-May-17

Client: LCRA Environmental Laboratory Services
Project: Q1716255 **BatchID:** **26782**

Sample ID **mb-26782** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/5/2017** RunNo: **69177**
Client ID: **PBW** Batch ID: **26782** TestNo: **E903.0** **E903-904** Analysis Date: **5/9/2017** SeqNo: **1142961**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID **lcs-26782** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/5/2017** RunNo: **69177**
Client ID: **LCSW** Batch ID: **26782** TestNo: **E903.0** **E903-904** Analysis Date: **5/9/2017** SeqNo: **1142962**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.54	1.00	5.000	0	90.8	70	130				QLR

Sample ID **lcsd-26782** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/5/2017** RunNo: **69177**
Client ID: **LCSS02** Batch ID: **26782** TestNo: **E903.0** **E903-904** Analysis Date: **5/9/2017** SeqNo: **1142963**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.92	1.00	5.000	0	118	70	130	4.540	26.4	20	R

Sample ID **17041664-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/5/2017** RunNo: **69177**
Client ID: **Q1716255001** Batch ID: **26782** TestNo: **E903.0** **E903-904** Analysis Date: **5/9/2017** SeqNo: **1142965**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **17041664**

10-May-17

Client: LCRA Environmental Laboratory Services

Project: Q1716255 **BatchID:** **26782**

Sample ID **17041664-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **5/5/2017** RunNo: **69177**

Client ID: **Q1716255001** Batch ID: **26782** TestNo: **E903.0** **E903-904** Analysis Date: **5/9/2017** SeqNo: **1142965**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	8.84	1.00	5.000	2.210	133	70	130				S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Qualifiers and Acronyms

WO#: **17041664**
Date: **5/10/2017**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45217512 - HBN 58484

PO #Q1716255

Results Requested By

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Requested Analysis

17041664-001-004sc

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1716255001	4/20/2017 13:14		Aqueous	1						X	X											
2	Q1716255002	4/20/2017 13:15		Aqueous	1						X	X											
3	Q1716255003	4/20/2017 13:17		Aqueous	1						X	X											
4	Q1716255004	4/20/2017 13:25		Aqueous	1						X	X											
5																							

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1716255 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative
COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	4/24/17 1200	[illegible] SET	4/28/17 1320
2				
3				
4				
5				

DC-7
Rev. 16

Effective Date: 07/14/16

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Initials of person inspecting cooler and samples: [illegible]

Client: LCRA ENVIRONMENTAL

Order Number: _____

Date Received: 4/28/17 Time Received: 1320 Date cooler(s) opened and samples inspected: 4/28/17

Number of Coolers/Boxes: 2 N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other: _____

Packaging: Peanuts Bubble Wrap Paper Foam None Other: _____

Tape on cooler/box: Y N N/A

Custody Seals intact Y N N/A

C-O-C in plastic Y N N/A

Ice_____ Blue ice _____ present / absent / melted N/A

Sample Temperature IR Gun #16020459 CF 0.0 °C 19.9 °C N/A

Radiological Testing Instrument serial #35127 Y N N/A
(see page 2 for scan results)
**Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.

C-O-C filled out properly Y N N/A

Samples in separate bags Y N N/A

Sample containers intact* Y N N/A

*If no, list broken sample(s): _____

Sample label(s) complete (ID, date, etc.) Y N N/A

Label(s) agree with C-O-C Y N N/A

Correct containers used Y N N/A

Sufficient sample received Y N N/A

Samples received within holding time Y N

Bubbles absent from 40 mL vials** Y N N/A

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm. _____

Was client contacted about samples Y N

Will client send new samples Y N

Client contact: _____

Date/Time: _____

Logged in by: _____

Comments: _____

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# WC-03-1174 pH strip (2.8-4.6) SET#OES-01-0250
Total DPD packet SET#OES-02-0239 Free DPD packet SET#OES-01-0290
Disp. Pipette SET# WC-03-0510

Sample or OMEGA ID	Method	pH	Chlorine (±)	Comments
1	✓	2		
2	|	2		
3	|	2		
4	|	2		

Radiological scan on sample

ID	scan	CPM
1	✓	21
2	|	26
3	|	28
4	|	20

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for Total chlorine
552.2 checked for Free chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0250)
524.2 = pH and Chlorine checked at bench and not log in department

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

in accordance with Texas Water Code Chapter 5, Subchapter R, Title 30 Texas Administrative Code Chapter 25, and the National Environmental Laboratory Accreditation Program.

The laboratory's scope of accreditation includes the fields of accreditation that accompany this certificate. Continued accreditation depends upon successful ongoing participation in the program. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current location(s) and accreditation status for particular methods and analyses (www.tceq.texas.gov/goto/lab). Accreditation does not imply that a product, process, system or person is approved by the Texas Commission on Environmental Quality.

Executive Director Texas Commission on Environmental Quality

Certificate Number: T104704466-16-11
Effective Date: 8/1/2016
Expiration Date: 7/31/2017

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate:	T104704466-16-11
Expiration Date:	7/31/2017
Issue Date:	8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10120204

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10013806
Antimony	FL	1005	10013806
Arsenic	FL	1010	10013806
Barium	FL	1015	10013806
Beryllium	FL	1020	10013806
Boron	FL	1025	10013806
Cadmium	FL	1030	10013806
Chromium	FL	1040	10013806
Copper	FL	1055	10013806
Iron	FL	1070	10013806
Lead	FL	1075	10013806
Magnesium	FL	1085	10013806
Manganese	FL	1090	10013806
Molybdenum	FL	1100	10013806
Nickel	FL	1105	10013806
Potassium	FL	1125	10013806
Selenium	FL	1140	10013806
Silica as SiO2	FL	1990	10013806
Silver	FL	1150	10013806
Sodium	FL	1155	10013806
Thallium	FL	1165	10013806
Vanadium	FL	1185	10013806
Zinc	FL	1190	10013806

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

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Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2017
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2016

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Matrix: ***Drinking Water***

Antimony	FL	1005	10014605
Arsenic	FL	1010	10014605
Barium	FL	1015	10014605
Beryllium	FL	1020	10014605
Cadmium	FL	1030	10014605
Chromium	FL	1040	10014605
Copper	FL	1055	10014605
Lead	FL	1075	10014605
Manganese	FL	1090	10014605
Nickel	FL	1105	10014605
Selenium	FL	1140	10014605
Silver	FL	1150	10014605
Thallium	FL	1165	10014605
Uranium	FL	3035	10014605
Zinc	FL	1190	10014605

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10053006
Chloride	FL	1575	10053006
Fluoride	FL	1730	10053006
Nitrate as N	FL	1810	10053006
Nitrite as N	FL	1840	10053006
Sulfate	FL	2000	10053006

Method EPA 300.0 B

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10275408

Method EPA 300.1

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

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	Certificate:	T104704466-16-11
Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2017
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2016

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Matrix: ***Drinking Water***

Bromate	FL	1535	10053608
Bromide	FL	1540	10053608
Chlorate	FL	1570	10053608
Chlorite	FL	1595	10053608
Method EPA 314.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Perchlorate	FL	1895	10055400
Method EPA 900.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Gross-alpha	FL	2830	10112400
Gross-beta	FL	2840	10112400
Method EPA 903.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Radium-226	FL	2965	10113209
Method EPA 904.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Radium-228	FL	2970	10113607
Method EPA 908.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Uranium	FL	3035	10114202
Method SM 2510 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	FL	1610	20048004
Method SM 2540 C			
Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-filterable (TDS)	FL	1955	20049803
Method SM 4500-CN^- C,E			
Analyte	**AB**	**Analyte ID**	**Method ID**
Total Cyanide	FL	1635	20092404
Method SM 4500-CN^- G			
Analyte	**AB**	**Analyte ID**	**Method ID**

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate:	T104704466-16-11
Expiration Date:	7/31/2017
Issue Date:	8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Amenable cyanide	FL	1510	20093203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

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Expiration Date:	7/31/2017
Issue Date:	8/1/2016

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Matrix: ***Non-Potable Water***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10116606

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	FL	1970	10010409

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10120204
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10120204
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10120204
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10120204
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10120204
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10120204
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10120204
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10120204
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10120204
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10120204
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10120204
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10120204
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10120204
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10120204
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10120204
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10120204
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10120204
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10120204
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10120204
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10120204
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10120204
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10120204
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10120204

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Matrix: ***Non-Potable Water***

Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10120204
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10120204

Method EPA 1631E

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10237204

Method EPA 1664

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10127807
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10127807

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10013806
Antimony	FL	1005	10013806
Arsenic	FL	1010	10013806
Barium	FL	1015	10013806
Beryllium	FL	1020	10013806
Boron	FL	1025	10013806
Cadmium	FL	1030	10013806
Calcium	FL	1035	10013806
Chromium	FL	1040	10013806
Cobalt	FL	1050	10013806
Copper	FL	1055	10013806
Iron	FL	1070	10013806
Lead	FL	1075	10013806
Magnesium	FL	1085	10013806
Manganese	FL	1090	10013806
Molybdenum	FL	1100	10013806
Nickel	FL	1105	10013806
Phosphorus	FL	1910	10013806
Potassium	FL	1125	10013806
Selenium	FL	1140	10013806

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Matrix: ***Non-Potable Water***

Silver	FL	1150	10013806
Sodium	FL	1155	10013806
Thallium	FL	1165	10013806
Tin	FL	1175	10013806
Titanium	FL	1180	10013806
Vanadium	FL	1185	10013806
Zinc	FL	1190	10013806

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10014605
Antimony	FL	1005	10014605
Arsenic	FL	1010	10014605
Barium	FL	1015	10014605
Beryllium	FL	1020	10014605
Cadmium	FL	1030	10014605
Chromium	FL	1040	10014605
Cobalt	FL	1050	10014605
Copper	FL	1055	10014605
Lead	FL	1075	10014605
Manganese	FL	1090	10014605
Molybdenum	FL	1100	10014605
Nickel	FL	1105	10014605
Selenium	FL	1140	10014605
Silver	FL	1150	10014605
Strontium	FL	1160	10014605
Thallium	FL	1165	10014605
Thorium	FL	1170	10014605
Uranium	FL	3035	10014605
Vanadium	FL	1185	10014605
Zinc	FL	1190	10014605

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Matrix: *Non-Potable Water*

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10053006
Chloride	FL	1575	10053006
Fluoride	FL	1730	10053006
Nitrate as N	FL	1810	10053006
Nitrate-nitrite	FL	1820	10053006
Nitrite as N	FL	1840	10053006
Orthophosphate as P	FL	1870	10053006
Sulfate	FL	2000	10053006

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	FL	1905	10079400

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10155803
Antimony	FL	1005	10155803
Arsenic	FL	1010	10155803
Barium	FL	1015	10155803
Beryllium	FL	1020	10155803
Boron	FL	1025	10155803
Cadmium	FL	1030	10155803
Calcium	FL	1035	10155803
Chromium	FL	1040	10155803
Cobalt	FL	1050	10155803
Copper	FL	1055	10155803
Iron	FL	1070	10155803
Lead	FL	1075	10155803

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Matrix: ***Non-Potable Water***

Magnesium	FL	1085	10155803
Manganese	FL	1090	10155803
Molybdenum	FL	1100	10155803
Nickel	FL	1105	10155803
Phosphorus	FL	1910	10155803
Potassium	FL	1125	10155803
Selenium	FL	1140	10155803
Silver	FL	1150	10155803
Sodium	FL	1155	10155803
Thallium	FL	1165	10155803
Vanadium	FL	1185	10155803
Zinc	FL	1190	10155803

Method EPA 608

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10103603
4,4'-DDE	FL	7360	10103603
4,4'-DDT	FL	7365	10103603
Aldrin	FL	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10103603
Aroclor-1016 (PCB-1016)	FL	8880	10103603
Aroclor-1221 (PCB-1221)	FL	8885	10103603
Aroclor-1232 (PCB-1232)	FL	8890	10103603
Aroclor-1242 (PCB-1242)	FL	8895	10103603
Aroclor-1248 (PCB-1248)	FL	8900	10103603
Aroclor-1254 (PCB-1254)	FL	8905	10103603
Aroclor-1260 (PCB-1260)	FL	8910	10103603
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10103603
Chlordane (tech.)	FL	7250	10103603
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10103603
Dieldrin	FL	7470	10103603

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Matrix: ***Non-Potable Water***

Endosulfan I	FL	7510	10103603
Endosulfan II	FL	7515	10103603
Endosulfan sulfate	FL	7520	10103603
Endrin	FL	7540	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10103603
Heptachlor	FL	7685	10103603
Heptachlor epoxide	FL	7690	10103603
Toxaphene (Chlorinated camphene)	FL	8250	10103603

Method EPA 615

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10105609
2,4-D	FL	8545	10105609
2,4-DB	FL	8560	10105609
Dalapon	FL	8555	10105609
Dicamba	FL	8595	10105609
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10105609
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10105609
MCPA	FL	7775	10105609
MCPP	FL	7780	10105609
Silvex (2,4,5-TP)	FL	8650	10105609

Method EPA 624

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	FL	5160	10107207
1,1,2,2-Tetrachloroethane	FL	5110	10107207
1,1,2-Trichloroethane	FL	5165	10107207
1,1-Dichloroethane	FL	4630	10107207
1,1-Dichloroethylene	FL	4640	10107207
1,2-Dichlorobenzene	FL	4610	10107207
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10107207
1,2-Dichloropropane	FL	4655	10107207
1,3-Dichlorobenzene	FL	4615	10107207

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Matrix: ***Non-Potable Water***

1,4-Dichlorobenzene	FL	4620	10107207
2-Chloroethyl vinyl ether	FL	4500	10107207
Acrolein (Propenal)	FL	4325	10107207
Acrylonitrile	FL	4340	10107207
Benzene	FL	4375	10107207
Bromodichloromethane	FL	4395	10107207
Bromoform	FL	4400	10107207
Carbon tetrachloride	FL	4455	10107207
Chlorobenzene	FL	4475	10107207
Chlorodibromomethane	FL	4575	10107207
Chloroethane (Ethyl chloride)	FL	4485	10107207
Chloroform	FL	4505	10107207
cis-1,3-Dichloropropene	FL	4680	10107207
Ethylbenzene	FL	4765	10107207
Methyl bromide (Bromomethane)	FL	4950	10107207
Methyl chloride (Chloromethane)	FL	4960	10107207
Methylene chloride (Dichloromethane)	FL	4975	10107207
Tetrachloroethylene (Perchloroethylene)	FL	5115	10107207
Toluene	FL	5140	10107207
trans-1,2-Dichloroethylene	FL	4700	10107207
trans-1,3-Dichloropropylene	FL	4685	10107207
Trichloroethene (Trichloroethylene)	FL	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10107207
Vinyl chloride	FL	5235	10107207
Xylene (total)	FL	5260	10107207

Method EPA 625

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10107401
1,2,4-Trichlorobenzene	FL	5155	10107401
1,2-Dichlorobenzene	FL	4610	10107401

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Matrix: *Non-Potable Water*

1,3-Dichlorobenzene	FL	4615	10107401
1,4-Dichlorobenzene	FL	4620	10107401
2,4,6-Trichlorophenol	FL	6840	10107401
2,4-Dichlorophenol	FL	6000	10107401
2,4-Dimethylphenol	FL	6130	10107401
2,4-Dinitrophenol	FL	6175	10107401
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10107401
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10107401
2-Chloronaphthalene	FL	5795	10107401
2-Chlorophenol	FL	5800	10107401
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10107401
2-Nitrophenol	FL	6490	10107401
3,3'-Dichlorobenzidine	FL	5945	10107401
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10107401
4-Chloro-3-methylphenol	FL	5700	10107401
4-Chlorophenyl phenylether	FL	5825	10107401
4-Nitrophenol	FL	6500	10107401
Acenaphthene	FL	5500	10107401
Acenaphthylene	FL	5505	10107401
Anthracene	FL	5555	10107401
Benzidine	FL	5595	10107401
Benzo(a)anthracene	FL	5575	10107401
Benzo(a)pyrene	FL	5580	10107401
Benzo(b)fluoranthene	FL	5585	10107401
Benzo(g,h,i)perylene	FL	5590	10107401
Benzo(k)fluoranthene	FL	5600	10107401
bis(2-Chloroethoxy)methane	FL	5760	10107401
bis(2-Chloroethyl) ether	FL	5765	10107401
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10107401
Butyl benzyl phthalate	FL	5670	10107401

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Matrix: ***Non-Potable Water***

Chrysene	FL	5855	10107401
Dibenz(a,h) anthracene	FL	5895	10107401
Diethyl phthalate	FL	6070	10107401
Dimethyl phthalate	FL	6135	10107401
Di-n-butyl phthalate	FL	5925	10107401
Di-n-octyl phthalate	FL	6200	10107401
Fluoranthene	FL	6265	10107401
Fluorene	FL	6270	10107401
Hexachlorobenzene	FL	6275	10107401
Hexachlorobutadiene	FL	4835	10107401
Hexachlorocyclopentadiene	FL	6285	10107401
Hexachloroethane	FL	4840	10107401
Indeno(1,2,3-cd) pyrene	FL	6315	10107401
Isophorone	FL	6320	10107401
Naphthalene	FL	5005	10107401
Nitrobenzene	FL	5015	10107401
n-Nitrosodimethylamine	FL	6530	10107401
n-Nitrosodi-n-propylamine	FL	6545	10107401
n-Nitrosodiphenylamine	FL	6535	10107401
Pentachlorophenol	FL	6605	10107401
Phenanthrene	FL	6615	10107401
Phenol	FL	6625	10107401
Pyrene	FL	6665	10107401

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	FL	1045	10162400

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	FL	1095	10165603

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**

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Matrix: ***Non-Potable Water***

Diesel range organics (DRO)	FL	9369	10305609
Ethylene glycol	FL	4785	10305609
Gasoline range organics (GRO)	FL	9408	10305609
Methanol	FL	4930	10305609

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10178800
4,4'-DDE	FL	7360	10178800
4,4'-DDT	FL	7365	10178800
Aldrin	FL	7025	10178800
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10178800
alpha-Chlordane	FL	7240	10178800
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10178800
Chlordane (tech.)	FL	7250	10178800
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10178800
Dieldrin	FL	7470	10178800
Endosulfan I	FL	7510	10178800
Endosulfan II	FL	7515	10178800
Endosulfan sulfate	FL	7520	10178800
Endrin	FL	7540	10178800
Endrin ketone	FL	7535	10178800
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10178800
gamma-Chlordane	FL	7245	10178800
Heptachlor	FL	7685	10178800
Heptachlor epoxide	FL	7690	10178800
Methoxychlor	FL	7810	10178800
Toxaphene (Chlorinated camphene)	FL	8250	10178800

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	FL	8880	10179201
Aroclor-1221 (PCB-1221)	FL	8885	10179201

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Matrix: ***Non-Potable Water***

Aroclor-1232 (PCB-1232)	FL	8890	10179201
Aroclor-1242 (PCB-1242)	FL	8895	10179201
Aroclor-1248 (PCB-1248)	FL	8900	10179201
Aroclor-1254 (PCB-1254)	FL	8905	10179201
Aroclor-1260 (PCB-1260)	FL	8910	10179201
PCBs (total)	FL	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10183207
2,4-D	FL	8545	10183207
2,4-DB	FL	8560	10183207
Dalapon	FL	8555	10183207
Dicamba	FL	8595	10183207
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10183207
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10183207
MCPA	FL	7775	10183207
MCPP	FL	7780	10183207
Silvex (2,4,5-TP)	FL	8650	10183207

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	FL	5105	10184802
1,1,1-Trichloroethane	FL	5160	10184802
1,1,2,2-Tetrachloroethane	FL	5110	10184802
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	FL	5195	10184802
1,1,2-Trichloroethane	FL	5165	10184802
1,1-Dichloroethane	FL	4630	10184802
1,1-Dichloroethylene	FL	4640	10184802
1,1-Dichloropropene	FL	4670	10184802
1,2,3-Trichlorobenzene	FL	5150	10184802
1,2,3-Trichloropropane	FL	5180	10184802
1,2,4-Trichlorobenzene	FL	5155	10184802

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Matrix: ***Non-Potable Water***

1,2,4-Trimethylbenzene	FL	5210	10184802
1,2-Dibromo-3-chloropropane (DBCP)	FL	4570	10184802
1,2-Dibromoethane (EDB, Ethylene dibromide)	FL	4585	10184802
1,2-Dichlorobenzene	FL	4610	10184802
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10184802
1,2-Dichloropropane	FL	4655	10184802
1,3,5-Trimethylbenzene	FL	5215	10184802
1,3-Dichlorobenzene	FL	4615	10184802
1,3-Dichloropropane	FL	4660	10184802
1,4-Dichlorobenzene	FL	4620	10184802
2,2-Dichloropropane	FL	4665	10184802
2-Butanone (Methyl ethyl ketone, MEK)	FL	4410	10184802
2-Chloroethyl vinyl ether	FL	4500	10184802
2-Chlorotoluene	FL	4535	10184802
2-Hexanone (MBK)	FL	4860	10184802
2-Nitropropane	FL	5020	10184802
4-Chlorotoluene	FL	4540	10184802
4-Isopropyltoluene (p-Cymene)	FL	4915	10184802
4-Methyl-2-pentanone (MIBK)	FL	4995	10184802
Acetone (2-Propanone)	FL	4315	10184802
Acrolein (Propenal)	FL	4325	10184802
Acrylonitrile	FL	4340	10184802
Benzene	FL	4375	10184802
Bromobenzene	FL	4385	10184802
Bromochloromethane	FL	4390	10184802
Bromodichloromethane	FL	4395	10184802
Bromoform	FL	4400	10184802
Carbon disulfide	FL	4450	10184802
Carbon tetrachloride	FL	4455	10184802
Chlorobenzene	FL	4475	10184802

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Matrix: *Non-Potable Water*

Chlorodibromomethane	FL	4575	10184802
Chloroethane (Ethyl chloride)	FL	4485	10184802
Chloroform	FL	4505	10184802
cis-1,2-Dichloroethylene	FL	4645	10184802
cis-1,3-Dichloropropene	FL	4680	10184802
Dibromomethane (Methylene bromide)	FL	4595	10184802
Dichlorodifluoromethane (Freon-12)	FL	4625	10184802
Diethyl ether	FL	4725	10184802
Ethyl acetate	FL	4755	10184802
Ethyl methacrylate	FL	4810	10184802
Ethylbenzene	FL	4765	10184802
Hexachlorobutadiene	FL	4835	10184802
Hexachloroethane	FL	4840	10184802
Iodomethane (Methyl iodide)	FL	4870	10184802
Isopropylbenzene (Cumene)	FL	4900	10184802
m+p-xylene	FL	5240	10184802
Methyl acetate	FL	4940	10184802
Methyl bromide (Bromomethane)	FL	4950	10184802
Methyl chloride (Chloromethane)	FL	4960	10184802
Methyl methacrylate	FL	4990	10184802
Methyl tert-butyl ether (MTBE)	FL	5000	10184802
Methylene chloride (Dichloromethane)	FL	4975	10184802
Naphthalene	FL	5005	10184802
n-Butyl alcohol (1-Butanol, n-Butanol)	FL	4425	10184802
n-Butylbenzene	FL	4435	10184802
n-Propylbenzene	FL	5090	10184802
o-Xylene	FL	5250	10184802
sec-Butylbenzene	FL	4440	10184802
Styrene	FL	5100	10184802
tert-Butyl alcohol	FL	4420	10184802

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Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

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Matrix: ***Non-Potable Water***

tert-Butylbenzene	FL	4445	10184802
Tetrachloroethylene (Perchloroethylene)	FL	5115	10184802
Toluene	FL	5140	10184802
trans-1,2-Dichloroethylene	FL	4700	10184802
trans-1,3-Dichloropropylene	FL	4685	10184802
trans-1,4-Dichloro-2-butene	FL	4605	10184802
Trichloroethene (Trichloroethylene)	FL	5170	10184802
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10184802
Vinyl acetate	FL	5225	10184802
Vinyl chloride	FL	5235	10184802
Xylene (total)	FL	5260	10184802

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10186002
1,2,4-Trichlorobenzene	FL	5155	10186002
1,2-Dichlorobenzene	FL	4610	10186002
1,3-Dichlorobenzene	FL	4615	10186002
1,4-Dichlorobenzene	FL	4620	10186002
2,4,5-Trichlorophenol	FL	6835	10186002
2,4,6-Trichlorophenol	FL	6840	10186002
2,4-Dichlorophenol	FL	6000	10186002
2,4-Dimethylphenol	FL	6130	10186002
2,4-Dinitrophenol	FL	6175	10186002
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10186002
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10186002
2-Chloronaphthalene	FL	5795	10186002
2-Chlorophenol	FL	5800	10186002
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10186002
2-Methylphenol (o-Cresol)	FL	6400	10186002
2-Nitrophenol	FL	6490	10186002

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Matrix: ***Non-Potable Water***

3,3'-Dichlorobenzidine	FL	5945	10186002
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10186002
4-Chloro-3-methylphenol	FL	5700	10186002
4-Chlorophenyl phenylether	FL	5825	10186002
4-Methylphenol (p-Cresol)	FL	6410	10186002
4-Nitrophenol	FL	6500	10186002
Acenaphthene	FL	5500	10186002
Acenaphthylene	FL	5505	10186002
Anthracene	FL	5555	10186002
Benzidine	FL	5595	10186002
Benzo(a)anthracene	FL	5575	10186002
Benzo(a)pyrene	FL	5580	10186002
Benzo(b)fluoranthene	FL	5585	10186002
Benzo(g,h,i)perylene	FL	5590	10186002
Benzo(k)fluoranthene	FL	5600	10186002
bis(2-Chloroethoxy)methane	FL	5760	10186002
bis(2-Chloroethyl) ether	FL	5765	10186002
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10186002
Butyl benzyl phthalate	FL	5670	10186002
Chrysene	FL	5855	10186002
Dibenz(a,h) anthracene	FL	5895	10186002
Diethyl phthalate	FL	6070	10186002
Dimethyl phthalate	FL	6135	10186002
Di-n-butyl phthalate	FL	5925	10186002
Di-n-octyl phthalate	FL	6200	10186002
Fluoranthene	FL	6265	10186002
Fluorene	FL	6270	10186002
Hexachlorobenzene	FL	6275	10186002
Hexachlorobutadiene	FL	4835	10186002
Hexachlorocyclopentadiene	FL	6285	10186002

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Matrix: ***Non-Potable Water***

Hexachloroethane	FL	4840	10186002
Indeno(1,2,3-cd) pyrene	FL	6315	10186002
Isophorone	FL	6320	10186002
Naphthalene	FL	5005	10186002
Nitrobenzene	FL	5015	10186002
n-Nitrosodimethylamine	FL	6530	10186002
n-Nitrosodi-n-propylamine	FL	6545	10186002
n-Nitrosodiphenylamine	FL	6535	10186002
Pentachlorophenol	FL	6605	10186002
Phenanthrene	FL	6615	10186002
Phenol	FL	6625	10186002
Pyrene	FL	6665	10186002
Pyridine	FL	5095	10186002

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10187403
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10187403
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10187403
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10187403
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10187403
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10187403
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10187403
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10187403
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10187403
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10187403
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10187403
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10187403
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10187403
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10187403
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10187403

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Matrix: ***Non-Potable Water***

2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10187403
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10187403
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10187403
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10187403
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10187403
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10187403
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10187403
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10187403
Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10187403
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10187403

Method EPA 8315

Analyte	AB	Analyte ID	Method ID
Formaldehyde	FL	4815	10188008

Method EPA 8321

Analyte	AB	Analyte ID	Method ID
2,4-D	FL	8545	10189001
Silvex (2,4,5-TP)	FL	8650	10189001

Method EPA 9014

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	FL	1510	10193803
Total Cyanide	FL	1635	10193803

Method EPA 9020

Analyte	AB	Analyte ID	Method ID
Total organic halides (TOX)	FL	2045	10194000

Method EPA 9034

Analyte	AB	Analyte ID	Method ID
Sulfide	FL	2005	10196006

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
pH	FL	1900	10197203

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Matrix: ***Non-Potable Water***

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	FL	1610	10198808

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10199607
Chloride	FL	1575	10199607
Fluoride	FL	1730	10199607
Nitrate as N	FL	1810	10199607
Nitrate-nitrite	FL	1820	10199607
Nitrite as N	FL	1840	10199607
Orthophosphate as P	FL	1870	10199607
Sulfate	FL	2000	10199607

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	FL	2040	10200201

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	FL	1905	10200405

Method EPA 9070

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10201000
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10201000

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
Ethane	FL	4747	10212905
Ethene	FL	4752	10212905
Methane	FL	4926	10212905
n-Butane	FL	5007	10212905
n-Propane	FL	5029	10212905

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Matrix: *Non-Potable Water*

Method SM 2510 B

Analyte	AB	Analyte ID	Method ID
Conductivity	FL	1610	20048004

Method SM 2540 B

Analyte	AB	Analyte ID	Method ID
Residue-total (total solids)	FL	1950	20004608

Method SM 2540 C

Analyte	AB	Analyte ID	Method ID
Residue-filterable (TDS)	FL	1955	20049803

Method SM 2540 D

Analyte	AB	Analyte ID	Method ID
Residue-nonfilterable (TSS)	FL	1960	20004802

Method SM 4500-CN^- E

Analyte	AB	Analyte ID	Method ID
Total Cyanide	FL	1635	20021209

Method SM 4500-CN^- G

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	FL	1510	20021607

Method SM 4500-H+ B

Analyte	AB	Analyte ID	Method ID
pH	FL	1900	20104603

Method SM 4500-NH3 D

Analyte	AB	Analyte ID	Method ID
Ammonia as N	FL	1515	20108809

Method SM 4500-P E

Analyte	AB	Analyte ID	Method ID
Phosphorus	FL	1910	20025803

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	FL	1530	20027401
Carbonaceous BOD, CBOD	FL	1555	20027401

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Matrix: *Non-Potable Water*

Method SM 5220 D

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	FL	1565	20027809

Method SM 5310 B

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	FL	2040	20137206

Method SM 5540 C

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	FL	2025	20144405

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Matrix: ***Solid & Chemical Materials***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10116606

Method EPA 1030

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10117201

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	FL	849	10118806

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10155803
Antimony	FL	1005	10155803
Arsenic	FL	1010	10155803
Barium	FL	1015	10155803
Beryllium	FL	1020	10155803
Cadmium	FL	1030	10155803
Calcium	FL	1035	10155803
Chromium	FL	1040	10155803
Cobalt	FL	1050	10155803
Copper	FL	1055	10155803
Iron	FL	1070	10155803
Lead	FL	1075	10155803
Magnesium	FL	1085	10155803
Manganese	FL	1090	10155803
Molybdenum	FL	1100	10155803
Nickel	FL	1105	10155803
Potassium	FL	1125	10155803
Selenium	FL	1140	10155803
Silver	FL	1150	10155803
Sodium	FL	1155	10155803

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Matrix: *Solid & Chemical Materials*

Thallium	FL	1165	10155803
Tin	FL	1175	10155803
Titanium	FL	1180	10155803
Vanadium	FL	1185	10155803
Zinc	FL	1190	10155803

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Antimony	FL	1005	10156408
Arsenic	FL	1010	10156408
Barium	FL	1015	10156408
Beryllium	FL	1020	10156408
Cadmium	FL	1030	10156408
Chromium	FL	1040	10156408
Cobalt	FL	1050	10156408
Copper	FL	1055	10156408
Lead	FL	1075	10156408
Manganese	FL	1090	10156408
Molybdenum	FL	1100	10156408
Nickel	FL	1105	10156408
Selenium	FL	1140	10156408
Silver	FL	1150	10156408
Strontium	FL	1160	10156408
Thallium	FL	1165	10156408
Vanadium	FL	1185	10156408
Zinc	FL	1190	10156408

Method EPA 7196

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	FL	1045	10162400

Method EPA 7470

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10165807

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Matrix: ***Solid & Chemical Materials***

Method EPA 7471

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10166004

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	FL	9369	10305609
Ethylene glycol	FL	4785	10305609
Gasoline range organics (GRO)	FL	9408	10305609

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10178800
4,4'-DDE	FL	7360	10178800
4,4'-DDT	FL	7365	10178800
Aldrin	FL	7025	10178800
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10178800
alpha-Chlordane	FL	7240	10178800
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10178800
Chlordane (tech.)	FL	7250	10178800
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10178800
Dieldrin	FL	7470	10178800
Endosulfan I	FL	7510	10178800
Endosulfan II	FL	7515	10178800
Endosulfan sulfate	FL	7520	10178800
Endrin	FL	7540	10178800
Endrin aldehyde	FL	7530	10178800
Endrin ketone	FL	7535	10178800
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10178800
gamma-Chlordane	FL	7245	10178800
Heptachlor	FL	7685	10178800
Heptachlor epoxide	FL	7690	10178800
Methoxychlor	FL	7810	10178800

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Matrix: ***Solid & Chemical Materials***

Toxaphene (Chlorinated camphene)	FL	8250	10178800

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	FL	8880	10179201
Aroclor-1221 (PCB-1221)	FL	8885	10179201
Aroclor-1232 (PCB-1232)	FL	8890	10179201
Aroclor-1242 (PCB-1242)	FL	8895	10179201
Aroclor-1248 (PCB-1248)	FL	8900	10179201
Aroclor-1254 (PCB-1254)	FL	8905	10179201
Aroclor-1260 (PCB-1260)	FL	8910	10179201
PCBs (total)	FL	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10183207
2,4-D	FL	8545	10183207
2,4-DB	FL	8560	10183207
Dalapon	FL	8555	10183207
Dicamba	FL	8595	10183207
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10183207
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10183207
MCPA	FL	7775	10183207
MCPP	FL	7780	10183207
Silvex (2,4,5-TP)	FL	8650	10183207

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	FL	5105	10184802
1,1,1-Trichloroethane	FL	5160	10184802
1,1,2,2-Tetrachloroethane	FL	5110	10184802
1,1,2-Trichloroethane	FL	5165	10184802
1,1-Dichloroethane	FL	4630	10184802
1,1-Dichloroethylene	FL	4640	10184802

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Matrix: ***Solid & Chemical Materials***

1,1-Dichloropropene	FL	4670	10184802
1,2,3-Trichlorobenzene	FL	5150	10184802
1,2,3-Trichloropropane	FL	5180	10184802
1,2,4-Trichlorobenzene	FL	5155	10184802
1,2,4-Trimethylbenzene	FL	5210	10184802
1,2-Dibromo-3-chloropropane (DBCP)	FL	4570	10184802
1,2-Dibromoethane (EDB, Ethylene dibromide)	FL	4585	10184802
1,2-Dichlorobenzene	FL	4610	10184802
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10184802
1,2-Dichloropropane	FL	4655	10184802
1,3,5-Trimethylbenzene	FL	5215	10184802
1,3-Dichlorobenzene	FL	4615	10184802
1,3-Dichloropropane	FL	4660	10184802
1,4-Dichlorobenzene	FL	4620	10184802
2,2-Dichloropropane	FL	4665	10184802
2-Butanone (Methyl ethyl ketone, MEK)	FL	4410	10184802
2-Chloroethyl vinyl ether	FL	4500	10184802
2-Chlorotoluene	FL	4535	10184802
2-Hexanone (MBK)	FL	4860	10184802
2-Nitropropane	FL	5020	10184802
4-Chlorotoluene	FL	4540	10184802
4-Methyl-2-pentanone (MIBK)	FL	4995	10184802
Acetone (2-Propanone)	FL	4315	10184802
Acrolein (Propenal)	FL	4325	10184802
Acrylonitrile	FL	4340	10184802
Benzene	FL	4375	10184802
Bromobenzene	FL	4385	10184802
Bromochloromethane	FL	4390	10184802
Bromodichloromethane	FL	4395	10184802
Bromoform	FL	4400	10184802

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704466-16-11
Expiration Date: 7/31/2017
Issue Date: 8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Chemical Materials***

Carbon disulfide	FL	4450	10184802
Carbon tetrachloride	FL	4455	10184802
Chlorobenzene	FL	4475	10184802
Chlorodibromomethane	FL	4575	10184802
Chloroethane (Ethyl chloride)	FL	4485	10184802
Chloroform	FL	4505	10184802
cis-1,2-Dichloroethylene	FL	4645	10184802
cis-1,3-Dichloropropene	FL	4680	10184802
Dibromomethane (Methylene bromide)	FL	4595	10184802
Dichlorodifluoromethane (Freon-12)	FL	4625	10184802
Diethyl ether	FL	4725	10184802
Ethyl acetate	FL	4755	10184802
Ethylbenzene	FL	4765	10184802
Methyl bromide (Bromomethane)	FL	4950	10184802
Methyl chloride (Chloromethane)	FL	4960	10184802
Methyl tert-butyl ether (MTBE)	FL	5000	10184802
Methylene chloride (Dichloromethane)	FL	4975	10184802
Naphthalene	FL	5005	10184802
n-Butyl alcohol (1-Butanol, n-Butanol)	FL	4425	10184802
n-Butylbenzene	FL	4435	10184802
n-Propylbenzene	FL	5090	10184802
sec-Butylbenzene	FL	4440	10184802
Styrene	FL	5100	10184802
tert-Butylbenzene	FL	4445	10184802
Tetrachloroethylene (Perchloroethylene)	FL	5115	10184802
Toluene	FL	5140	10184802
trans-1,2-Dichloroethylene	FL	4700	10184802
trans-1,3-Dichloropropylene	FL	4685	10184802
Trichloroethene (Trichloroethylene)	FL	5170	10184802
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10184802

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Matrix: ***Solid & Chemical Materials***

Vinyl acetate	FL	5225	10184802
Vinyl chloride	FL	5235	10184802
Xylene (total)	FL	5260	10184802

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10186002
1,2,4-Trichlorobenzene	FL	5155	10186002
1,2-Dichlorobenzene	FL	4610	10186002
1,3-Dichlorobenzene	FL	4615	10186002
1,4-Dichlorobenzene	FL	4620	10186002
2,4,5-Trichlorophenol	FL	6835	10186002
2,4,6-Trichlorophenol	FL	6840	10186002
2,4-Dichlorophenol	FL	6000	10186002
2,4-Dimethylphenol	FL	6130	10186002
2,4-Dinitrophenol	FL	6175	10186002
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10186002
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10186002
2-Chloronaphthalene	FL	5795	10186002
2-Chlorophenol	FL	5800	10186002
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10186002
2-Methylphenol (o-Cresol)	FL	6400	10186002
2-Nitrophenol	FL	6490	10186002
3,3'-Dichlorobenzidine	FL	5945	10186002
3-Methylphenol (m-Cresol)	FL	6405	10186002
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10186002
4-Chloro-3-methylphenol	FL	5700	10186002
4-Chlorophenyl phenylether	FL	5825	10186002
4-Methylphenol (p-Cresol)	FL	6410	10186002
4-Nitrophenol	FL	6500	10186002
Acenaphthene	FL	5500	10186002

Texas Commission on Environmental Quality

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Matrix: ***Solid & Chemical Materials***

Acenaphthylene	FL	5505	10186002
Anthracene	FL	5555	10186002
Benzidine	FL	5595	10186002
Benzo(a)anthracene	FL	5575	10186002
Benzo(a)pyrene	FL	5580	10186002
Benzo(b)fluoranthene	FL	5585	10186002
Benzo(g,h,i)perylene	FL	5590	10186002
Benzo(k)fluoranthene	FL	5600	10186002
bis(2-Chloroethoxy)methane	FL	5760	10186002
bis(2-Chloroethyl) ether	FL	5765	10186002
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10186002
Butyl benzyl phthalate	FL	5670	10186002
Chrysene	FL	5855	10186002
Dibenz(a,h) anthracene	FL	5895	10186002
Diethyl phthalate	FL	6070	10186002
Dimethyl phthalate	FL	6135	10186002
Di-n-butyl phthalate	FL	5925	10186002
Di-n-octyl phthalate	FL	6200	10186002
Fluoranthene	FL	6265	10186002
Fluorene	FL	6270	10186002
Hexachlorobenzene	FL	6275	10186002
Hexachlorobutadiene	FL	4835	10186002
Hexachlorocyclopentadiene	FL	6285	10186002
Hexachloroethane	FL	4840	10186002
Indeno(1,2,3-cd) pyrene	FL	6315	10186002
Isophorone	FL	6320	10186002
Naphthalene	FL	5005	10186002
Nitrobenzene	FL	5015	10186002
n-Nitrosodimethylamine	FL	6530	10186002
n-Nitrosodi-n-propylamine	FL	6545	10186002

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3310 Win Street
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Matrix: ***Solid & Chemical Materials***

n-Nitrosodiphenylamine	FL	6535	10186002
Pentachlorophenol	FL	6605	10186002
Phenanthrene	FL	6615	10186002
Phenol	FL	6625	10186002
Pyrene	FL	6665	10186002
Pyridine	FL	5095	10186002

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10187403
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10187403
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10187403
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10187403
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10187403
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10187403
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10187403
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10187403
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10187403
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10187403
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10187403
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10187403
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10187403
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10187403
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10187403
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10187403
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10187403
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10187403
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10187403
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10187403
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10187403
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10187403

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Matrix: ***Solid & Chemical Materials***

Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10187403
Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10187403
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10187403

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	FL	1510	10193803
Total Cyanide	FL	1635	10193803

Method EPA 9023

Analyte	**AB**	**Analyte ID**	**Method ID**
Extractable organics halides (EOX)	FL	1720	10195003

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
Corrosivity	FL	1615	10197203
pH	FL	1900	10197203

Method EPA 9045

Analyte	**AB**	**Analyte ID**	**Method ID**
Corrosivity	FL	1615	10244607
pH	FL	1900	10244607

Method EPA 9056

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	FL	1540	10199607
Chloride	FL	1575	10199607
Fluoride	FL	1730	10199607
Nitrate as N	FL	1810	10199607
Nitrate-nitrite	FL	1820	10199607
Nitrite as N	FL	1840	10199607
Orthophosphate as P	FL	1870	10199607
Sulfate	FL	2000	10199607

Method EPA 9071

Analyte	**AB**	**Analyte ID**	**Method ID**
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10201806

Texas Commission on Environmental Quality

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Matrix: ***Solid & Chemical Materials***

Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10201806

Method EPA 9095

Analyte	AB	Analyte ID	Method ID
Paint Filter Liquids Test	FL	10312	10204203

Method EPA 9310

Analyte	AB	Analyte ID	Method ID
Gross-alpha	FL	2830	10208205
Gross-beta	FL	2840	10208205

Q1716255

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:	
Client PO:	

Project:	FPP - CCR Wells - April 2017 -RADs	Client:	LCRA
Collector:	Colt Petri / John Gallagher	Contact:	
Event#:	1365749 / 4383	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* AQ = Aqueous S = Solid T = Tissue DW =Drinking Water	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU	Requested Analysis * S-Rad228	S-Rad226
001	1	CBL - 341I	4/20/17	1314	AQ	N	N	1	X	X
002	2	CBL - 641I	↓	1315	AQ	↓	↓	1	X	X
003	3	FB # 1	↓	1317	AQ	↓	↓	1	X	X
004	4	EB # 1	↓	1325	AQ	↓	↓	1	X	X
	5									
	6									
	7									

Transfers	Relinquished By	Date/Time	Received By	Date/Time	Cooler Temp: #	T#	Obs.	Corr.
1	Colt Petri	4/20/17 1530	[signature]	4/20/17 1520				
2					1	6	24.0	24.8 °C
3					2			

Client Special Instructions:

Lab Us

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Q1716255 258943

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45217512 - HBN 58484 **PO #Q1716255** **Results Requested By**

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1716255001	4/20/2017 13:14		Aqueous	1						X	X											
2	Q1716255002	4/20/2017 13:15		Aqueous	1						X	X											
3	Q1716255003	4/20/2017 13:17		Aqueous	1						X	X											
4	Q1716255004	4/20/2017 13:25		Aqueous	1						X	X											
5																							

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1716255 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	4/24/17 1200		
2				
3				
4				
5				

2001.2.0.0

FedEx Shipment Receipt

Address Information

Ship to:	**Ship from:**
Sample Receiving- Summit Env	Sample Receiving
SUMMIT ENVIRONMENTAL TECHNOLOGIES	ENVIRONMENTAL LABORATORY SERVICES
3310 WIN ST	3505 MONTOPOLIS DRIVE LCRA-ENVIRONMENTAL LAB ONLY
CUYAHOGA FALLS, OH	AUSTIN, TX
442233790	78744
US	US
8002780140	5123566022

Shipment Information:
Tracking no.: 778972844424
Ship date: 04/24/2017
Estimated shipping charges: 0.00

Package Information
Pricing option: FedEx Standard Rate
Service type: FedEx Ground
Package type: Your Packaging
Number of packages: 2
Total weight: 117 LBS
Declared Value: 0.00 USD
Special Services:
Pickup/Drop-off: pickup confirmation number:CPU676171141

Billing Information:
Bill transportation to: Third party
Your reference: 3533318
P.O. no.:
Invoice no.:
Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits; Consult the applicable FedEx Service Guide for details.
The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 4/20/17
Sample Time: 1314
Sample ID: CBL341I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170420	1126	V= 5	15	

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump / C-Bladder Pump	E-Venturi Pump / F-Dipper/Bottle	H-Scoop/Shovel / I-Piston Pump	X- _____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	15.57 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	42 (ft)

PH: 5.73 (STD) Specific Conductivity: 6038 uS/cm Sample Temp. 21.88 (°C)

Bottle Type	Size	Preservative	Analysis	Field Filt. Y/N
P	500mL	ICE	Anions	N
P	250mL	HNO_3	Metals	N
P	4L	ICE	Radium 226+228	N
P	4L	ICE	Dup Radium 226+228 641I	
P	250	HNO_3	Metals Dup 641I P 4L - EQ Blank P 250mL EQB P 250mL Field B	
P	500mL	ICE	Anions Dup 641I P 4L - Field Blank P 500mL EQB P 500mL Field B	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 1.74

Weather Conditions: Partly cloudy Calm 78°

Other: Purge water is clear with no odor. Collected samples once parameters stabilized

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS Ground water SOP 5-70

Date: 4/20/17

Sampler: CP/JG

Employer: LCRA

Rev. 1 (08/2009)

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

May 4, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1716256

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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and with written approval from LCRA Environmental Laboratory Services.

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

SAMPLE SUMMARY

Workorder: Q1716256

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1716256001	CBL - 341I	Aqueous	4/20/2017 13:14	4/20/2017 15:30
Q1716256002	CBL - 641I	Aqueous	4/20/2017 13:15	4/20/2017 15:30
Q1716256003	FB # 1	Aqueous	4/20/2017 13:17	4/20/2017 15:30
Q1716256004	EQB # 1	Aqueous	4/20/2017 13:25	4/20/2017 15:30

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1716256

Lab ID:	**Q1716256001**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	4/20/2017 13:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	1770	mg/L	50.0	20.0		50	04/26/17 13:45	JR	04/26/17 13:45	JR	
Fluoride	<0.500	mg/L	0.500	0.200		50	04/26/17 13:45	JR	04/26/17 13:45	JR	
Sulfate	336	mg/L	50.0	20.0		50	04/26/17 13:45	JR	04/26/17 13:45	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	05/01/17 09:08	MM	05/02/17 17:37	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/01/17 09:08	MM	05/02/17 17:37	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/01/17 09:08	MM	05/02/17 17:37	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:37	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:37	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/01/17 09:08	MM	05/02/17 17:37	SLW	
Lithium Total	0.0856	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:37	SLW	N
Molybdenum Total	0.00116	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/03/17 14:42	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/01/17 09:08	MM	05/02/17 17:37	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/01/17 09:08	MM	05/02/17 17:37	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	04/25/17 05:54	FM	04/26/17 11:04	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4240	mg/L	250	250		100	04/26/17 13:17	ADG	04/26/17 13:17	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0747	mg/L	0.0100	0.00400	2	1	05/01/17 09:06	MM	05/02/17 14:47	FO	

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ANALYTICAL RESULTS

Workorder: Q1716256

Lab ID:	**Q1716256001**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	4/20/2017 13:14	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/01/17 09:06	MM	05/02/17 14:47	FO	
Boron Total	0.0587	mg/L	0.0500	0.0200		1	05/01/17 09:06	MM	05/02/17 14:47	FO	
Calcium Total	898	mg/L	2.00	0.700		10	05/01/17 09:06	MM	05/02/17 15:34	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	21.88	C			1	04/20/17 13:14	CCP	04/20/17 13:14	CCP	N
pH	5.73	pH			1	04/20/17 13:14	CCP	04/20/17 13:14	CCP	N
Specific Conductance	6038	us/cm			1	04/20/17 13:14	CCP	04/20/17 13:14	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1716256

Lab ID:	**Q1716256002**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	4/20/2017 13:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1770	mg/L	50.0	20.0		50	04/26/17 13:59	JR	04/26/17 13:59	JR	
Fluoride	<0.500	mg/L	0.500	0.200		50	04/26/17 13:59	JR	04/26/17 13:59	JR	
Sulfate	337	mg/L	50.0	20.0		50	04/26/17 13:59	JR	04/26/17 13:59	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	05/01/17 09:08	MM	05/02/17 17:45	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/01/17 09:08	MM	05/02/17 17:45	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/01/17 09:08	MM	05/02/17 17:45	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:45	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:45	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/01/17 09:08	MM	05/02/17 17:45	SLW	
Lithium Total	0.0830	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:45	SLW	N
Molybdenum Total	0.00130	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/03/17 14:45	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/01/17 09:08	MM	05/02/17 17:45	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/01/17 09:08	MM	05/02/17 17:45	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	04/25/17 05:54	FM	04/26/17 11:06	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4270	mg/L	250	250		100	04/26/17 13:17	ADG	04/26/17 13:17	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0700	mg/L	0.0100	0.00400	2	1	05/01/17 09:06	MM	05/02/17 14:55	FO	

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ANALYTICAL RESULTS

Workorder: Q1716256

Lab ID:	**Q1716256002**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	4/20/2017 13:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/01/17 09:06	MM	05/02/17 14:55	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	05/01/17 09:06	MM	05/02/17 14:55	FO	
Calcium Total	856	mg/L	2.00	0.700		10	05/01/17 09:06	MM	05/02/17 15:40	FO	

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ANALYTICAL RESULTS

Workorder: Q1716256

Lab ID:	**Q1716256003**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	4/20/2017 13:17	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	04/26/17 14:13	JR	04/26/17 14:13	JR	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	04/26/17 14:13	JR	04/26/17 14:13	JR	
Sulfate	<1.00	mg/L	1.00	0.400		1	04/26/17 14:13	JR	04/26/17 14:13	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	05/01/17 09:08	MM	05/02/17 17:43	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/01/17 09:08	MM	05/02/17 17:43	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/01/17 09:08	MM	05/02/17 17:43	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:43	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:43	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/01/17 09:08	MM	05/02/17 17:43	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:43	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/03/17 14:46	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/01/17 09:08	MM	05/02/17 17:43	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/01/17 09:08	MM	05/02/17 17:43	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	04/25/17 05:54	FM	04/26/17 11:08	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<25.0	mg/L	25.0	25.0		10	04/26/17 13:17	ADG	04/26/17 13:17	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	05/01/17 09:06	MM	05/02/17 15:03	FO	

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ANALYTICAL RESULTS

Workorder: Q1716256

Lab ID:	**Q1716256003**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	4/20/2017 13:17	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/01/17 09:06	MM	05/02/17 15:03	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	05/01/17 09:06	MM	05/02/17 15:03	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	05/01/17 09:06	MM	05/02/17 15:03	FO	

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ANALYTICAL RESULTS

Workorder: Q1716256

Lab ID:	**Q1716256004**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**EQB # 1**	Date Collected:	4/20/2017 13:25	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	04/26/17 15:37	JR	04/26/17 15:37	JR	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	04/26/17 15:37	JR	04/26/17 15:37	JR	
Sulfate	<1.00	mg/L	1.00	0.400		1	04/26/17 15:37	JR	04/26/17 15:37	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	05/01/17 09:08	MM	05/02/17 17:47	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/01/17 09:08	MM	05/02/17 17:47	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/01/17 09:08	MM	05/02/17 17:47	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:47	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:47	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/01/17 09:08	MM	05/02/17 17:47	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/02/17 17:47	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	05/01/17 09:08	MM	05/03/17 14:47	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/01/17 09:08	MM	05/02/17 17:47	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/01/17 09:08	MM	05/02/17 17:47	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	04/25/17 05:54	FM	04/26/17 11:10	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<25.0	mg/L	25.0	25.0		10	04/26/17 13:17	ADG	04/26/17 13:17	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	05/01/17 09:06	MM	05/02/17 15:10	FO	

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ANALYTICAL RESULTS

Workorder: Q1716256

Lab ID:	**Q1716256004**	Date Received:	4/20/2017 15:30	Matrix:	Aqueous
Sample ID:	**EQB # 1**	Date Collected:	4/20/2017 13:25	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/01/17 09:06	MM	05/02/17 15:10	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	05/01/17 09:06	MM	05/02/17 15:10	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	05/01/17 09:06	MM	05/02/17 15:10	FO	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1716256

PARAMETER QUALIFIERS

Lab ID: Q1716256001

N Not Accredited

Lab ID: Q1716256002

N Not Accredited

Lab ID: Q1716256003

N Not Accredited

Lab ID: Q1716256004

N Not Accredited

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QUALITY CONTROL DATA

Workorder: Q1716256

QC Batch: MEP/6936 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1716256001, Q1716256002, Q1716256003, Q1716256004

METHOD BLANK: 841685

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 841686

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	1.95	1.99	97.4	99.4	85 - 115	2.03	20	

MATRIX SPIKE: 841688 DUPLICATE: 841689 ORIGINAL: Q1716256001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	.01	2	2.05	2.05	103	103	70 - 130	0	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1716256

QC Batch: WET/13798 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1716256001, Q1716256002, Q1716256003, Q1716256004

METHOD BLANK: 842533

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

LABORATORY CONTROL SAMPLE: 842536

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	31.1	104	90 - 110	
Fluoride	mg/L	1	1.07	107	90 - 110	
Sulfate	mg/L	30	30.6	102	90 - 110	

MATRIX SPIKE: 842537 DUPLICATE: 842538 ORIGINAL: Q1716256003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	***mg/L***	***0***	***200***	***256***	***254***	***128***	***127***	***80 - 120***	***.784***	***20***	***S***
Fluoride	***mg/L***	***0***	***10***	***13***	***12.7***	***130***	***127***	***80 - 120***	***2.33***	***20***	***S***
Sulfate	***mg/L***	***0***	***200***	***1000***	***999***	***500***	***500***	***80 - 120***	***.1***	***20***	***S***

METHOD BLANK: 842540

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1716256

LABORATORY CONTROL SAMPLE: 842541

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	31.1	104	90 - 110	
Fluoride	mg/L	1	1.09	109	90 - 110	
Sulfate	mg/L	30	30.6	102	90 - 110	

MATRIX SPIKE: 842542 DUPLICATE: 842543 ORIGINAL: Q1716256004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	mg/L	0	20	20	20.3	99.8	101	80 - 120	1.49	20	
Fluoride	mg/L	0	1	1.02	1.03	102	103	80 - 120	.976	20	
Sulfate	mg/L	0	20	19.3	19.3	96.4	96.6	80 - 120	0	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1716256

QC Batch: WET/13804 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1716256001, Q1716256002, Q1716256003, Q1716256004

METHOD BLANK: 842938

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 842939

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	400	384	413	96	103	80 - 120	7.28	20	

MATRIX SPIKE SAMPLE: 842941 ORIGINAL: Q1716390001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	1080	400	1580	126	70 - 130	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1716256

QC Batch: MEP/6955 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1716256001, Q1716256002, Q1716256003, Q1716256004

LABORATORY CONTROL SAMPLE: 844991

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	1	1	100	100	80 - 120	0	20	
Beryllium Total	mg/L	1	.99	.98	98.6	97.7	80 - 120	.917	20	
Boron Total	mg/L	1	1	.99	99.6	99	80 - 120	.604	20	
Calcium Total	mg/L	10	10.2	10.3	102	103	80 - 120	.976	20	

METHOD BLANK: 844993

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	<0.0500	0.0500	
Calcium Total	mg/L	<0.200	0.200	

MATRIX SPIKE: 844994 DUPLICATE: 844995 ORIGINAL: Q1715600001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.11	1	1.17	1.15	105	104	75 - 125	1.72	20	
Beryllium Total	mg/L	0	1	1.03	1.01	103	101	75 - 125	1.96	20	
Boron Total	mg/L	.17	1	1.19	1.17	119	117	75 - 125	1.69	20	
Calcium Total	***mg/L***	***72.2***	***10***	***85.1***	***85.2***	***129***	***129***	***75 - 125***	***.117***	***20***	***S***

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1716256

QC Batch: MEP/6956 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1716256001, Q1716256002, Q1716256003, Q1716256004

LABORATORY CONTROL SAMPLE: 844998

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Molybdenum Total	mg/L	.05	.05	.05	103	102	85 - 115	.584	20	
Antimony Total	mg/L	.05	.05	.05	100	97.7	85 - 115	2.83	20	
Arsenic Total	mg/L	.05	.05	.05	101	99.6	85 - 115	1.2	20	
Cadmium Total	mg/L	.05	.05	.05	99.4	98.3	85 - 115	1.21	20	
Chromium Total	mg/L	.05	.05	.05	96.8	96	85 - 115	.83	20	
Cobalt Total	mg/L	.05	.05	.05	101	99.6	85 - 115	1.4	20	
Lead Total	mg/L	.05	.05	.05	101	98.6	85 - 115	2.4	20	
Lithium Total	mg/L	.05	.05	.05	92.8	95.2	85 - 115	2.55	20	
Selenium Total	mg/L	.25	.25	.24	99.3	95.4	85 - 115	3.7	20	
Thallium Total	mg/L	.05	.05	.05	100	98.2	85 - 115	2.02	20	

METHOD BLANK: 845000

Parameter	Units	Blank Result	Reporting Limit	Qual
Molybdenum Total	mg/L	<0.00100	0.00100	
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1716256

MATRIX SPIKE: 845001 DUPLICATE: 845002 ORIGINAL: Q1716256001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Molybdenum Total	mg/L	0	.05	.05	.05	93.6	104	70 - 130	9.9	20	
Antimony Total	mg/L	0	.05	.05	.05	93.2	97.8	70 - 130	4.82	20	
Arsenic Total	mg/L	0	.05	.05	.05	92.6	95.3	70 - 130	2.77	20	
Cadmium Total	mg/L	0	.05	.05	.05	90.1	93.8	70 - 130	3.91	20	
Chromium Total	mg/L	0	.05	.05	.05	90.7	94.6	70 - 130	4.1	20	
Cobalt Total	mg/L	0	.05	.05	.05	90.8	94.7	70 - 130	4.31	20	
Lead Total	mg/L	0	.05	.05	.05	94.6	97.3	70 - 130	2.92	20	
Lithium Total	mg/L	.09	.05	.13	.13	79.6	89.5	70 - 130	3.92	20	
Selenium Total	mg/L	0	.25	.23	.24	91.5	94.1	70 - 130	2.59	20	
Thallium Total	mg/L	0	.05	.05	.05	94.6	97.7	70 - 130	3.12	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1716256

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1716256001	CBL - 341I	SW7470A Hg in Liquid Waste	MEP/6936	SW7470A Hg in Liquid Waste	MET/5454
Q1716256002	CBL - 641I	SW7470A Hg in Liquid Waste	MEP/6936	SW7470A Hg in Liquid Waste	MET/5454
Q1716256003	FB # 1	SW7470A Hg in Liquid Waste	MEP/6936	SW7470A Hg in Liquid Waste	MET/5454
Q1716256004	EQB # 1	SW7470A Hg in Liquid Waste	MEP/6936	SW7470A Hg in Liquid Waste	MET/5454
Q1716256001	CBL - 341I			E300.0, Anions	WET/13798
Q1716256002	CBL - 641I			E300.0, Anions	WET/13798
Q1716256003	FB # 1			E300.0, Anions	WET/13798
Q1716256004	EQB # 1			E300.0, Anions	WET/13798
Q1716256001	CBL - 341I			SM2540C, TDS	WET/13804
Q1716256002	CBL - 641I			SM2540C, TDS	WET/13804
Q1716256003	FB # 1			SM2540C, TDS	WET/13804
Q1716256004	EQB # 1			SM2540C, TDS	WET/13804
Q1716256001	CBL - 341I	SW3010A, Metals Prep	MEP/6955	SW6010B ICP-AES	MET/5473
Q1716256002	CBL - 641I	SW3010A, Metals Prep	MEP/6955	SW6010B ICP-AES	MET/5473
Q1716256003	FB # 1	SW3010A, Metals Prep	MEP/6955	SW6010B ICP-AES	MET/5473
Q1716256004	EQB # 1	SW3010A, Metals Prep	MEP/6955	SW6010B ICP-AES	MET/5473
Q1716256001	CBL - 341I	SW3010A, Metals Prep	MEP/6956	SW6020 ICP-MS	MET/5474
Q1716256002	CBL - 641I	SW3010A, Metals Prep	MEP/6956	SW6020 ICP-MS	MET/5474
Q1716256003	FB # 1	SW3010A, Metals Prep	MEP/6956	SW6020 ICP-MS	MET/5474
Q1716256004	EQB # 1	SW3010A, Metals Prep	MEP/6956	SW6020 ICP-MS	MET/5474
Q1716256001	CBL - 341I	SW3010A, Metals Prep	MEP/6956	SW6020 ICP-MS	MET/5478
Q1716256002	CBL - 641I	SW3010A, Metals Prep	MEP/6956	SW6020 ICP-MS	MET/5478
Q1716256003	FB # 1	SW3010A, Metals Prep	MEP/6956	SW6020 ICP-MS	MET/5478
Q1716256004	EQB # 1	SW3010A, Metals Prep	MEP/6956	SW6020 ICP-MS	MET/5478

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Q1716256

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:
Client PO:

Project:	FPP - CCR Wells - April 2017	Client:	LCRA
Collector:	Cottfleti / John Gallagher	Contact:	
Event#:	1356194 / 4382	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	500PU	250PHNO3							6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28						
						Container(s) Type/Preservative/Number *										Requested Analysis *											
001	1	CBL - 341I	4/20/17	1314	AQ	N	N	1	1							X	X	X	X	X	X						
002	2	CBL - 641I		1315	AQ			1	1							X	X	X	X	X	X						
003	3	FB # 1		1317	AQ			1	1							X	X	X	X	X	X						
004	4	EQB # 1	—	1325	AQ	—	—	1	1							X	X	X	X	X	X						
	5																										
	6																										
	7																										

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Cottfleti	4/20/17 1530	[illegible]	4/20/17 1530
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	3.3C	3.3C
2			

Client Special Instructions:

Lab Use Only:

Q1716256 258944

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

FPP - CCR Groundwater Wells - Purge Data - April 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
4/20/2017	11:36:56	23.48	6.42	6.37	76.4	6080	298.6	CBL - 341I
4/20/2017	11:39:56	21.99	6.04	5.18	60.3	6066	328.1	CBL - 341I
4/20/2017	11:42:56	21.85	5.99	4.99	58.0	6047	349.9	CBL - 341I
4/20/2017	11:45:56	21.89	5.98	4.78	55.7	6027	355.2	CBL - 341I
4/20/2017	11:48:56	21.83	5.91	4.32	50.2	6016	360.4	CBL - 341I
4/20/2017	11:51:56	21.81	5.90	4.06	47.2	6015	368.4	CBL - 341I
4/20/2017	11:54:56	21.80	5.90	3.94	45.7	6029	372.9	CBL - 341I
4/20/2017	11:57:56	21.92	5.90	3.92	45.6	6029	371.3	CBL - 341I
4/20/2017	12:00:56	22.04	5.83	3.86	45.1	6053	351.8	CBL - 341I
4/20/2017	12:03:56	21.94	5.70	3.75	43.6	6050	347.6	CBL - 341I
4/20/2017	12:06:56	21.95	5.62	3.67	42.7	6056	370.3	CBL - 341I
4/20/2017	12:09:56	21.89	5.62	3.60	41.9	6060	392.2	CBL - 341I
4/20/2017	12:12:56	22.00	5.66	3.62	42.2	6053	389.9	CBL - 341I
4/20/2017	12:15:56	21.96	5.59	3.57	41.6	6060	383.1	CBL - 341I
4/20/2017	12:18:56	21.91	5.54	3.52	41.0	6052	399.7	CBL - 341I
4/20/2017	12:21:56	21.89	5.58	3.48	40.5	6059	411.3	CBL - 341I
4/20/2017	12:24:56	21.90	5.62	3.53	41.0	6051	408.9	CBL - 341I
4/20/2017	12:27:56	21.86	5.65	3.47	40.3	6054	408.3	CBL - 341I
4/20/2017	12:30:56	21.82	5.68	3.36	39.0	6059	414.0	CBL - 341I
4/20/2017	12:33:56	21.80	5.74	3.33	38.6	6066	419.4	CBL - 341I
4/20/2017	12:56:02	21.87	5.94	3.52	40.9	6038	246.0	CBL - 341I
4/20/2017	12:59:02	21.91	5.85	3.40	39.5	6035	279.1	CBL - 341I
4/20/2017	13:02:02	21.87	5.79	3.33	38.8	6032	309.9	CBL - 341I
4/20/2017	13:05:02	21.88	5.75	3.31	38.5	6037	337.7	CBL - 341I
4/20/2017	13:08:03	21.87	5.75	3.29	38.2	6034	351.7	CBL - 341I
4/20/2017	13:11:03	21.88	5.73	3.27	38.1	6038	365.7	CBL - 341I

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 4/20/17
Sample Time: 1314
Sample ID: CBL341I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170420	1126	V= 5	15	

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump / C-Bladder Pump	E-Venturi Pump / F-Dipper/Bottle	H-Scoop/Shovel / I-Piston Pump	X- _____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	15.57 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	42 (ft)

PH: 5.73 (STD) Specific Conductivity: 6038 uS/cm Sample Temp. 21.88 (°C)

Bottle Type	Size	Preservative	Analysis	Field Filt. Y/N
P	500mL	ICE	Anions	N
P	250mL	HNO_3	Metals	N
P	4L	ICE	Radium 226+228	N
P	4L	ICE	Dup Radium 226+228 641I	
P	250	HNO_3	Metals Dup 641I P 4L - EQ Blank P 250mL EQB P 250mL Field B	
P	500mL	ICE	Anions Dup 641I P 4L - Field Blank P 500mL EQB P 500mL Field B	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 1.74

Weather Conditions: Partly cloudy Calm 78°

Other: Purge water is clear with no odor. Collected samples once parameters stabilized

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS Ground water SOP 5-70

Date: 4/20/17

Sampler: CP/JG

Employer: LCRA

Rev. 1 (08/2009)

FPP - CCR Groundwater Wells - Purge Data - April 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
4/20/2017	11:36:56	23.48	6.42	6.37	76.4	6080	298.6	CBL - 341I
4/20/2017	11:39:56	21.99	6.04	5.18	60.3	6066	328.1	CBL - 341I
4/20/2017	11:42:56	21.85	5.99	4.99	58.0	6047	349.9	CBL - 341I
4/20/2017	11:45:56	21.89	5.98	4.78	55.7	6027	355.2	CBL - 341I
4/20/2017	11:48:56	21.83	5.91	4.32	50.2	6016	360.4	CBL - 341I
4/20/2017	11:51:56	21.81	5.90	4.06	47.2	6015	368.4	CBL - 341I
4/20/2017	11:54:56	21.80	5.90	3.94	45.7	6029	372.9	CBL - 341I
4/20/2017	11:57:56	21.92	5.90	3.92	45.6	6029	371.3	CBL - 341I
4/20/2017	12:00:56	22.04	5.83	3.86	45.1	6053	351.8	CBL - 341I
4/20/2017	12:03:56	21.94	5.70	3.75	43.6	6050	347.6	CBL - 341I
4/20/2017	12:06:56	21.95	5.62	3.67	42.7	6056	370.3	CBL - 341I
4/20/2017	12:09:56	21.89	5.62	3.60	41.9	6060	392.2	CBL - 341I
4/20/2017	12:12:56	22.00	5.66	3.62	42.2	6053	389.9	CBL - 341I
4/20/2017	12:15:56	21.96	5.59	3.57	41.6	6060	383.1	CBL - 341I
4/20/2017	12:18:56	21.91	5.54	3.52	41.0	6052	399.7	CBL - 341I
4/20/2017	12:21:56	21.89	5.58	3.48	40.5	6059	411.3	CBL - 341I
4/20/2017	12:24:56	21.90	5.62	3.53	41.0	6051	408.9	CBL - 341I
4/20/2017	12:27:56	21.86	5.65	3.47	40.3	6054	408.3	CBL - 341I
4/20/2017	12:30:56	21.82	5.68	3.36	39.0	6059	414.0	CBL - 341I
4/20/2017	12:33:56	21.80	5.74	3.33	38.6	6066	419.4	CBL - 341I
4/20/2017	12:56:02	21.87	5.94	3.52	40.9	6038	246.0	CBL - 341I
4/20/2017	12:59:02	21.91	5.85	3.40	39.5	6035	279.1	CBL - 341I
4/20/2017	13:02:02	21.87	5.79	3.33	38.8	6032	309.9	CBL - 341I
4/20/2017	13:05:02	21.88	5.75	3.31	38.5	6037	337.7	CBL - 341I
4/20/2017	13:08:03	21.87	5.75	3.29	38.2	6034	351.7	CBL - 341I
4/20/2017	13:11:03	21.88	5.73	3.27	38.1	6038	365.7	CBL - 341I

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

March 9, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1707756

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

SAMPLE SUMMARY

Workorder: Q1707756

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1707756001	CBL - 341I	Aqueous	2/23/2017 12:01	2/23/2017 14:23
Q1707756002	CBL - 641I	Aqueous	2/23/2017 12:01	2/23/2017 14:23
Q1707756003	Field Blank	Aqueous	2/23/2017 12:01	2/23/2017 14:23
Q1707756004	EQ Blank	Aqueous	2/23/2017 12:01	2/23/2017 14:23

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

PROJECT SUMMARY

Workorder: Q1707756

Workorder Comments

Sample CBL - 641I is a duplicate for CBL - 341I.

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Austin, TX 78744
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ANALYTICAL RESULTS

Workorder: Q1707756

Lab ID:	**Q1707756001**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2000	mg/L	50.0	20.0		50	02/25/17 00:20	ML	02/25/17 00:20	ML	
Fluoride	<0.500	mg/L	0.500	0.200		50	02/25/17 00:20	ML	02/25/17 00:20	ML	
Sulfate	404	mg/L	50.0	20.0		50	02/25/17 00:20	ML	02/25/17 00:20	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	02/28/17 13:46	MM	03/03/17 13:57	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	02/28/17 13:46	MM	03/03/17 13:57	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	02/28/17 13:46	MM	03/03/17 13:57	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 13:57	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 13:57	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	02/28/17 13:46	MM	03/03/17 13:57	SLW	
Lithium Total	0.0840	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 13:57	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 13:57	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	02/28/17 13:46	MM	03/03/17 13:57	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	02/28/17 13:46	MM	03/03/17 13:57	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	02/27/17 11:20	FM	02/28/17 10:02	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4520	mg/L	250	250		100	03/01/17 15:42	CG	03/01/17 15:42	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0733	mg/L	0.0100	0.00400	2	1	02/28/17 16:26	MM	03/02/17 15:00	FO	

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ANALYTICAL RESULTS

Workorder: Q1707756

Lab ID:	**Q1707756001**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	02/28/17 16:26	MM	03/02/17 15:00	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	02/28/17 16:26	MM	03/02/17 15:00	FO	
Calcium Total	870	mg/L	1.00	0.350		5	02/28/17 16:26	MM	03/02/17 16:59	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	22.14	C			1	02/23/17 12:01	CCP	02/23/17 12:01	CCP	N
pH	5.23	pH			1	02/23/17 12:01	CCP	02/23/17 12:01	CCP	N
Specific Conductance	6030	us/cm			1	02/23/17 12:01	CCP	02/23/17 12:01	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1707756

Lab ID:	**Q1707756002**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1860	mg/L	50.0	20.0		50	02/25/17 00:39	ML	02/25/17 00:39	ML	
Fluoride	<0.500	mg/L	0.500	0.200		50	02/25/17 00:39	ML	02/25/17 00:39	ML	
Sulfate	361	mg/L	50.0	20.0		50	02/25/17 00:39	ML	02/25/17 00:39	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	02/28/17 13:46	MM	03/03/17 13:59	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	02/28/17 13:46	MM	03/03/17 13:59	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	02/28/17 13:46	MM	03/03/17 13:59	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 13:59	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 13:59	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	02/28/17 13:46	MM	03/03/17 13:59	SLW	
Lithium Total	0.0912	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 13:59	SLW	N
Molybdenum Total	0.00101	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 13:59	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	02/28/17 13:46	MM	03/03/17 13:59	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	02/28/17 13:46	MM	03/03/17 13:59	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	02/27/17 11:20	FM	02/28/17 10:04	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4570	mg/L	250	250		100	03/01/17 15:42	CG	03/01/17 15:42	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0707	mg/L	0.0100	0.00400	2	1	02/28/17 16:26	MM	03/02/17 15:15	FO	

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ANALYTICAL RESULTS

Workorder: Q1707756

Lab ID:	**Q1707756002**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	02/28/17 16:26	MM	03/02/17 15:15	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	02/28/17 16:26	MM	03/02/17 15:15	FO	
Calcium Total	842	mg/L	1.00	0.350		5	02/28/17 16:26	MM	03/02/17 17:04	FO	

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ANALYTICAL RESULTS

Workorder: Q1707756

Lab ID:	**Q1707756003**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	02/25/17 00:58	ML	02/25/17 00:58	ML	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	02/25/17 00:58	ML	02/25/17 00:58	ML	
Sulfate	<1.00	mg/L	1.00	0.400		1	02/25/17 00:58	ML	02/25/17 00:58	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	02/28/17 13:46	MM	03/03/17 14:05	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	02/28/17 13:46	MM	03/03/17 14:05	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	02/28/17 13:46	MM	03/03/17 14:05	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 14:05	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 14:05	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	02/28/17 13:46	MM	03/03/17 14:05	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 14:05	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 14:05	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	02/28/17 13:46	MM	03/03/17 14:05	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	02/28/17 13:46	MM	03/03/17 14:05	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	02/27/17 11:20	FM	02/28/17 10:06	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<25.0	mg/L	25.0	25.0		10	03/01/17 15:42	CG	03/01/17 15:42	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	02/28/17 16:26	MM	03/02/17 15:20	FO	

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ANALYTICAL RESULTS

Workorder: Q1707756

Lab ID:	**Q1707756003**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	02/28/17 16:26	MM	03/02/17 15:20	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	02/28/17 16:26	MM	03/02/17 15:20	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	02/28/17 16:26	MM	03/02/17 15:20	FO	

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ANALYTICAL RESULTS

Workorder: Q1707756

Lab ID:	**Q1707756004**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	02/25/17 01:17	ML	02/25/17 01:17	ML	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	02/25/17 01:17	ML	02/25/17 01:17	ML	
Sulfate	<1.00	mg/L	1.00	0.400		1	02/25/17 01:17	ML	02/25/17 01:17	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	02/28/17 13:46	MM	03/03/17 14:07	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	02/28/17 13:46	MM	03/03/17 14:07	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	02/28/17 13:46	MM	03/03/17 14:07	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 14:07	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 14:07	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	02/28/17 13:46	MM	03/03/17 14:07	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 14:07	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	02/28/17 13:46	MM	03/03/17 14:07	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	02/28/17 13:46	MM	03/03/17 14:07	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	02/28/17 13:46	MM	03/03/17 14:07	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	02/27/17 11:20	FM	02/28/17 10:07	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<25.0	mg/L	25.0	25.0		10	03/01/17 15:42	CG	03/01/17 15:42	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	02/28/17 16:26	MM	03/02/17 15:25	FO	

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ANALYTICAL RESULTS

Workorder: Q1707756

Lab ID:	**Q1707756004**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	02/28/17 16:26	MM	03/02/17 15:25	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	02/28/17 16:26	MM	03/02/17 15:25	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	02/28/17 16:26	MM	03/02/17 15:25	FO	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1707756

PARAMETER QUALIFIERS

Lab ID: Q1707756001

N Not Accredited

Lab ID: Q1707756002

N Not Accredited

Lab ID: Q1707756003

N Not Accredited

Lab ID: Q1707756004

N Not Accredited

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QUALITY CONTROL DATA

Workorder: Q1707756

QC Batch: WET/13223 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1707756001, Q1707756002, Q1707756003, Q1707756004

METHOD BLANK: 812217

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

LABORATORY CONTROL SAMPLE: 812218

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	31.4	105	90 - 110	
Fluoride	mg/L	1	1.05	105	90 - 110	
Sulfate	mg/L	30	30.9	103	90 - 110	

MATRIX SPIKE: 812219 DUPLICATE: 812220 ORIGINAL: Q1707748004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	mg/L	34.3	20	53.8	53.7	97.5	97.3	80 - 120	.186	20	
Fluoride	mg/L	.65	1	1.56	1.57	92	92.8	80 - 120	.639	20	
Sulfate	mg/L	22.2	20	42.9	42.9	103	103	80 - 120	0	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1707756

QC Batch: MEP/6733 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1707756001, Q1707756002, Q1707756003, Q1707756004

METHOD BLANK: 812364

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 812365

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	2.16	2.12	108	106	85 - 115	1.87	20	

MATRIX SPIKE: 812367 DUPLICATE: 812368 ORIGINAL: Q1707756001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	1.93	2.11	96.4	106	70 - 130	8.91	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1707756

QC Batch: MEP/6741 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1707756001, Q1707756002, Q1707756003, Q1707756004

LABORATORY CONTROL SAMPLE: 813287

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	.99	.98	98.9	97.6	80 - 120	1.32	20	
Beryllium Total	mg/L	1	1	.99	99.8	99.3	80 - 120	.502	20	
Boron Total	mg/L	1	.97	.95	97.2	94.9	80 - 120	2.39	20	
Calcium Total	mg/L	10	10.2	10.1	102	101	80 - 120	.985	20	

METHOD BLANK: 813289

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	<0.0500	0.0500	
Calcium Total	mg/L	<0.200	0.200	

MATRIX SPIKE: 813290 DUPLICATE: 813291 ORIGINAL: Q1707756001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.07	1	1.05	1.07	97.4	99.5	75 - 125	1.89	20	
Beryllium Total	mg/L	0	1	.96	.96	95.6	95.8	75 - 125	.209	20	
Boron Total	mg/L	0	1	.96	.97	95.8	97.4	75 - 125	1.66	20	
Calcium Total	***mg/L***	***870***	***10***	***837***	***875***	***-334***	***49.6***	***75 - 125***	***4.44***	***20***	***S***

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1707756

QC Batch: MEP/6742 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1707756001, Q1707756002, Q1707756003, Q1707756004

LABORATORY CONTROL SAMPLE: 813292

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.05	.05	102	104	85 - 115	2.53	20	
Arsenic Total	mg/L	.05	.05	.05	95.7	101	85 - 115	5.69	20	
Cadmium Total	mg/L	.05	.05	.05	97.1	99	85 - 115	2.04	20	
Chromium Total	mg/L	.05	.05	.05	95.5	97.6	85 - 115	2.28	20	
Cobalt Total	mg/L	.05	.05	.05	95.9	102	85 - 115	5.88	20	
Lead Total	mg/L	.05	.05	.05	98.2	103	85 - 115	4.97	20	
Lithium Total	mg/L	.05	.05	.05	94.2	99.3	85 - 115	5.37	20	
Molybdenum Total	mg/L	.05	.05	.05	102	106	85 - 115	3.64	20	
Selenium Total	mg/L	.25	.24	.25	96.8	100	85 - 115	3.65	20	
Thallium Total	mg/L	.05	.05	.05	97.7	104	85 - 115	5.76	20	

METHOD BLANK: 813294

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1707756

MATRIX SPIKE: 813295 DUPLICATE: 813296 ORIGINAL: Q1707756002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Antimony Total	mg/L	0	.05	.05	.05	107	102	70 - 130	4.99	20	
Arsenic Total	mg/L	0	.05	.05	.05	100	98.6	70 - 130	1.81	20	
Cadmium Total	mg/L	0	.05	.05	.05	97.7	97.5	70 - 130	0	20	
Chromium Total	mg/L	0	.05	.05	.05	97.1	94.1	70 - 130	2.93	20	
Cobalt Total	mg/L	0	.05	.05	.05	96.5	95.2	70 - 130	1.46	20	
Lead Total	mg/L	0	.05	.05	.05	103	102	70 - 130	.783	20	
Lithium Total	mg/L	.09	.05	.14	.14	97	95.4	70 - 130	.717	20	
Molybdenum Total	mg/L	0	.05	.06	.05	108	107	70 - 130	1.64	20	
Selenium Total	mg/L	0	.25	.25	.25	102	97.9	70 - 130	3.61	20	
Thallium Total	mg/L	0	.05	.05	.05	103	102	70 - 130	.781	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1707756

QC Batch: WET/13266 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1707756001, Q1707756002, Q1707756003, Q1707756004

METHOD BLANK: 814110

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 814111

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	400	398	419	99.5	105	80 - 120	5.14	20	

MATRIX SPIKE SAMPLE: 814113 ORIGINAL: Q1707913016

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	385	400	836	113	70 - 130	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1707756

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1707756001	CBL - 341I			E300.0, Anions	WET/13223
Q1707756002	CBL - 641I			E300.0, Anions	WET/13223
Q1707756003	Field Blank			E300.0, Anions	WET/13223
Q1707756004	EQ Blank			E300.0, Anions	WET/13223
Q1707756001	CBL - 341I	SW7470A Hg in Liquid Waste	MEP/6733	SW7470A Hg in Liquid Waste	MET/5298
Q1707756002	CBL - 641I	SW7470A Hg in Liquid Waste	MEP/6733	SW7470A Hg in Liquid Waste	MET/5298
Q1707756003	Field Blank	SW7470A Hg in Liquid Waste	MEP/6733	SW7470A Hg in Liquid Waste	MET/5298
Q1707756004	EQ Blank	SW7470A Hg in Liquid Waste	MEP/6733	SW7470A Hg in Liquid Waste	MET/5298
Q1707756001	CBL - 341I	SW3010A, Metals Prep	MEP/6741	SW6010B ICP-AES	MET/5312
Q1707756002	CBL - 641I	SW3010A, Metals Prep	MEP/6741	SW6010B ICP-AES	MET/5312
Q1707756003	Field Blank	SW3010A, Metals Prep	MEP/6741	SW6010B ICP-AES	MET/5312
Q1707756004	EQ Blank	SW3010A, Metals Prep	MEP/6741	SW6010B ICP-AES	MET/5312
Q1707756001	CBL - 341I	SW3010A, Metals Prep	MEP/6742	SW6020 ICP-MS	MET/5315
Q1707756002	CBL - 641I	SW3010A, Metals Prep	MEP/6742	SW6020 ICP-MS	MET/5315
Q1707756003	Field Blank	SW3010A, Metals Prep	MEP/6742	SW6020 ICP-MS	MET/5315
Q1707756004	EQ Blank	SW3010A, Metals Prep	MEP/6742	SW6020 ICP-MS	MET/5315
Q1707756001	CBL - 341I			SM2540C, TDS	WET/13266
Q1707756002	CBL - 641I			SM2540C, TDS	WET/13266
Q1707756003	Field Blank			SM2540C, TDS	WET/13266
Q1707756004	EQ Blank			SM2540C, TDS	WET/13266

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Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#: Q1707756
Client PO:

Project:	FPP - Groundwater CCR	Client:	LCRA
Collector:	Colt Petri/John Gallagher	Contact:	
Event#:	1360108 / 4175	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* AQ = Aqueous S = Solid T = Tissue DW =Drinking Water	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	1LPU	250PHNO3							Requested Analysis * 6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28						
001	1	CBL - 341I	2/23/17	1201	AQ	N	N	1	1							X	X	X	X	X	X						
002	2	CBL - 641I		1201	AQ			1	1							X		X	X	X	X						
003	3	Field Blank		1201	AQ			1	1							X	X	X	X	X	X						
004	4	EQ Blank		1201	AQ			1	1							X	X	X	X	X	X						
	5																										
	6																										
	7																										

CF 0.0

Transfers	Relinquished By	Date/Time	Received By	Date/Time	Cooler Temp: #	T#	Obs.	Corr.
1	Colt Petri	2/23/17 1423	Shaina Sobha	2-23-17 1423				
2					1	6	0.8	0.8
3					2			

Client Special Instructions:

Lab

Q1707756 250444

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

FPP - CCR Groundwater Purge Data - February 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
2/23/2017	10:00:24	23.56	6.13	6.17	74.1	6050	167.9	CBL 341I
2/23/2017	10:03:24	22.36	5.61	9.48	111.2	5996	240.5	CBL 341I
2/23/2017	10:06:24	22.20	5.49	12.26	143.4	5983	305.8	CBL 341I
2/23/2017	10:09:24	22.15	5.41	11.23	131.2	5982	356.7	CBL 341I
2/23/2017	10:12:24	22.11	5.37	11.14	130.1	5981	379.3	CBL 341I
2/23/2017	10:15:24	22.08	5.30	9.35	109.1	5985	399.6	CBL 341I
2/23/2017	10:18:24	22.06	5.27	9.37	109.4	6006	415.9	CBL 341I
2/23/2017	10:21:24	22.06	5.25	7.82	91.2	6031	429.8	CBL 341I
2/23/2017	10:24:24	22.08	5.18	6.66	77.7	6044	441.3	CBL 341I
2/23/2017	10:27:24	22.08	5.17	5.64	65.9	6032	451.4	CBL 341I
2/23/2017	10:30:24	22.08	5.16	5.46	63.8	6062	466.0	CBL 341I
2/23/2017	10:33:24	22.08	5.10	4.90	57.2	6057	483.7	CBL 341I
2/23/2017	10:36:24	22.09	5.15	4.32	50.4	6070	489.7	CBL 341I
2/23/2017	10:39:24	22.09	5.17	3.96	46.2	6065	495.1	CBL 341I
2/23/2017	10:42:24	22.09	5.16	3.66	42.7	6047	506.5	CBL 341I
2/23/2017	10:45:24	22.10	5.14	3.20	37.4	6062	517.7	CBL 341I
2/23/2017	10:48:24	22.12	5.11	4.41	51.5	6048	526.3	CBL 341I
2/23/2017	10:51:24	22.13	5.05	3.02	35.3	6055	536.4	CBL 341I
2/23/2017	10:54:24	22.15	5.00	2.96	34.6	6048	544.6	CBL 341I
2/23/2017	10:57:24	22.15	5.02	2.88	33.6	6066	549.4	CBL 341I
2/23/2017	11:00:24	22.14	5.03	2.78	32.5	6065	551.1	CBL 341I
2/23/2017	11:34:26	22.09	5.78	2.76	32.3	6061	210.3	CBL 341I
2/23/2017	11:34:34	22.09	5.77	2.74	32.0	6061	212.9	CBL 341I
2/23/2017	11:37:34	22.06	5.76	2.50	29.2	6048	259.3	CBL 341I
2/23/2017	11:40:34	22.08	5.77	2.21	25.8	6048	280.3	CBL 341I
2/23/2017	11:43:34	22.09	5.81	2.19	25.6	6055	286.7	CBL 341I
2/23/2017	11:46:34	22.09	5.81	2.25	26.2	6048	292.0	CBL 341I
2/23/2017	11:49:34	22.10	5.76	2.37	27.7	6036	325.2	CBL 341I
2/23/2017	11:52:34	22.08	5.68	2.53	29.5	6042	363.7	CBL 341I
2/23/2017	11:55:34	22.11	5.52	2.45	28.7	6050	411.4	CBL 341I
2/23/2017	11:58:34	22.13	5.38	2.44	28.5	6041	452.7	CBL 341I
2/23/2017	12:01:34	22.14	5.23	2.46	28.7	6030	482.4	CBL 341I

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 2/23/17
Sample Time: 1201
Sample ID: CBL341I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170223	1005	V= 5	15	15

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	15.64 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	30 (ft)

PH 5.23 (STD) Specific Conductivity 6030 uS/cm Sample Temp. 22.14 (°C)

Bottle Type	Size	Preservative	Analysis	Field Filt. Y/N
P	250mL	HNO_3	metals	
P	250mL	HNO_3	metals 64/I Dup	N
P	250mL	HNO_3	metals EQ Blank	N
P	250mL	HNO_3	metals Field Blank	N

P 1L x 4 ICE Anions P 4L x 4 ICE Rads

Sample Appearance: Clear Odor: none Color: clear Turbidity: .52

Weather Conditions: clear 65° Southwest wind 5-10mph

Other: Purge water was clear. purged 15gallons parameters where stable + Collected Samples

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____

If No, Explain ____

Procedure: ELS Groundwater 5-7D

Date: 2/23/17

Sampler: CP/JG

Employer: LCRA

Rev. 1 (08/2009)

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 2/23/17
Sample Time: 1201
Sample ID: CBL341I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170223	1005	V= 5	15	15

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	15.64 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	30 (ft)

PH 5.23 (STD) Specific Conductivity 6030 uS/cm Sample Temp. 22.14 (°C)

Bottle Type	Size	Preservative	Analysis	Field Filt. Y/N
P	250mL	HNO_3	metals	
P	250mL	HNO_3	metals 64/I Dup	N
P	250mL	HNO_3	metals EQ Blank	N
P	250mL	HNO_3	metals Field Blank	N

P 1L x 4 ICE Anions P 4L x 4 ICE Rads

Sample Appearance: Clear Odor: none Color: clear Turbidity: .52

Weather Conditions: clear 65° Southwest wind 5-10mph

Other: Purge water was clear. purged 15gallons parameters where stable + Collected Samples

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____

If No, Explain ____

Procedure: ELS Groundwater 5-7D

Date: 2/23/17

Sampler: CP/JG

Employer: LCRA

Rev. 1 (08/2009)

FPP - CCR Groundwater Purge Data - February 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
2/23/2017	10:00:24	23.56	6.13	6.17	74.1	6050	167.9	CBL 341I
2/23/2017	10:03:24	22.36	5.61	9.48	111.2	5996	240.5	CBL 341I
2/23/2017	10:06:24	22.20	5.49	12.26	143.4	5983	305.8	CBL 341I
2/23/2017	10:09:24	22.15	5.41	11.23	131.2	5982	356.7	CBL 341I
2/23/2017	10:12:24	22.11	5.37	11.14	130.1	5981	379.3	CBL 341I
2/23/2017	10:15:24	22.08	5.30	9.35	109.1	5985	399.6	CBL 341I
2/23/2017	10:18:24	22.06	5.27	9.37	109.4	6006	415.9	CBL 341I
2/23/2017	10:21:24	22.06	5.25	7.82	91.2	6031	429.8	CBL 341I
2/23/2017	10:24:24	22.08	5.18	6.66	77.7	6044	441.3	CBL 341I
2/23/2017	10:27:24	22.08	5.17	5.64	65.9	6032	451.4	CBL 341I
2/23/2017	10:30:24	22.08	5.16	5.46	63.8	6062	466.0	CBL 341I
2/23/2017	10:33:24	22.08	5.10	4.90	57.2	6057	483.7	CBL 341I
2/23/2017	10:36:24	22.09	5.15	4.32	50.4	6070	489.7	CBL 341I
2/23/2017	10:39:24	22.09	5.17	3.96	46.2	6065	495.1	CBL 341I
2/23/2017	10:42:24	22.09	5.16	3.66	42.7	6047	506.5	CBL 341I
2/23/2017	10:45:24	22.10	5.14	3.20	37.4	6062	517.7	CBL 341I
2/23/2017	10:48:24	22.12	5.11	4.41	51.5	6048	526.3	CBL 341I
2/23/2017	10:51:24	22.13	5.05	3.02	35.3	6055	536.4	CBL 341I
2/23/2017	10:54:24	22.15	5.00	2.96	34.6	6048	544.6	CBL 341I
2/23/2017	10:57:24	22.15	5.02	2.88	33.6	6066	549.4	CBL 341I
2/23/2017	11:00:24	22.14	5.03	2.78	32.5	6065	551.1	CBL 341I
2/23/2017	11:34:26	22.09	5.78	2.76	32.3	6061	210.3	CBL 341I
2/23/2017	11:34:34	22.09	5.77	2.74	32.0	6061	212.9	CBL 341I
2/23/2017	11:37:34	22.06	5.76	2.50	29.2	6048	259.3	CBL 341I
2/23/2017	11:40:34	22.08	5.77	2.21	25.8	6048	280.3	CBL 341I
2/23/2017	11:43:34	22.09	5.81	2.19	25.6	6055	286.7	CBL 341I
2/23/2017	11:46:34	22.09	5.81	2.25	26.2	6048	292.0	CBL 341I
2/23/2017	11:49:34	22.10	5.76	2.37	27.7	6036	325.2	CBL 341I
2/23/2017	11:52:34	22.08	5.68	2.53	29.5	6042	363.7	CBL 341I
2/23/2017	11:55:34	22.11	5.52	2.45	28.7	6050	411.4	CBL 341I
2/23/2017	11:58:34	22.13	5.38	2.44	28.5	6041	452.7	CBL 341I
2/23/2017	12:01:34	22.14	5.23	2.46	28.7	6030	482.4	CBL 341I

LCRA Environmental Laboratory Services
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Fax: (512)356-6021

March 21, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1707761

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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SAMPLE SUMMARY

Workorder: Q1707761

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1707761001	CBL - 341I	Aqueous	2/23/2017 12:01	2/23/2017 14:23
Q1707761002	CBL - 641I	Aqueous	2/23/2017 12:01	2/23/2017 14:23
Q1707761003	Field Blank	Aqueous	2/23/2017 12:01	2/23/2017 14:23
Q1707761004	EQ Blank	Aqueous	2/23/2017 12:01	2/23/2017 14:23

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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ANALYTICAL RESULTS

Workorder: Q1707761

Lab ID:	**Q1707761001**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	03/21/17 16:18	JBW	03/21/17 16:18	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	03/21/17 16:18	JBW	03/21/17 16:18	JBW	

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ANALYTICAL RESULTS

Workorder: Q1707761

Lab ID:	**Q1707761002**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	03/21/17 16:18	JBW	03/21/17 16:18	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	03/21/17 16:18	JBW	03/21/17 16:18	JBW	

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ANALYTICAL RESULTS

Workorder: Q1707761

Lab ID:	**Q1707761003**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	03/21/17 16:18	JBW	03/21/17 16:18	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	03/21/17 16:19	JBW	03/21/17 16:19	JBW	

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ANALYTICAL RESULTS

Workorder: Q1707761

Lab ID:	**Q1707761004**	Date Received:	2/23/2017 14:23	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	2/23/2017 12:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	03/21/17 16:19	JBW	03/21/17 16:19	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	03/21/17 16:19	JBW	03/21/17 16:19	JBW	

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Website: http://www.settek.com

March 20, 2017

Jason Woods
LCRA Environmental Laboratory Services
P.O. Box 220 78767-02203505 Montopolis
Austin, TX 78744
TEL: 512-356-6022
FAX: 512-356-6021

RE: Q1707761

Dear Jason Woods:

Order No.: 17030115

Summit Environmental Technologies, Inc. received 4 sample(s) on 3/2/2017 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Holly Florea
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0108, Delaware, Florida NELAC E87688, Georgia E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 9957C

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Case Narrative

WO#: **17030115**
Date: **3/20/2017**

CLIENT: LCRA Environmental Laboratory Services
Project: Q1707761

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. State Certificates and Scopes of Accreditation are attached as applicable. Results provided in this report for any parameter not listed on the Scope of Accreditation should be considered “not certified.”

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Comments for Radium-226_DW(903.0), Sample lcsd-25980, Batch ID 25980 : LCS/LCSD exhibited high RPD; both met recovery limits.

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Qualifiers and Acronyms

WO#: **17030115**
Date: **3/20/2017**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

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Workorder Sample Summary

WO#: **17030115**

20-Mar-17

CLIENT: LCRA Environmental Laboratory Services
Project: Q1707761

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
17030115-001	Q1707761001		2/23/2017 12:01:00 PM	3/2/2017 1:35:00 PM	Non-Potable Water
17030115-002	Q1707761002		2/23/2017 12:01:00 PM	3/2/2017 1:35:00 PM	Non-Potable Water
17030115-003	Q1707761003		2/23/2017 12:01:00 PM	3/2/2017 1:35:00 PM	Non-Potable Water
17030115-004	Q1707761004		2/23/2017 12:01:00 PM	3/2/2017 1:35:00 PM	Non-Potable Water

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Analytical Report

(consolidated)

WO#: **17030115**

Date Reported: **3/20/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 2/23/2017 12:01:00 PM

Project: Q1707761

Lab ID: 17030115-001 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1707761001

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	1.53	1.00		pCi/L	± 0.28	1	3/17/2017 1:16:00 PM
Yield	1.00					1	3/17/2017 1:16:00 PM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	2.19	1.00		pCi/L	± 4.3	1	3/16/2017
Yield	0.910					1	3/16/2017

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17030115**

Date Reported: **3/20/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 2/23/2017 12:01:00 PM

Project: Q1707761

Lab ID: 17030115-002 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1707761002

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	1.23	1.00		pCi/L	± 0.27	1	3/17/2017 1:16:00 PM
Yield	1.00					1	3/17/2017 1:16:00 PM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	1.59	1.00		pCi/L	± 3.12	1	3/16/2017
Yield	0.900					1	3/16/2017

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17030115**

Date Reported: **3/20/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 2/23/2017 12:01:00 PM

Project: Q1707761

Lab ID: 17030115-003 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1707761003

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.08	1	3/17/2017 1:34:00 PM
Yield	1.00					1	3/17/2017 1:34:00 PM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.55	1	3/16/2017
Yield	1.00					1	3/16/2017

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17030115**

Date Reported: **3/20/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 2/23/2017 12:01:00 PM

Project: Q1707761

Lab ID: 17030115-004 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1707761004

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.12	1	3/17/2017 2:20:00 PM
Yield	1.00					1	3/17/2017 2:20:00 PM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.31	1	3/16/2017
Yield	1.00					1	3/16/2017

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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QC SUMMARY REPORT

WO#: **17030115**

20-Mar-17

Client: LCRA Environmental Laboratory Services
Project: Q1707761 **BatchID:** **25980**

Sample ID **mb-25980** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/13/2017** RunNo: **66929**
Client ID: **PBW** Batch ID: **25980** TestNo: **SW9320** **E903-904** Analysis Date: **3/16/2017** SeqNo: **1103882**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	0.910			0	0						

Sample ID **lcs-25980** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/13/2017** RunNo: **66929**
Client ID: **LCSW** Batch ID: **25980** TestNo: **SW9320** **E903-904** Analysis Date: **3/16/2017** SeqNo: **1103883**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	5.22	1.00	5.000	0	104	70	130				
Yield	0.980			0	0						

Sample ID **lcsd-25980** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/13/2017** RunNo: **66929**
Client ID: **LCSS02** Batch ID: **25980** TestNo: **SW9320** **E903-904** Analysis Date: **3/16/2017** SeqNo: **1103884**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.48	1.00	5.000	0	89.6	70	130	5.221	15.3	20	
Yield	1.00			0	0			0.9800	2.02		

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **17030115**

20-Mar-17

Client: LCRA Environmental Laboratory Services
Project: Q1707761 **BatchID:** **25980**

Sample ID **17030052-001aMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **3/13/2017** RunNo: **66929**
Client ID: **BatchQC** Batch ID: **25980** TestNo: **SW9320** **E903-904** Analysis Date: **3/16/2017** SeqNo: **1103886**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.90	1.00	5.000	0	78.0	70	130				
Yield	0.650			0.4900	0						

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

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QC SUMMARY REPORT

WO#: **17030115**

20-Mar-17

Client: LCRA Environmental Laboratory Services
Project: Q1707761 **BatchID:** **25980**

Sample ID **mb-25980** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/13/2017** RunNo: **66936**
Client ID: **PBW** Batch ID: **25980** TestNo: **SW9315** **E903-904** Analysis Date: **3/17/2017** SeqNo: **1103985**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID **lcs-25980** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/13/2017** RunNo: **66936**
Client ID: **LCSW** Batch ID: **25980** TestNo: **SW9315** **E903-904** Analysis Date: **3/17/2017** SeqNo: **1103986**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	3.74	1.00	5.000	0	74.8	70	130				QLR

Sample ID **lcsd-25980** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/13/2017** RunNo: **66936**
Client ID: **LCSS02** Batch ID: **25980** TestNo: **SW9315** **E903-904** Analysis Date: **3/17/2017** SeqNo: **1103987**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.87	1.00	5.000	0	97.4	70	130	3.740	26.2	20	R

Sample ID **17030052-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/13/2017** RunNo: **66936**
Client ID: **BatchQC** Batch ID: **25980** TestNo: **SW9315** **E903-904** Analysis Date: **3/17/2017** SeqNo: **1103989**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **17030115**

20-Mar-17

Client: LCRA Environmental Laboratory Services
Project: Q1707761 **BatchID:** **25980**

Sample ID **17030052-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **3/13/2017** RunNo: **66936**
Client ID: **BatchQC** Batch ID: **25980** TestNo: **SW9315** **E903-904** Analysis Date: **3/17/2017** SeqNo: **1103989**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.15	1.00	5.000	0	103	70	130				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45210346 - HBN 56261

PO #Q1707761

Results Requested By

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228										LAB USE ONLY
1	Q1707761001	2/23/2017 12:01		Aqueous	1						X	X										
2	Q1707761002	2/23/2017 12:01		Aqueous	1						X	X										
3	Q1707761003	2/23/2017 12:01		Aqueous	1						X	X										
4	Q1707761004	2/23/2017 12:01		Aqueous	1						X	X										
5																						

17030115-001-0041

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1707761 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative
COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	D-Z	2/27/17 800		
2				
3			SMCampbell	3-2-17
4				1375
5				

2001.2.0.0

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Initials of person inspecting cooler and samples: SC

Client: LCRA

Order Number: 17030115

Date Received: 3-2-17 Time Received: 1335 Date cooler(s) opened and samples inspected: 3-2-17

Number of Coolers/Boxes: 1 N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other:

Packaging: Peanuts Bubble Wrap Paper Foam None Other:

Tape on cooler/box:	Y	N	N/A
Custody Seals intact	Y	N	~~N/A~~
C-O-C in plastic	Y	N	N/A
Ice_____ Blue ice _____	present / absent / melted		N/A
Sample Temperature IR Gun #16020459 CF 0.0 °C	9.4 °C		N/A
Radiological Testing Instrument serial #35127 (see page 2 for scan results)	Y	N	N/A

****Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.**

C-O-C filled out properly	Y	N	N/A
Samples in separate bags	Y	N	N/A
Sample containers intact*	Y	N	N/A

*If no, list broken sample(s):

Sample label(s) complete (ID, date, etc.)	Y	N	N/A
Label(s) agree with C-O-C	Y	N	N/A
Correct containers used	Y	N	N/A
Sufficient sample received	Y	N	N/A
Samples received within holding time	Y	N	
Bubbles absent from 40 mL vials**	Y	N	N/A

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm.

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact:

Date/Time:

Logged in by:

Comments:

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# WC-03-1174 pH strip (2.8-4.6) SET#OES-01-0250
Total DPD packet SET#OES-02-0239 Free DPD packet SET#OES-01-0290
Disp. Pipette SET# WC-03-0510

Sample or OMEGA ID	Method	pH	Chlorine (±)	Comments
1	✓	2		
2	|	|		
3	|	|		
4	|	|		

Radiological scan on sample

ID	scan	CPM
1	✓	27
2	|	24
3	|	26
4	|	20

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for **Total** chlorine
552.2 checked for **Free** chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0250)
524.2 = pH and Chlorine checked at bench and not log in department

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#: Q1707761
Client PO:

Project:	FPP Groundwater CCR - Sub	**Client:**	LCRA
Collector:	Coltpatri / John Gallagher	**Contact:**	
Event#:	1360222 / 4174	**Phone:**	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

LAB USE ONLY		Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU								Requested Analysis * S-Rad228	S-Rad226										
001	1	CBL - 341I	2/23/17	1201	AQ	N	N	1								X	X										
002	2	CBL - 641I		1201	AQ			1								X	X										
003	3	Field Blank		1201	AQ			1								X	X										
004	4	EQ Blank		1201	AQ			1								X	X										
	5																										
	6																										
	7																										

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Coltpatri	2/23/17 1423	[illegible]	2-23-17 1423
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	0.8	0.8
2			

Client Special Instructions:

Lab

Q1707761
250449

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45210346 - HBN 56261 **PO #Q1707761** **Results Requested By**

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1707761001	2/23/2017 12:01		Aqueous	1						X	X											
2	Q1707761002	2/23/2017 12:01		Aqueous	1						X	X											
3	Q1707761003	2/23/2017 12:01		Aqueous	1						X	X											
4	Q1707761004	2/23/2017 12:01		Aqueous	1						X	X											
5																							

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1707761 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	D—Z	2/27/17 800		
2				
3				
4				
5				

FedEx Shipment Receipt

Address Information

Ship to:	**Ship from:**
Sample Receiving- Summit Env	Sample Receiving
SUMMIT ENVIRONMENTAL TECHNOLOGIES	ENVIRONMENTAL LABORATORY SERVICES
3310 WIN ST	3505 MONTOPOLIS DRIVE LCRA-ENVIRONMENTAL LAB ONLY
CUYAHOGA FALLS, OH	AUSTIN, TX
442233790	78744
US	US
8002780140	5123566022

Shipment Information:
Tracking no.: 778518723892
Ship date: 02/27/2017
Estimated shipping charges: 0.00

Package Information
Pricing option: FedEx Standard Rate
Service type: FedEx Ground
Package type: Your Packaging
Number of packages: 2
Total weight: 107 LBS
Declared Value: 0.00 USD
Special Services:
Pickup/Drop-off: Use an already scheduled pickup at my location

Billing Information:
Bill transportation to: Third party
Your reference: 3533318
P.O. no.:
Invoice no.:
Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits; Consult the applicable FedEx Service Guide for details.
The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.

(14)

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 1/23/17
Sample Time: 1443
Sample ID: CBL301I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170123		V= 2.9	9	15

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | (N)
Sampling Equipment ..... Dedicated | Y | (N)

Purging Device	A	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	A	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	36.29 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.10 (ft)	Pump Placement	50 (ft)

PH: 6.26 (STD)
Specific Conductivity: 7532 uS/cm
Sample Temp. 23.83 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	Y
P	500mL	ICE	Anions + TDS	Y
P	4L	HNO_3	Radium 226 + 228	

Sample Appearance: milky white Odor: None Color: milky white Turbidity: ~~302~~ ~~143~~ 40.5 CP 1/23/17
Weather Conditions: Sunny North wind 0-5mp 65°
Other: Purge water is milky white with sediment in it Purge well until dry. Allowed the well to recover and sampled (6 hours)

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Ground water SOP 5-7D

Date: 1/23/17
Sampler: CP/JG
Employer: LCRA

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Rev. 1 (08/2009)

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 1/19/17 (11)
Sample Time: 1217
Sample ID: CBL-308I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	V= WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170119		1.7	5.2	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Spectfy)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing = D_w	24.60 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	30 (ft)

PH 6.83 (STD) Specific Conductivity 9681 uS/cm Sample Temp. 22.11 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250ml	HNO_3	Metals	N
P	500ml	ICE	Anions + TDS	N
P	4L	HNO_3	Radium 226 + 228	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 0.62 ntu
Weather Conditions: Overcast, 5mph Sound, 60°
Other: Purge water is clear w/ no odor, collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ galtft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS - Groundwater SOP 5-20
Date: 1/19/2017
Sampler: JBW / CP
Employer: LCRA

Rev. 1 (08/2009)

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 1/19/17 (12)
Sample Time: 1312
Sample ID: CBL306I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170119		V= 1.5	4.6	4

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	5.31 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.80 (ft)	Pump Placement	12 (ft)

PH 7.29 (STD)
Specific Conductivity 1422 uS/cm
Sample Temp. 20.83 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions + TDS	N
P	4L	HNO_3	Radium 226 + 228	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 4.49
Weather Conditions: Overcast, 10mph S wind, 60°
Other: Purgewater is clear w/ no odor. Collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w= depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No
If No, Explain

Procedure: ELS-Groundwater SOP 5-70
Date: 1/19/2017
Sampler: JBW/CP
Employer: LCRA

Rev. 1 (08/2009)

17

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 1/23/17
Sample Time: 1541
Sample ID: CBL302 D

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160123		V= 3.4	10	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- ____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	6.48 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.11 (ft)	Pump Placement	26 (ft)

5.36 (STD) PH — 7723 uS/cm Specific Conductivity — Sample Temp. 22.13 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions + TDS	N
P	250mL	HNO_3	Metals CBL602 Duplicate	N
P	500mL	ICE	Anions CBL602 " / Radium 226+228	N
P	250mL	HNO_3	Metals EQ Blank.	
P	500mL	ICE	Anions EQ	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 0.76
Weather Conditions: Clear Calm
Other: Purge water is clear w/ no odor, Collected all samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS Ground water SOP 5-70
Date: 1/23/17
Sampler: CP/JG
Employer: LCRA

Rev. 1 (08/2009)

15

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 1/23/17
Sample Time: 1229
Sample ID: CBL390I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170123		V= 3	9	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	21.75 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.20 (ft)	Pump Placement	38 (ft)

PH 5.46 (STD) Specific Conductivity 8259 uS/cm Sample Temp. 22.79 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions + TDS	N
P	4L	HNO_3	Radium 226 + Radium 228	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 1.26
Weather Conditions: Clear Northwind 0-5mph 70°
Other: Purge water is clear w/ no odor, collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross-sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS Groundwater SOP 5-70
Date: 1/23/17
Sampler: CP/JG
Employer: LCRA

Rev. 1 (08/2009)

(16)

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 1/23/17
Sample Time: 1334
Sample ID: CBL3411I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170123		V= 5	15	10

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	16.12 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	40 (ft)

PH: 5.74 (STD) Specific Conductivity: 6053 uS/cm Sample Temp. 21.95 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions + TDS	N
P	4L	HNO_3	Radium 226 + 228	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 1.61
Weather Conditions: Clear Sunny N wind 0-5mph 70°
Other: Purged 40 gallons on 1/19/2017. New monitoring well. Purge water is clear w/ no odor.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No New Well
If No, Explain

Procedure: ELS Groundwater SOP 5-70
Date: 1/23/17
Sampler: CP/JG
Employer: LCRA

New Monitoring well installed Jan. 2017

Rev. 1 (08/2009)

FPP - CCR Groundwater Wells - Purge Data - January 2017

Date M/D/Y	Time HH:MM:SS	Temp C	DO mg/L	DOsat %	pH	SpCond uS	Orp mV	Monitoring Well
1/19/2017	11:47:46	20.65	5.32	61.2	7.05	9670	263.8	CBL - 308I
1/19/2017	11:47:56	20.71	5.05	58.2	7.04	9687	260.6	CBL - 308I
1/19/2017	11:50:56	21.99	2.81	33.2	6.96	9685	168.5	CBL - 308I
1/19/2017	11:53:56	22.04	2.37	28.0	6.92	9714	136.1	CBL - 308I
1/19/2017	11:56:56	22.10	2.33	27.6	6.89	9632	125.3	CBL - 308I
1/19/2017	11:59:56	22.12	2.42	28.7	6.88	9648	117.0	CBL - 308I
1/19/2017	12:02:56	22.16	2.43	28.7	6.87	9647	114.7	CBL - 308I
1/19/2017	12:05:56	22.16	2.55	30.2	6.86	9610	106.9	CBL - 308I
1/19/2017	12:08:56	22.13	2.44	28.9	6.85	9671	109.4	CBL - 308I
1/19/2017	12:11:56	22.13	2.61	30.9	6.85	9635	121.2	CBL - 308I
1/19/2017	12:14:56	22.16	1.58	18.7	6.84	9612	100.3	CBL - 308I
1/19/2017	12:17:07	22.11	1.90	22.5	6.83	9681	106.0	CBL - 308I
1/19/2017	12:51:05	20.83	6.36	71.6	7.44	2420	67.7	CBL - 306I
1/19/2017	12:51:40	20.92	5.51	62.1	7.45	2259	69.3	CBL - 306I
1/19/2017	12:51:53	20.93	5.45	61.4	7.45	2237	69.8	CBL - 306I
1/19/2017	12:54:53	20.58	4.63	51.8	7.28	2116	95.5	CBL - 306I
1/19/2017	12:57:53	20.45	4.47	49.9	7.23	2095	90.6	CBL - 306I
1/19/2017	13:00:53	20.66	4.26	47.8	7.22	2082	81.6	CBL - 306I
1/19/2017	13:02:27	20.78	4.10	46.0	7.24	1972	72.3	CBL - 306I
1/19/2017	13:05:27	20.82	3.63	40.8	7.28	1580	55.5	CBL - 306I
1/19/2017	13:08:27	20.83	3.39	38.1	7.32	1411	38.2	CBL - 306I
1/19/2017	13:09:19	20.83	3.37	37.8	7.32	1422	36.3	CBL - 306I
1/23/2017	10:57:52	21.27	9.09	104.6	7.28	6189	198.2	CBL - 301I
1/23/2017	10:58:02	21.10	8.50	97.5	7.08	6433	193.7	CBL - 301I
1/23/2017	11:01:02	22.47	0.78	9.2	6.55	7137	150.8	CBL - 301I
1/23/2017	11:04:02	22.91	0.89	10.6	6.52	7067	141.1	CBL - 301I
1/23/2017	11:07:02	23.20	0.86	10.3	6.52	7164	105.0	CBL - 301I
1/23/2017	11:10:02	23.29	0.85	10.2	6.45	7273	123.7	CBL - 301I
1/23/2017	11:13:02	23.37	0.84	10.1	6.37	7323	143.1	CBL - 301I
1/23/2017	11:16:02	23.40	0.90	10.8	6.31	7332	157.0	CBL - 301I
1/23/2017	11:19:02	23.45	0.85	10.2	6.27	7358	163.6	CBL - 301I
1/23/2017	11:22:02	23.37	0.77	9.3	6.23	7356	173.6	CBL - 301I
1/23/2017	11:25:02	23.24	0.80	9.6	6.15	7375	182.4	CBL - 301I
1/23/2017	11:28:02	23.28	0.68	8.1	6.14	7389	187.1	CBL - 301I
1/23/2017	11:29:59	23.15	0.56	6.7	6.15	7452	167.1	CBL - 301I
1/23/2017	11:50:02	22.88	4.89	58.5	6.56	8390	198.7	CBL - 340I
1/23/2017	11:50:12	22.90	4.86	58.1	6.55	8380	202.7	CBL - 340I
1/23/2017	11:53:12	22.76	4.22	50.3	6.28	8416	210.1	CBL - 340I
1/23/2017	11:56:12	22.78	3.92	46.7	6.44	8447	18.3	CBL - 340I

1/23/2017	11:59:12	22.80	3.76	44.9	6.24	8474	67.0	CBL - 340I
1/23/2017	12:02:12	22.79	3.71	44.2	6.26	8469	29.8	CBL - 340I
1/23/2017	12:05:12	22.81	3.74	44.6	6.08	8459	58.6	CBL - 340I
1/23/2017	12:08:12	22.93	3.72	44.4	5.98	8430	56.6	CBL - 340I
1/23/2017	12:11:12	22.84	3.72	44.4	5.75	8408	115.0	CBL - 340I
1/23/2017	12:12:14	22.91	3.69	43.9	5.71	7090	125.2	CBL - 340I
1/23/2017	12:15:14	22.88	3.68	44.0	5.70	8366	142.2	CBL - 340I
1/23/2017	12:18:14	22.93	3.66	43.7	5.71	8334	135.4	CBL - 340I
1/23/2017	12:21:14	22.92	3.64	43.6	5.51	8311	234.4	CBL - 340I
1/23/2017	12:24:14	22.92	3.69	44.1	5.41	8275	398.3	CBL - 340I
1/23/2017	12:26:03	22.87	3.49	41.7	5.45	8282	423.0	CBL - 340I
1/23/2017	12:29:03	22.79	3.48	41.5	5.46	8259	258.5	CBL - 340I
1/23/2017	13:03:50	23.73	6.83	82.3	6.53	6211	113.4	CBL - 341I
1/23/2017	13:03:56	23.72	6.44	77.6	6.49	6226	114.0	CBL - 341I
1/23/2017	13:06:56	22.45	3.41	40.1	5.92	6058	156.7	CBL - 341I
1/23/2017	13:09:56	22.35	2.92	34.3	5.75	6047	209.1	CBL - 341I
1/23/2017	13:12:56	22.24	2.83	33.1	5.65	6040	266.1	CBL - 341I
1/23/2017	13:15:56	22.14	2.70	31.5	5.66	6033	342.2	CBL - 341I
1/23/2017	13:18:56	22.03	2.61	30.4	5.70	6034	396.2	CBL - 341I
1/23/2017	13:21:56	21.97	2.58	30.1	5.75	6039	399.7	CBL - 341I
1/23/2017	13:24:56	22.01	2.51	29.3	5.76	6032	419.0	CBL - 341I
1/23/2017	13:27:56	21.98	2.56	29.8	5.77	6051	440.3	CBL - 341I
1/23/2017	13:30:56	21.94	2.51	29.2	5.78	6057	457.8	CBL - 341I
1/23/2017	13:34:21	21.95	2.50	29.1	5.74	6053	487.5	CBL - 341I
1/23/2017	14:32:55	22.41	13.02	153.7	6.76	7529	94.9	CBL - 302I
1/23/2017	14:36:45	22.32	7.10	83.7	6.65	7548	108.8	CBL - 302I
1/23/2017	14:39:45	23.60	0.97	11.7	6.29	7527	165.0	CBL - 302I
1/23/2017	14:42:45	23.83	0.85	10.3	6.26	7532	177.4	CBL - 302I
1/23/2017	15:17:25	22.86	7.60	90.5	6.25	7637	472.8	CBL - 302I
1/23/2017	15:17:31	22.82	6.68	79.6	6.20	7722	475.3	CBL - 302I
1/23/2017	15:20:31	21.78	2.94	34.4	5.64	7745	566.0	CBL - 302I
1/23/2017	15:23:31	21.88	2.34	27.3	5.59	7737	544.0	CBL - 302I
1/23/2017	15:26:31	21.95	2.03	23.7	5.49	7734	529.8	CBL - 302I
1/23/2017	15:29:58	22.03	1.78	20.9	5.43	7730	507.9	CBL - 302I
1/23/2017	15:32:58	22.09	1.67	19.6	5.39	7713	475.0	CBL - 302I
1/23/2017	15:35:05	22.08	1.58	18.6	5.39	7715	483.7	CBL - 302I
1/23/2017	15:38:05	22.12	1.47	17.3	5.36	7718	437.7	CBL - 302I
1/23/2017	15:41:05	22.13	1.37	16.1	5.36	7723	365.1	CBL - 302I

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March 1, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1702862

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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SAMPLE SUMMARY

Workorder: Q1702862

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1702862001	CBL - 340I	Aqueous	1/23/2017 12:29	1/24/2017 07:30
Q1702862002	CBL - 301I	Aqueous	1/23/2017 14:43	1/24/2017 07:30
Q1702862003	CBL - 302I	Aqueous	1/23/2017 15:41	1/24/2017 07:30
Q1702862004	CBL - 306I	Aqueous	1/19/2017 13:12	1/24/2017 07:30
Q1702862005	CBL - 308I	Aqueous	1/19/2017 12:17	1/24/2017 07:30
Q1702862006	CBL - 341I	Aqueous	1/23/2017 13:34	1/24/2017 07:30
Q1702862007	CBL - 602I	Aqueous	1/23/2017 15:45	1/24/2017 07:30
Q1702862008	FB # 1	Aqueous	1/23/2017 15:50	1/24/2017 07:30
Q1702862009	EQB # 1	Aqueous	1/23/2017 15:51	1/24/2017 07:30

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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PROJECT SUMMARY

Workorder: Q1702862

Workorder Comments

Q1702862007 - CBL - 602I is a duplicate sample for Q1702862003 - CBL - 302I.

ANALYTICAL COMMENTS: All samples subcontracted with customer's approval. Data provided in full with the ELS final report.

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ANALYTICAL RESULTS

Workorder: Q1702862

Lab ID:	**Q1702862001**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	1/23/2017 12:29	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	01/23/17 12:29	JBW	01/23/17 12:29	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	01/23/17 12:29	JBW	01/23/17 12:29	JBW	

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ANALYTICAL RESULTS

Workorder: Q1702862

Lab ID:	**Q1702862002**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	1/23/2017 14:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	01/23/17 14:43	JBW	01/23/17 14:43	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	01/23/17 14:43	JBW	01/23/17 14:43	JBW	

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ANALYTICAL RESULTS

Workorder: Q1702862

Lab ID:	**Q1702862003**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	1/23/2017 15:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	01/23/17 15:41	JBW	01/23/17 15:41	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	01/23/17 15:41	JBW	01/23/17 15:41	JBW	

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ANALYTICAL RESULTS

Workorder: Q1702862

Lab ID:	**Q1702862004**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	1/19/2017 13:12	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	01/19/17 13:12	JBW	01/19/17 13:12	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	01/19/17 13:12	JBW	01/19/17 13:12	JBW	

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ANALYTICAL RESULTS

Workorder: Q1702862

Lab ID:	**Q1702862005**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	1/19/2017 12:17	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	01/19/17 12:17	JBW	01/19/17 12:17	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	01/19/17 12:17	JBW	01/19/17 12:17	JBW	

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ANALYTICAL RESULTS

Workorder: Q1702862

Lab ID:	**Q1702862006**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	1/23/2017 13:34	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	01/23/17 13:34	JBW	01/23/17 13:34	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	01/23/17 13:34	JBW	01/23/17 13:34	JBW	

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ANALYTICAL RESULTS

Workorder: Q1702862

Lab ID:	**Q1702862007**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	1/23/2017 15:45	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	01/23/17 15:45	JBW	01/23/17 15:45	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	01/23/17 15:45	JBW	01/23/17 15:45	JBW	

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ANALYTICAL RESULTS

Workorder: Q1702862

Lab ID:	**Q1702862008**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	1/23/2017 15:50	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	01/23/17 15:50	JBW	01/23/17 15:50	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	01/23/17 15:50	JBW	01/23/17 15:50	JBW	

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1702862

Lab ID:	**Q1702862009**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**EQB # 1**	Date Collected:	1/23/2017 15:51	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	01/23/17 15:51	JBW	01/23/17 15:51	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	01/23/17 15:51	JBW	01/23/17 15:51	JBW	

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Summit Environmental Technologies, Inc.
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February 27, 2017

Jason Woods
LCRA Environmental Laboratory Services
P.O. Box 220 78767-02203505 Montopolis
Austin, TX 78744
TEL: 512-356-6022
FAX: 512-356-6021

RE: Q1702862

Order No.: 17020243

Dear Jason Woods:

Summit Environmental Technologies, Inc. received 9 sample(s) on 2/3/2017 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Holly Florea
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0105, Delaware, Florida NELAC E87688, Georgia E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 9957C

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Case Narrative

WO#: **17020243**
Date: **2/27/2017**

CLIENT: LCRA Environmental Laboratory Services
Project: Q1702862

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. State Certificates and Scopes of Accreditation are attached as applicable. Results provided in this report for any parameter not listed on the Scope of Accreditation should be considered “not certified.”

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Summit Environmental Technologies, Inc.
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Workorder Sample Summary

WO#: **17020243**

27-Feb-17

CLIENT: LCRA Environmental Laboratory Services
Project: Q1702862

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
17020243-001	Q1702862001		1/23/2017 12:29:00 PM	2/3/2017 12:15:00 PM	Non-Potable Water
17020243-002	Q1702862002		1/23/2017 2:43:00 PM	2/3/2017 12:15:00 PM	Non-Potable Water
17020243-003	Q1702862003		1/23/2017 3:41:00 PM	2/3/2017 12:15:00 PM	Non-Potable Water
17020243-004	Q1702862004		1/19/2017 1:12:00 PM	2/3/2017 12:15:00 PM	Non-Potable Water
17020243-005	Q1702862005		1/19/2017 12:17:00 PM	2/3/2017 12:15:00 PM	Non-Potable Water
17020243-006	Q1702862006		1/23/2017 1:34:00 PM	2/3/2017 12:15:00 PM	Non-Potable Water
17020243-007	Q1702862007		1/23/2017 3:45:00 PM	2/3/2017 12:15:00 PM	Non-Potable Water
17020243-008	Q1702862008		1/23/2017 3:50:00 PM	2/3/2017 12:15:00 PM	Non-Potable Water
17020243-009	Q1702862009		1/23/2017 3:51:00 PM	2/3/2017 12:15:00 PM	Non-Potable Water

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Analytical Report

(consolidated)

WO#: **17020243**

Date Reported: **2/27/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/23/2017 12:29:00 PM

Project: Q1702862

Lab ID: 17020243-001 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1702862001

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.17	1	2/23/2017 1:40:00 PM
Yield	1.00					1	2/23/2017 1:40:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.56	1	2/22/2017 3:37:00 PM
Yield	1.00					1	2/22/2017 3:37:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17020243**

Date Reported: **2/27/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/23/2017 2:43:00 PM

Project: Q1702862

Lab ID: 17020243-002 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1702862002

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.23	1	2/23/2017 1:40:00 PM
Yield	1.00					1	2/23/2017 1:40:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.61	1	2/22/2017 3:37:00 PM
Yield	0.930					1	2/22/2017 3:37:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17020243**

Date Reported: **2/27/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/23/2017 3:41:00 PM

Project: Q1702862

Lab ID: 17020243-003 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1702862003

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.16	1	2/23/2017 1:40:00 PM
Yield	1.00					1	2/23/2017 1:40:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.62	1	2/22/2017 3:37:00 PM
Yield	1.00					1	2/22/2017 3:37:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17020243**

Date Reported: **2/27/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/19/2017 1:12:00 PM

Project: Q1702862

Lab ID: 17020243-004 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1702862004

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.16	1	2/23/2017 1:40:00 PM
Yield	1.00					1	2/23/2017 1:40:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.46	1	2/22/2017 3:37:00 PM
Yield	1.00					1	2/22/2017 3:37:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17020243**

Date Reported: **2/27/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/19/2017 12:17:00 PM

Project: Q1702862

Lab ID: 17020243-005 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1702862005

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.19	1	2/23/2017 1:40:00 PM
Yield	1.00					1	2/23/2017 1:40:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.41	1.00		pCi/L	± 0.83	1	2/22/2017 3:37:00 PM
Yield	1.00					1	2/22/2017 3:37:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17020243**

Date Reported: **2/27/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/23/2017 1:34:00 PM

Project: Q1702862

Lab ID: 17020243-006 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1702862006

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.27	1	2/23/2017 1:41:00 PM
Yield	1.00					1	2/23/2017 1:41:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.23	1.00		pCi/L	± 0.67	1	2/22/2017 3:37:00 PM
Yield	0.970					1	2/22/2017 3:37:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17020243**

Date Reported: **2/27/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/23/2017 3:45:00 PM

Project: Q1702862

Lab ID: 17020243-007 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1702862007

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.12	1	2/23/2017 1:41:00 PM
Yield	1.00					1	2/23/2017 1:41:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.64	1	2/22/2017 3:37:00 PM
Yield	1.00					1	2/22/2017 3:37:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17020243**

Date Reported: **2/27/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/23/2017 3:50:00 PM

Project: Q1702862

Lab ID: 17020243-008 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1702862008

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.13	1	2/23/2017 1:41:00 PM
Yield	1.00					1	2/23/2017 1:41:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.45	1	2/22/2017 3:37:00 PM
Yield	1.00					1	2/22/2017 3:37:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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Analytical Report

(consolidated)

WO#: **17020243**

Date Reported: **2/27/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 1/23/2017 3:51:00 PM

Project: Q1702862

Lab ID: 17020243-009 **Matrix:** NON-POTABLE WATER

Client Sample ID Q1702862009

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.16	1	2/23/2017 1:41:00 PM
Yield	0.993					1	2/23/2017 1:41:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 1.03	1	2/22/2017 3:38:00 PM
Yield	0.710					1	2/22/2017 3:38:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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QC SUMMARY REPORT

WO#: **17020243**
27-Feb-17

Client: LCRA Environmental Laboratory Services
Project: Q1702862 **BatchID:** **25603**

Sample ID: **mb-25604** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: RunNo: **66059**
Client ID: **PBW** Batch ID: **25603** TestNo: **E904.0** **E903-904** Analysis Date: **2/22/2017** SeqNo: **1089037**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	1.00			0	0						

Sample ID: **lcs-25604** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: RunNo: **66059**
Client ID: **LCSW** Batch ID: **25603** TestNo: **E904.0** **E903-904** Analysis Date: **2/22/2017** SeqNo: **1089038**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	5.14	1.00	5.000	0	103	70	130				
Yield	1.00			0	0						

Sample ID: **17020406-001aMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **2/15/2017** RunNo: **66059**
Client ID: **BatchQC** Batch ID: **25603** TestNo: **E904.0** **E903-904** Analysis Date: **2/22/2017** SeqNo: **1089041**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	6.95	1.00	5.000	0	139	70	130				S
Yield	1.00			1.000	0						

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine a
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Summit Environmental Technologies, Inc.
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QC SUMMARY REPORT

WO#: **17020243**
27-Feb-17

Client: LCRA Environmental Laboratory Services
Project: Q1702862 **BatchID:** **25603**

Sample ID: **mb-25603** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **2/15/2017** RunNo: **66067**
Client ID: **PBW** Batch ID: **25603** TestNo: **E903.0** **E903-904** Analysis Date: **2/23/2017** SeqNo: **1089180**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID: **LCS-25603** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **2/15/2017** RunNo: **66067**
Client ID: **LCSW** Batch ID: **25603** TestNo: **E903.0** **E903-904** Analysis Date: **2/23/2017** SeqNo: **1089182**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.57	1.00	5.000	0	91.4	70	130				

Sample ID: **17020406-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **2/15/2017** RunNo: **66067**
Client ID: **BatchQC** Batch ID: **25603** TestNo: **E903.0** **E903-904** Analysis Date: **2/23/2017** SeqNo: **1089184**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.40	1.00	5.000	0	108	70	130				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine a
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Summit Environmental Technologies, In
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Qualifiers and Acronyms

WO#: **17020243**
Date: **2/27/2017**

These commonly used Qualifiers and Acronyms may or may not be present in this repor

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45206720 - HBN 55144

PO #Q1702862

Results Requested By

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1702862001	1/23/2017 12:29		Aqueous	1						X	X											
2	Q1702862002	1/23/2017 14:43		Aqueous	1						X	X											
3	Q1702862003	1/23/2017 15:41		Aqueous	1						X	X											
4	Q1702862004	1/19/2017 13:12		Aqueous	1						X	X											
5	Q1702862005	1/19/2017 12:17		Aqueous	1						X	X											
6	Q1702862006	1/23/2017 13:34		Aqueous	1						X	X											
7	Q1702862007	1/23/2017 15:45		Aqueous	1						X	X											
8	Q1702862008	1/23/2017 15:50		Aqueous	1						X	X											
9	Q1702862009	1/23/2017 15:51		Aqueous	1						X	X											

17020243-001-009sc

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Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45206720 - HBN 55144

PO #

Results Requested By

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL	Requested Analysis: E903.0, Radium 226	Requested Analysis: E904.0, Radium 228	LAB USE ONLY
10								
11								
12								
13								

Report

- [ ] Standard (Results only)
- [ ] Standard with Batch QC
- [ ] CLP
- [ ] Other _____

Electronic Data Deliverables

- [ ] SEDD Stage 2A
- [ ] SEDD Stage 2B
- [ ] SEDD Stage 3
- [ ] Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1702862 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	1/30/17 800	[illegible]	1/31/17 1215
2				
3				
4				
5				

2001.2.0.0

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Initials of person inspecting cooler and samples: [illegible]

Client: LCRA Order Number: 17020295

Date Received: 2/3/17 Time Received: 12:15 Date cooler(s) opened and samples inspected: 2/3/17

Number of Coolers/Boxes: 2 N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other:_____

Packaging: Peanuts Bubble Wrap Paper Foam None Other:_____

Tape on cooler/box:	Y	N	N/A
Custody Seals intact	Y	N	N/A
C-O-C in plastic	Y	N	N/A
Ice_____ Blue ice _____	present / absent / melted		N/A
Sample Temperature IR Gun #16020459 CF 0.0 °C	3.6 °C		N/A
Radiological Testing Instrument serial #35127 (see page 2 for scan results)	Y	N	N/A

****Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.**

C-O-C filled out properly	Y	N	N/A
Samples in separate bags	Y	N	N/A
Sample containers intact*	Y	N	N/A

*If no, list broken sample(s):_____

Sample label(s) complete (ID, date, etc.)	Y	N	N/A
Label(s) agree with C-O-C	Y	N	N/A
Correct containers used	Y	N	N/A
Sufficient sample received	Y	N	N/A
Samples received within holding time	Y	N	
Bubbles absent from 40 mL vials**	Y	N	N/A

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm. _____

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact:_____

Date/Time:_____

Logged in by:_____

Comments:_____

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# WC-03-1174 pH strip (2.8-4.6) SET#OES-01-0250
Total DPD packet SET#OES-02-0239 Free DPD packet SET#OES-01-0290
Disp. Pipette SET# WC-03-0510

Sample or OMEGA ID	Method	pH	Chlorine (±)	Comments
1		2		
2		2		
3		2		
4		2		
5		2		
6		2		
7		2		
8		2		
9		2		

Radiological scan on sample

ID	scan	CPM
		7
		8
		6
		9
		5
		8
		25
		33
		20

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for **Total** chlorine
552.2 checked for **Free** chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0250)
524.2 = pH and Chlorine checked at bench and not log in department

Q1702862

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:
Client PO:

Project:	FPP CCR Wells Sub - April 2017	Client:	LCRA
Collector:	Colt Petri / John Gallagher	Contact:	
Event#:	1356193 / 4011	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU	Requested Analysis * S-Rad228	S-Rad226
001	1	CBL - 340I	1/23/17	1229	AQ	N	N	1	X	X
002	2	CBL - 301I		1443	AQ			1	X	X
003	3	CBL - 302I		1541	AQ			1	X	X
004	4	CBL - 306I	1/19/17	1312	AQ			1	X	X
005	5	CBL - 308I	1/19/17	1317	AQ			1	X	X
006	6	CBL - 341I	1/23/17	1334	AQ			1	X	X
007	7	CBL - 602I		1545	AQ			1	X	X
008	8	FB # 1		1550	AQ			1	X	X
009	9	EQB # 1		1551	AQ			1	X	X

Transfers	Relinquished By	Date/Time	Received By	Date/Time	Cooler Temp: #	T#	Obs.	Corr.
1	Colt Petri	1/23/17 1800	walk in fridge					
2			D-2	1/24/17 730	1	6	1.4°C	1.4°C
3					2			

Client Special Instructions:

Lab Use Only:

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Q1702862
245550

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45206720 - HBN 55144 **PO #Q1702862** **Results Requested By**

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1702862001	1/23/2017 12:29		Aqueous	1						X	X											
2	Q1702862002	1/23/2017 14:43		Aqueous	1						X	X											
3	Q1702862003	1/23/2017 15:41		Aqueous	1						X	X											
4	Q1702862004	1/19/2017 13:12		Aqueous	1						X	X											
5	Q1702862005	1/19/2017 12:17		Aqueous	1						X	X											
6	Q1702862006	1/23/2017 13:34		Aqueous	1						X	X											
7	Q1702862007	1/23/2017 15:45		Aqueous	1						X	X											
8	Q1702862008	1/23/2017 15:50		Aqueous	1						X	X											
9	Q1702862009	1/23/2017 15:51		Aqueous	1						X	X											

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45206720 - HBN 55144 **PO #** **Results Requested By**

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228										LAB USE ONLY
10																						
11																						
12																						
13																						

Report

- [ ] Standard (Results only)
- [ ] Standard with Batch QC
- [ ] CLP
- [ ] Other _____

Electronic Data Deliverables

- [ ] SEDD Stage 2A
- [ ] SEDD Stage 2B
- [ ] SEDD Stage 3
- [ ] Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1702862 ON INVOICE.

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Preservative

COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	1/30/17 800		
2				
3				
4				
5				

2001.2.0.0

FedEx Shipment Receipt

Address Information

Ship to:	**Ship from:**
Sample Receiving- Summit Env	Sample Receiving
SUMMIT ENVIRONMENTAL TECHNOLOGIES	ENVIRONMENTAL LABORATORY SERVICES
3310 WIN ST	3505 MONTOPOLIS DRIVE LCRA-ENVIRONMENTAL LAB ONLY
CUYAHOGA FALLS, OH	AUSTIN, TX
442233790	78744
US	US
8002780140	5123566022

Shipment Information:
Tracking no.: 778305014827
Ship date: 01/30/2017
Estimated shipping charges: 0.00

Package Information
Pricing option: FedEx Standard Rate
Service type: FedEx Ground
Package type: Your Packaging
Number of packages: 2
Total weight: 120 LBS
Declared Value: 0.00 USD
Special Services:
Pickup/Drop-off: pickup confirmation number:CPU845670300

Billing Information:
Bill transportation to: Third party
Your reference: 3533318
P.O. no.:
Invoice no.:
Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits; Consult the applicable FedEx Service Guide for details.
The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

February 2, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1702863

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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and with written approval from LCRA Environmental Laboratory Services.

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

SAMPLE SUMMARY

Workorder: Q1702863

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1702863001	CBL - 340I	Aqueous	1/23/2017 12:29	1/24/2017 07:30
Q1702863002	CBL - 301I	Aqueous	1/23/2017 14:43	1/24/2017 07:30
Q1702863003	CBL - 302I	Aqueous	1/23/2017 15:41	1/24/2017 07:30
Q1702863004	CBL - 306I	Aqueous	1/19/2017 13:12	1/24/2017 07:30
Q1702863005	CBL - 308I	Aqueous	1/19/2017 12:17	1/24/2017 07:30
Q1702863006	CBL - 341I	Aqueous	1/23/2017 13:34	1/24/2017 07:30
Q1702863007	CBL - 602I	Aqueous	1/23/2017 15:45	1/24/2017 07:30
Q1702863008	FB # 1	Aqueous	1/23/2017 15:50	1/24/2017 07:30
Q1702863009	EQB # 1	Aqueous	1/23/2017 15:51	1/24/2017 07:30

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

PROJECT SUMMARY

Workorder: Q1702863

Workorder Comments

Q1702863007 - CBL - 602I is a duplicate sample for Q1702863003 - CBL - 302I.

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863001**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	1/23/2017 12:29	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2070	mg/L	50.0	20.0		50	01/24/17 18:31	ML	01/24/17 18:31	ML	
Fluoride	0.840	mg/L	0.500	0.200		50	01/24/17 18:31	ML	01/24/17 18:31	ML	
Sulfate	571	mg/L	50.0	20.0		50	01/24/17 18:31	ML	01/24/17 18:31	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	01/26/17 16:11	MM	01/30/17 15:31	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	01/26/17 16:11	MM	01/30/17 15:31	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	01/26/17 16:11	MM	01/30/17 15:31	SLW	
Chromium Total	0.00179	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:31	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:31	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	01/26/17 16:11	MM	01/30/17 15:31	SLW	
Lithium Total	0.0887	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:31	SLW	N
Molybdenum Total	0.00284	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:31	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	01/26/17 16:11	MM	01/30/17 15:31	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	01/26/17 16:11	MM	01/30/17 15:31	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	01/25/17 12:10	FM	01/26/17 07:32	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6230	mg/L	250	250		100	01/25/17 12:18	CG	01/25/17 12:18	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0275	mg/L	0.0100	0.00400	2	1	01/26/17 16:18	MM	02/01/17 14:57	FO	

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863001**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	1/23/2017 12:29	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	01/26/17 16:18	MM	02/01/17 14:57	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	01/26/17 16:18	MM	02/01/17 14:57	FO	
Calcium Total	627	mg/L	1.00	0.350		5	01/26/17 16:18	MM	01/31/17 13:49	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	22.79	C		1	01/23/17 12:29	CCP	01/23/17 12:29	CCP	N
pH	5.46	pH		1	01/23/17 12:29	CCP	01/23/17 12:29	CCP	N
Specific Conductance	8259	us/cm		1	01/23/17 12:29	CCP	01/23/17 12:29	CCP	N

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863002**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	1/23/2017 14:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	3200	mg/L	50.0	20.0		50	01/24/17 17:41	ML	01/24/17 17:41	ML	
Fluoride	0.312	mg/L	0.250	0.100		25	01/25/17 22:19	ML	01/25/17 22:19	ML	
Sulfate	488	mg/L	50.0	20.0		50	01/24/17 17:41	ML	01/24/17 17:41	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	01/26/17 16:11	MM	01/30/17 16:22	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	01/26/17 16:11	MM	01/30/17 16:22	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	01/26/17 16:11	MM	01/30/17 16:22	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:22	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:22	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	01/26/17 16:11	MM	01/30/17 16:22	SLW	
Lithium Total	0.0910	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:22	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:22	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	01/26/17 16:11	MM	01/30/17 16:22	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	01/26/17 16:11	MM	01/30/17 16:22	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	01/25/17 12:10	FM	01/26/17 07:34	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6140	mg/L	250	250		100	01/25/17 12:18	CG	01/25/17 12:18	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0497	mg/L	0.0100	0.00400	2	1	01/26/17 16:18	MM	02/01/17 15:04	FO	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863002**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	1/23/2017 14:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	01/26/17 16:18	MM	02/01/17 15:04	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	01/26/17 16:18	MM	02/01/17 15:04	FO	
Calcium Total	1000	mg/L	1.00	0.350		5	01/26/17 16:18	MM	01/31/17 13:54	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	23.83	C			1	01/23/17 14:43	CCP	01/23/17 14:43	CCP	N
pH	6.26	pH			1	01/23/17 14:43	CCP	01/23/17 14:43	CCP	N
Specific Conductance	7532	us/cm			1	01/23/17 14:43	CCP	01/23/17 14:43	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863003**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	1/23/2017 15:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2080	mg/L	50.0	20.0		50	01/24/17 18:14	ML	01/24/17 18:14	ML	
Fluoride	0.332	mg/L	0.250	0.100		25	01/25/17 22:36	ML	01/25/17 22:36	ML	
Sulfate	1150	mg/L	50.0	20.0		50	01/24/17 18:14	ML	01/24/17 18:14	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	01/26/17 16:11	MM	01/30/17 16:24	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	01/26/17 16:11	MM	01/30/17 16:24	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	01/26/17 16:11	MM	01/30/17 16:24	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:24	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:24	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	01/26/17 16:11	MM	01/30/17 16:24	SLW	
Lithium Total	0.0402	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:24	SLW	N
Molybdenum Total	0.00286	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:24	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	01/26/17 16:11	MM	01/30/17 16:24	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	01/26/17 16:11	MM	01/30/17 16:24	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	01/25/17 12:10	FM	01/26/17 07:36	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6430	mg/L	250	250		100	01/25/17 12:18	CG	01/25/17 12:18	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0269	mg/L	0.0100	0.00400	2	1	01/31/17 18:16	MM	02/01/17 15:12	FO	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863003**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	1/23/2017 15:41	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	01/31/17 18:16	MM	02/01/17 15:12	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	01/31/17 18:16	MM	02/01/17 15:12	FO	
Calcium Total	1100	mg/L	1.00	0.350		5	01/26/17 16:18	MM	01/31/17 13:34	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	22.13	C	1	01/23/17 15:41	CCP	01/23/17 15:41	CCP	N	
pH	5.36	pH	1	01/23/17 15:41	CCP	01/23/17 15:41	CCP	N	
Specific Conductance	7723	us/cm	1	01/23/17 15:41	CCP	01/23/17 15:41	CCP	N	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863004**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	1/19/2017 13:12	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	197	mg/L	10.0	4.00		10	01/24/17 22:07	ML	01/24/17 22:07	ML	
Fluoride	1.85	mg/L	0.100	0.0400		10	01/24/17 22:07	ML	01/24/17 22:07	ML	
Sulfate	270	mg/L	10.0	4.00		10	01/24/17 22:07	ML	01/24/17 22:07	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	01/26/17 16:11	MM	01/30/17 16:26	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	01/26/17 16:11	MM	01/30/17 16:26	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	01/26/17 16:11	MM	01/30/17 16:26	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:26	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:26	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	01/26/17 16:11	MM	01/30/17 16:26	SLW	
Lithium Total	0.0281	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:26	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 16:26	SLW	
Selenium Total	0.00652	mg/L	0.00500	0.00170	0.05	1	01/26/17 16:11	MM	01/30/17 16:26	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	01/26/17 16:11	MM	01/30/17 16:26	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	01/25/17 12:10	FM	01/26/17 07:38	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	1320	mg/L	125	125		50	01/25/17 12:18	CG	01/25/17 12:18	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0706	mg/L	0.0100	0.00400	2	1	01/31/17 18:14	MM	02/01/17 15:19	FO	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863004**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	1/19/2017 13:12	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	01/31/17 18:14	MM	02/01/17 15:19	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	01/31/17 18:14	MM	02/01/17 15:19	FO	
Calcium Total	174	mg/L	0.200	0.0700		1	01/26/17 16:18	MM	01/31/17 12:53	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	20.83	C		1	01/19/17 13:12	CCP	01/19/17 13:12	CCP	N
pH	7.29	pH		1	01/19/17 13:12	CCP	01/19/17 13:12	CCP	N
Specific Conductance	1422	us/cm		1	01/19/17 13:12	CCP	01/19/17 13:12	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863005**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	1/19/2017 12:17	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2360	mg/L	50.0	20.0		50	01/24/17 18:48	ML	01/24/17 18:48	ML	
Fluoride	1.33	mg/L	0.500	0.200		50	01/24/17 18:48	ML	01/24/17 18:48	ML	
Sulfate	1320	mg/L	50.0	20.0		50	01/24/17 18:48	ML	01/24/17 18:48	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	01/26/17 16:11	MM	01/30/17 15:43	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	01/26/17 16:11	MM	01/30/17 15:43	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	01/26/17 16:11	MM	01/30/17 15:43	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:43	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:43	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	01/26/17 16:11	MM	01/30/17 15:43	SLW	
Lithium Total	0.106	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:43	SLW	N
Molybdenum Total	0.00130	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:43	SLW	
Selenium Total	0.00995	mg/L	0.00500	0.00170	0.05	1	01/26/17 16:11	MM	01/30/17 15:43	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	01/26/17 16:11	MM	01/30/17 15:43	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	01/25/17 12:10	FM	01/26/17 07:39	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	9620	mg/L	500	500		200	01/25/17 12:18	CG	01/25/17 12:18	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0458	mg/L	0.0100	0.00400	2	1	01/26/17 16:18	MM	02/01/17 15:26	FO	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863005**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	1/19/2017 12:17	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	01/26/17 16:18	MM	02/01/17 15:26	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	01/26/17 16:18	MM	02/01/17 15:26	FO	
Calcium Total	919	mg/L	1.00	0.350		5	01/26/17 16:18	MM	01/31/17 13:59	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	22.11	C			1	01/19/17 12:17	CCP	01/19/17 12:17	CCP	N
pH	6.83	pH			1	01/19/17 12:17	CCP	01/19/17 12:17	CCP	N
Specific Conductance	9681	us/cm			1	01/19/17 12:17	CCP	01/19/17 12:17	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863006**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	1/23/2017 13:34	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1600	mg/L	50.0	20.0		50	01/24/17 19:21	ML	01/24/17 19:21	ML	
Fluoride	0.530	mg/L	0.250	0.100		25	01/25/17 22:52	ML	01/25/17 22:52	ML	
Sulfate	307	mg/L	50.0	20.0		50	01/24/17 19:21	ML	01/24/17 19:21	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	01/26/17 16:11	MM	01/30/17 15:45	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	01/26/17 16:11	MM	01/30/17 15:45	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	01/26/17 16:11	MM	01/30/17 15:45	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:45	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:45	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	01/26/17 16:11	MM	01/30/17 15:45	SLW	
Lithium Total	0.0858	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:45	SLW	N
Molybdenum Total	0.00112	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:45	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	01/26/17 16:11	MM	01/30/17 15:45	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	01/26/17 16:11	MM	01/30/17 15:45	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	01/25/17 12:10	FM	01/26/17 07:41	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5000	mg/L	250	250		100	01/25/17 12:18	CG	01/25/17 12:18	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0703	mg/L	0.0100	0.00400	2	1	01/26/17 16:18	MM	02/01/17 14:36	FO	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863006**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	1/23/2017 13:34	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	01/26/17 16:18	MM	02/01/17 14:36	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	01/26/17 16:18	MM	02/01/17 14:36	FO	
Calcium Total	854	mg/L	1.00	0.350		5	01/26/17 16:18	MM	01/31/17 14:04	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	21.95	C		1	01/23/17 13:34	CCP	01/23/17 13:34	CCP	N
pH	5.74	pH		1	01/23/17 13:34	CCP	01/23/17 13:34	CCP	N
Specific Conductance	6053	us/cm		1	01/23/17 13:34	CCP	01/23/17 13:34	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863007**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	1/23/2017 15:45	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1820	mg/L	50.0	20.0		50	01/24/17 19:37	ML	01/24/17 19:37	ML	
Fluoride	0.372	mg/L	0.250	0.100		25	01/25/17 23:09	ML	01/25/17 23:09	ML	
Sulfate	963	mg/L	50.0	20.0		50	01/24/17 19:37	ML	01/24/17 19:37	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	01/26/17 16:11	MM	01/30/17 15:47	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	01/26/17 16:11	MM	01/30/17 15:47	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	01/26/17 16:11	MM	01/30/17 15:47	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:47	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:47	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	01/26/17 16:11	MM	01/30/17 15:47	SLW	
Lithium Total	0.0488	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:47	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:47	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	01/26/17 16:11	MM	01/30/17 15:47	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	01/26/17 16:11	MM	01/30/17 15:47	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	01/25/17 12:10	FM	01/26/17 07:43	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6390	mg/L	250	250		100	01/25/17 15:19	CG	01/25/17 15:19	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0265	mg/L	0.0100	0.00400	2	1	01/26/17 16:18	MM	02/01/17 15:33	FO	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863007**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**CBL - 602I**	Date Collected:	1/23/2017 15:45	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	01/26/17 16:18	MM	02/01/17 15:33	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	01/26/17 16:18	MM	02/01/17 15:33	FO	
Calcium Total	1030	mg/L	1.00	0.350		5	01/26/17 16:18	MM	01/31/17 14:09	FO	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863008**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	1/23/2017 15:50	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	01/25/17 00:03	ML	01/25/17 00:03	ML	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	01/25/17 00:03	ML	01/25/17 00:03	ML	
Sulfate	<1.00	mg/L	1.00	0.400		1	01/25/17 00:03	ML	01/25/17 00:03	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	01/26/17 16:11	MM	01/30/17 15:49	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	01/26/17 16:11	MM	01/30/17 15:49	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	01/26/17 16:11	MM	01/30/17 15:49	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:49	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:49	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	01/26/17 16:11	MM	01/30/17 15:49	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:49	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:49	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	01/26/17 16:11	MM	01/30/17 15:49	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	01/26/17 16:11	MM	01/30/17 15:49	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	01/25/17 12:10	FM	01/26/17 07:45	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<25.0	mg/L	25.0	25.0		10	01/25/17 15:19	CG	01/25/17 15:19	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	01/31/17 18:14	MM	02/01/17 15:41	FO	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863008**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	1/23/2017 15:50	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	01/31/17 18:14	MM	02/01/17 15:41	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	01/31/17 18:14	MM	02/01/17 15:41	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	01/26/17 16:18	MM	01/31/17 13:14	FO	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863009**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**EQB # 1**	Date Collected:	1/23/2017 15:51	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	01/24/17 23:46	ML	01/24/17 23:46	ML	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	01/24/17 23:46	ML	01/24/17 23:46	ML	
Sulfate	<1.00	mg/L	1.00	0.400		1	01/24/17 23:46	ML	01/24/17 23:46	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	01/26/17 16:11	MM	01/30/17 15:51	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	01/26/17 16:11	MM	01/30/17 15:51	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	01/26/17 16:11	MM	01/30/17 15:51	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:51	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:51	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	01/26/17 16:11	MM	01/30/17 15:51	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:51	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	01/26/17 16:11	MM	01/30/17 15:51	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	01/26/17 16:11	MM	01/30/17 15:51	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	01/26/17 16:11	MM	01/30/17 15:51	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	01/25/17 12:10	FM	01/26/17 07:47	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<25.0	mg/L	25.0	25.0		10	01/25/17 15:19	CG	01/25/17 15:19	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	01/31/17 18:14	MM	02/01/17 15:49	FO	

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ANALYTICAL RESULTS

Workorder: Q1702863

Lab ID:	**Q1702863009**	Date Received:	1/24/2017 07:30	Matrix:	Aqueous
Sample ID:	**EQB # 1**	Date Collected:	1/23/2017 15:51	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	01/31/17 18:14	MM	02/01/17 15:49	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	01/31/17 18:14	MM	02/01/17 15:49	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	01/26/17 16:18	MM	01/31/17 13:19	FO	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1702863

PARAMETER QUALIFIERS

Lab ID: Q1702863001

N Not Accredited

Lab ID: Q1702863002

N Not Accredited

Lab ID: Q1702863003

N Not Accredited

Lab ID: Q1702863004

N Not Accredited

Lab ID: Q1702863005

N Not Accredited

Lab ID: Q1702863006

N Not Accredited

Lab ID: Q1702863007

N Not Accredited

Lab ID: Q1702863008

N Not Accredited

Lab ID: Q1702863009

N Not Accredited

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QUALITY CONTROL DATA

Workorder: Q1702863

QC Batch: WET/12880 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1702863001, Q1702863002, Q1702863003, Q1702863004, Q1702863005, Q1702863006, Q1702863007, Q1702863008, Q1702863009

METHOD BLANK: 794649

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

LABORATORY CONTROL SAMPLE: 794652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	31.4	105	90 - 110	
Fluoride	mg/L	1	1.04	104	90 - 110	
Sulfate	mg/L	30	31.3	104	90 - 110	

MATRIX SPIKE: 794653 DUPLICATE: 794654 ORIGINAL: Q1702864002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	mg/L	123	100	204	206	81.5	82.6	80 - 120	.976	20	
Fluoride	mg/L	1.3	5	5.45	5.51	83	84.2	80 - 120	1.09	20	
Sulfate	***mg/L***	***207***	***100***	***286***	***287***	***79.6***	***79.9***	***80 - 120***	***.349***	***20***	***S***

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1702863

QC Batch: WET/12898 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1702863001, Q1702863002, Q1702863003, Q1702863004, Q1702863005, Q1702863006

METHOD BLANK: 795499

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 795500

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	400	373	371	93.2	92.8	80 - 120	.538	20	

MATRIX SPIKE SAMPLE: 795502 ORIGINAL: Q1702605002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	383	400	734	87.8	70 - 130	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1702863

QC Batch: MEP/6618 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1702863001, Q1702863002, Q1702863003, Q1702863004, Q1702863005, Q1702863006, Q1702863007, Q1702863008, Q1702863009

METHOD BLANK: 795512

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 795513

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	1.96	1.97	97.9	98.4	85 - 115	.509	20	

MATRIX SPIKE: 795515 DUPLICATE: 795516 ORIGINAL: Q1702863001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	1.75	1.72	87.7	86.2	70 - 130	1.73	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1702863

QC Batch: WET/12901 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1702863002, Q1702863003, Q1702863006, Q1702863007

METHOD BLANK: 795573

Parameter	Units	Blank Result	Reporting Limit	Qual
Fluoride	mg/L	<0.0100	0.0100	

LABORATORY CONTROL SAMPLE: 795574

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Fluoride	mg/L	1	1	100	90 - 110	

MATRIX SPIKE: 795575 DUPLICATE: 795576 ORIGINAL: Q1703060002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Fluoride	mg/L	.15	1	1.1	1.11	95.4	96.1	80 - 120	.905	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1702863

QC Batch: WET/12904 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1702863007, Q1702863008, Q1702863009

METHOD BLANK: 795699

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 795700

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	400	395	362	98.8	90.5	80 - 120	8.72	20	

MATRIX SPIKE SAMPLE: 795720 ORIGINAL: Q1702969006

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	154	400	474	80	70 - 130	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1702863

QC Batch: MEP/6625 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1702863001, Q1702863002, Q1702863003, Q1702863004, Q1702863005, Q1702863006, Q1702863007, Q1702863008, Q1702863009

LABORATORY CONTROL SAMPLE: 796634

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.05	.05	99.6	101	85 - 115	1.79	20	
Arsenic Total	mg/L	.05	.05	.05	98.8	100	85 - 115	1.41	20	
Cadmium Total	mg/L	.05	.05	.05	97.1	98	85 - 115	.82	20	
Chromium Total	mg/L	.05	.05	.05	98.2	100	85 - 115	2.02	20	
Cobalt Total	mg/L	.05	.05	.05	101	101	85 - 115	.198	20	
Lead Total	mg/L	.05	.05	.05	99	101	85 - 115	1.6	20	
Lithium Total	mg/L	.05	.05	.05	90.9	91.9	85 - 115	.875	20	
Molybdenum Total	mg/L	.05	.05	.05	103	104	85 - 115	1.36	20	
Selenium Total	mg/L	.25	.24	.25	97.2	99.6	85 - 115	2.44	20	
Thallium Total	mg/L	.05	.05	.05	98.3	100	85 - 115	2.22	20	

METHOD BLANK: 796636

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1702863

MATRIX SPIKE: 796637 DUPLICATE: 796638 ORIGINAL: Q1702863001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Antimony Total	mg/L	0	.05	.05	.05	104	105	70 - 130	1.72	20	
Arsenic Total	mg/L	0	.05	.05	.05	103	106	70 - 130	2.88	20	
Cadmium Total	mg/L	0	.05	.05	.05	95.2	96.8	70 - 130	1.67	20	
Chromium Total	mg/L	0	.05	.05	.05	95.6	98	70 - 130	2.39	20	
Cobalt Total	mg/L	0	.05	.05	.05	96.6	98.9	70 - 130	2.45	20	
Lead Total	mg/L	0	.05	.05	.05	101	104	70 - 130	3.13	20	
Lithium Total	mg/L	.09	.05	.13	.13	73.2	81.6	70 - 130	3.15	20	
Molybdenum Total	mg/L	0	.05	.06	.06	106	108	70 - 130	2.49	20	
Selenium Total	mg/L	0	.25	.26	.27	105	107	70 - 130	1.52	20	
Thallium Total	mg/L	0	.05	.05	.05	99.8	102	70 - 130	2.38	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1702863

QC Batch: MEP/6627 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1702863001, Q1702863002, Q1702863003, Q1702863004, Q1702863005, Q1702863006, Q1702863007, Q1702863008, Q1702863009

LABORATORY CONTROL SAMPLE: 796666

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	***mg/L***	***1***	***.32***	***.32***	***32.4***	***31.9***	***80 - 120***	***1.56***	***20***	***S***
Beryllium Total	***mg/L***	***1***	***.32***	***.32***	***32***	***31.9***	***80 - 120***	***.313***	***20***	***S***
Boron Total	***mg/L***	***1***	***.37***	***.36***	***37***	***36***	***80 - 120***	***2.74***	***20***	***S***
Calcium Total	mg/L	10	10.5	10.3	105	103	80 - 120	1.92	20	

METHOD BLANK: 796668

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	0.0531	0.0500	
Calcium Total	mg/L	<0.200	0.200	

MATRIX SPIKE: 796669 DUPLICATE: 796670 ORIGINAL: Q1702863003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Calcium Total	***mg/L***	***1100***	***10***	***1140***	***1030***	***427***	***-619***	***75 - 125***	***10.1***	***20***	***S***

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1702863

QC Batch: MEP/6642 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1702863001, Q1702863002, Q1702863003, Q1702863004, Q1702863005, Q1702863006, Q1702863007, Q1702863008, Q1702863009

LABORATORY CONTROL SAMPLE: 798413

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	.97	.97	96.5	96.7	80 - 120	.207	20	
Beryllium Total	mg/L	1	.98	.96	97.6	96.4	80 - 120	1.24	20	
Boron Total	mg/L	1	.97	.96	97.1	96.4	80 - 120	.724	20	

METHOD BLANK: 798415

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	<0.0500	0.0500	

MATRIX SPIKE: 798416 DUPLICATE: 798417 ORIGINAL: Q1702863006

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.07	1	1.06	1.05	98.6	98	75 - 125	.948	20	
Beryllium Total	mg/L	0	1	1	.99	99.5	98.8	75 - 125	.706	20	
Boron Total	***mg/L***	***0***	***1***	***.51***	***.5***	***50.8***	***49.8***	***75 - 125***	***1.99***	***20***	***S***

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1702863

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1702863001	CBL - 340I			E300.0, Anions	WET/12880
Q1702863002	CBL - 301I			E300.0, Anions	WET/12880
Q1702863003	CBL - 302I			E300.0, Anions	WET/12880
Q1702863004	CBL - 306I			E300.0, Anions	WET/12880
Q1702863005	CBL - 308I			E300.0, Anions	WET/12880
Q1702863006	CBL - 341I			E300.0, Anions	WET/12880
Q1702863007	CBL - 602I			E300.0, Anions	WET/12880
Q1702863008	FB # 1			E300.0, Anions	WET/12880
Q1702863009	EQB # 1			E300.0, Anions	WET/12880
Q1702863001	CBL - 340I			SM2540C, TDS	WET/12898
Q1702863002	CBL - 301I			SM2540C, TDS	WET/12898
Q1702863003	CBL - 302I			SM2540C, TDS	WET/12898
Q1702863004	CBL - 306I			SM2540C, TDS	WET/12898
Q1702863005	CBL - 308I			SM2540C, TDS	WET/12898
Q1702863006	CBL - 341I			SM2540C, TDS	WET/12898
Q1702863001	CBL - 340I	SW7470A Hg in Liquid Waste	MEP/6618	SW7470A Hg in Liquid Waste	MET/5203
Q1702863002	CBL - 301I	SW7470A Hg in Liquid Waste	MEP/6618	SW7470A Hg in Liquid Waste	MET/5203
Q1702863003	CBL - 302I	SW7470A Hg in Liquid Waste	MEP/6618	SW7470A Hg in Liquid Waste	MET/5203
Q1702863004	CBL - 306I	SW7470A Hg in Liquid Waste	MEP/6618	SW7470A Hg in Liquid Waste	MET/5203
Q1702863005	CBL - 308I	SW7470A Hg in Liquid Waste	MEP/6618	SW7470A Hg in Liquid Waste	MET/5203
Q1702863006	CBL - 341I	SW7470A Hg in Liquid Waste	MEP/6618	SW7470A Hg in Liquid Waste	MET/5203
Q1702863007	CBL - 602I	SW7470A Hg in Liquid Waste	MEP/6618	SW7470A Hg in Liquid Waste	MET/5203
Q1702863008	FB # 1	SW7470A Hg in Liquid Waste	MEP/6618	SW7470A Hg in Liquid Waste	MET/5203
Q1702863009	EQB # 1	SW7470A Hg in Liquid Waste	MEP/6618	SW7470A Hg in Liquid Waste	MET/5203
Q1702863002	CBL - 301I			E300.0, Anions	WET/12901
Q1702863003	CBL - 302I			E300.0, Anions	WET/12901
Q1702863006	CBL - 341I			E300.0, Anions	WET/12901
Q1702863007	CBL - 602I			E300.0, Anions	WET/12901

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Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1702863

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1702863007	CBL - 602I			SM2540C, TDS	WET/12904
Q1702863008	FB # 1			SM2540C, TDS	WET/12904
Q1702863009	EQB # 1			SM2540C, TDS	WET/12904
Q1702863001	CBL - 340I	SW3010A, Metals Prep	MEP/6625	SW6020 ICP-MS	MET/5220
Q1702863002	CBL - 301I	SW3010A, Metals Prep	MEP/6625	SW6020 ICP-MS	MET/5220
Q1702863003	CBL - 302I	SW3010A, Metals Prep	MEP/6625	SW6020 ICP-MS	MET/5220
Q1702863004	CBL - 306I	SW3010A, Metals Prep	MEP/6625	SW6020 ICP-MS	MET/5220
Q1702863005	CBL - 308I	SW3010A, Metals Prep	MEP/6625	SW6020 ICP-MS	MET/5220
Q1702863006	CBL - 341I	SW3010A, Metals Prep	MEP/6625	SW6020 ICP-MS	MET/5220
Q1702863007	CBL - 602I	SW3010A, Metals Prep	MEP/6625	SW6020 ICP-MS	MET/5220
Q1702863008	FB # 1	SW3010A, Metals Prep	MEP/6625	SW6020 ICP-MS	MET/5220
Q1702863009	EQB # 1	SW3010A, Metals Prep	MEP/6625	SW6020 ICP-MS	MET/5220
Q1702863001	CBL - 340I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5217
Q1702863002	CBL - 301I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5217
Q1702863003	CBL - 302I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5217
Q1702863004	CBL - 306I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5217
Q1702863005	CBL - 308I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5217
Q1702863006	CBL - 341I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5217
Q1702863007	CBL - 602I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5217
Q1702863008	FB # 1	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5217
Q1702863009	EQB # 1	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5217
Q1702863001	CBL - 340I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5225
Q1702863002	CBL - 301I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5225
Q1702863005	CBL - 308I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5225
Q1702863006	CBL - 341I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5225
Q1702863007	CBL - 602I	SW3010A, Metals Prep	MEP/6627	SW6010B ICP-AES	MET/5225
Q1702863003	CBL - 302I	SW3010A, Metals Prep	MEP/6642	SW6010B ICP-AES	MET/5225
Q1702863004	CBL - 306I	SW3010A, Metals Prep	MEP/6642	SW6010B ICP-AES	MET/5225
Q1702863008	FB # 1	SW3010A, Metals Prep	MEP/6642	SW6010B ICP-AES	MET/5225
Q1702863009	EQB # 1	SW3010A, Metals Prep	MEP/6642	SW6010B ICP-AES	MET/5225

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Q1702863

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:	
Client PO:	

Project:	CCR Wells - January 2017	Client:	LCRA
Collector:	Jason Woods / Colt Petri	Contact:	
Event#:	1345350 / 4013	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP: FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* AQ = Aqueous S = Solid T = Tissue DW = Drinking Water	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	500PU	250PHNO3							Requested Analysis * 6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28						
CO1	1	CBL - 340I	1/23/17	1229	AQ	N	N	1	1							X	X	X	X	X	X						
CO2	2	CBL - 301I		1443	AQ	N	N	1	1							X	X	X	X	X	X						
CO3	3	CBL - 302I		1541	AQ	N	N	1	1							X	X	X	X	X	X						
CO4	4	CBL - 306I	1/19/17	1312	AQ	N	N	1	1							X	X	X	X	X	X						
CO5	5	CBL - 308I	1/19/17	1217	AQ	N	N	1	1							X	X	X	X	X	X						
CO6	6	CBL - 341I	1/23/17	1334 ~~1545~~ CP 1/24/17	AQ	N	N	1	1							X	X	X	X	X	X						
CO7	7	CBL - 602I		~~1550~~ CP 1/24/17	1545	N	N	1	1							X	X	X	X	X	X						
CO8	8	FB # 1		1550	AQ	N	N	1	1							X	X	X	X	X	X						
CO9	9	EQB # 1		1551	AQ	N	N	1	1							X	X	X	X	X	X						

Transfers	Relinquished By	Date/Time	Received By	Date/Time	Cooler Temp: #	T#	Obs.	Corr.
1	Colt Petri	1/23/17 1800	Walkin fridge					
2			[signature]	1/24/17 730	1	6	1.4°C	1.4°C
3					2			

Client Special Instructions:

Lab Use Only:

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

1/24/17

Q1702863 245551

FPP - CCR Groundwater Wells - Purge Data - January 2017

Date M/D/Y	Time HH:MM:SS	Temp C	DO mg/L	DOsat %	pH	SpCond uS	Orp mV	Monitoring Well
1/19/2017	11:47:46	20.65	5.32	61.2	7.05	9670	263.8	CBL - 308I
1/19/2017	11:47:56	20.71	5.05	58.2	7.04	9687	260.6	CBL - 308I
1/19/2017	11:50:56	21.99	2.81	33.2	6.96	9685	168.5	CBL - 308I
1/19/2017	11:53:56	22.04	2.37	28.0	6.92	9714	136.1	CBL - 308I
1/19/2017	11:56:56	22.10	2.33	27.6	6.89	9632	125.3	CBL - 308I
1/19/2017	11:59:56	22.12	2.42	28.7	6.88	9648	117.0	CBL - 308I
1/19/2017	12:02:56	22.16	2.43	28.7	6.87	9647	114.7	CBL - 308I
1/19/2017	12:05:56	22.16	2.55	30.2	6.86	9610	106.9	CBL - 308I
1/19/2017	12:08:56	22.13	2.44	28.9	6.85	9671	109.4	CBL - 308I
1/19/2017	12:11:56	22.13	2.61	30.9	6.85	9635	121.2	CBL - 308I
1/19/2017	12:14:56	22.16	1.58	18.7	6.84	9612	100.3	CBL - 308I
1/19/2017	12:17:07	22.11	1.90	22.5	6.83	9681	106.0	CBL - 308I
1/19/2017	12:51:05	20.83	6.36	71.6	7.44	2420	67.7	CBL - 306I
1/19/2017	12:51:40	20.92	5.51	62.1	7.45	2259	69.3	CBL - 306I
1/19/2017	12:51:53	20.93	5.45	61.4	7.45	2237	69.8	CBL - 306I
1/19/2017	12:54:53	20.58	4.63	51.8	7.28	2116	95.5	CBL - 306I
1/19/2017	12:57:53	20.45	4.47	49.9	7.23	2095	90.6	CBL - 306I
1/19/2017	13:00:53	20.66	4.26	47.8	7.22	2082	81.6	CBL - 306I
1/19/2017	13:02:27	20.78	4.10	46.0	7.24	1972	72.3	CBL - 306I
1/19/2017	13:05:27	20.82	3.63	40.8	7.28	1580	55.5	CBL - 306I
1/19/2017	13:08:27	20.83	3.39	38.1	7.32	1411	38.2	CBL - 306I
1/19/2017	13:09:19	20.83	3.37	37.8	7.32	1422	36.3	CBL - 306I
1/23/2017	10:57:52	21.27	9.09	104.6	7.28	6189	198.2	CBL - 301I
1/23/2017	10:58:02	21.10	8.50	97.5	7.08	6433	193.7	CBL - 301I
1/23/2017	11:01:02	22.47	0.78	9.2	6.55	7137	150.8	CBL - 301I
1/23/2017	11:04:02	22.91	0.89	10.6	6.52	7067	141.1	CBL - 301I
1/23/2017	11:07:02	23.20	0.86	10.3	6.52	7164	105.0	CBL - 301I
1/23/2017	11:10:02	23.29	0.85	10.2	6.45	7273	123.7	CBL - 301I
1/23/2017	11:13:02	23.37	0.84	10.1	6.37	7323	143.1	CBL - 301I
1/23/2017	11:16:02	23.40	0.90	10.8	6.31	7332	157.0	CBL - 301I
1/23/2017	11:19:02	23.45	0.85	10.2	6.27	7358	163.6	CBL - 301I
1/23/2017	11:22:02	23.37	0.77	9.3	6.23	7356	173.6	CBL - 301I
1/23/2017	11:25:02	23.24	0.80	9.6	6.15	7375	182.4	CBL - 301I
1/23/2017	11:28:02	23.28	0.68	8.1	6.14	7389	187.1	CBL - 301I
1/23/2017	11:29:59	23.15	0.56	6.7	6.15	7452	167.1	CBL - 301I
1/23/2017	11:50:02	22.88	4.89	58.5	6.56	8390	198.7	CBL - 340I
1/23/2017	11:50:12	22.90	4.86	58.1	6.55	8380	202.7	CBL - 340I
1/23/2017	11:53:12	22.76	4.22	50.3	6.28	8416	210.1	CBL - 340I
1/23/2017	11:56:12	22.78	3.92	46.7	6.44	8447	18.3	CBL - 340I

1/23/2017	11:59:12	22.80	3.76	44.9	6.24	8474	67.0	CBL - 340I
1/23/2017	12:02:12	22.79	3.71	44.2	6.26	8469	29.8	CBL - 340I
1/23/2017	12:05:12	22.81	3.74	44.6	6.08	8459	58.6	CBL - 340I
1/23/2017	12:08:12	22.93	3.72	44.4	5.98	8430	56.6	CBL - 340I
1/23/2017	12:11:12	22.84	3.72	44.4	5.75	8408	115.0	CBL - 340I
1/23/2017	12:12:14	22.91	3.69	43.9	5.71	7090	125.2	CBL - 340I
1/23/2017	12:15:14	22.88	3.68	44.0	5.70	8366	142.2	CBL - 340I
1/23/2017	12:18:14	22.93	3.66	43.7	5.71	8334	135.4	CBL - 340I
1/23/2017	12:21:14	22.92	3.64	43.6	5.51	8311	234.4	CBL - 340I
1/23/2017	12:24:14	22.92	3.69	44.1	5.41	8275	398.3	CBL - 340I
1/23/2017	12:26:03	22.87	3.49	41.7	5.45	8282	423.0	CBL - 340I
1/23/2017	12:29:03	22.79	3.48	41.5	5.46	8259	258.5	CBL - 340I
1/23/2017	13:03:50	23.73	6.83	82.3	6.53	6211	113.4	CBL - 341I
1/23/2017	13:03:56	23.72	6.44	77.6	6.49	6226	114.0	CBL - 341I
1/23/2017	13:06:56	22.45	3.41	40.1	5.92	6058	156.7	CBL - 341I
1/23/2017	13:09:56	22.35	2.92	34.3	5.75	6047	209.1	CBL - 341I
1/23/2017	13:12:56	22.24	2.83	33.1	5.65	6040	266.1	CBL - 341I
1/23/2017	13:15:56	22.14	2.70	31.5	5.66	6033	342.2	CBL - 341I
1/23/2017	13:18:56	22.03	2.61	30.4	5.70	6034	396.2	CBL - 341I
1/23/2017	13:21:56	21.97	2.58	30.1	5.75	6039	399.7	CBL - 341I
1/23/2017	13:24:56	22.01	2.51	29.3	5.76	6032	419.0	CBL - 341I
1/23/2017	13:27:56	21.98	2.56	29.8	5.77	6051	440.3	CBL - 341I
1/23/2017	13:30:56	21.94	2.51	29.2	5.78	6057	457.8	CBL - 341I
1/23/2017	13:34:21	21.95	2.50	29.1	5.74	6053	487.5	CBL - 341I
1/23/2017	14:32:55	22.41	13.02	153.7	6.76	7529	94.9	CBL - 302I
1/23/2017	14:36:45	22.32	7.10	83.7	6.65	7548	108.8	CBL - 302I
1/23/2017	14:39:45	23.60	0.97	11.7	6.29	7527	165.0	CBL - 302I
1/23/2017	14:42:45	23.83	0.85	10.3	6.26	7532	177.4	CBL - 302I
1/23/2017	15:17:25	22.86	7.60	90.5	6.25	7637	472.8	CBL - 302I
1/23/2017	15:17:31	22.82	6.68	79.6	6.20	7722	475.3	CBL - 302I
1/23/2017	15:20:31	21.78	2.94	34.4	5.64	7745	566.0	CBL - 302I
1/23/2017	15:23:31	21.88	2.34	27.3	5.59	7737	544.0	CBL - 302I
1/23/2017	15:26:31	21.95	2.03	23.7	5.49	7734	529.8	CBL - 302I
1/23/2017	15:29:58	22.03	1.78	20.9	5.43	7730	507.9	CBL - 302I
1/23/2017	15:32:58	22.09	1.67	19.6	5.39	7713	475.0	CBL - 302I
1/23/2017	15:35:05	22.08	1.58	18.6	5.39	7715	483.7	CBL - 302I
1/23/2017	15:38:05	22.12	1.47	17.3	5.36	7718	437.7	CBL - 302I
1/23/2017	15:41:05	22.13	1.37	16.1	5.36	7723	365.1	CBL - 302I

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Field Information Form

Sample Date: 1/23/17
Sample Time: 1443
Sample ID: CBL301I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170123		V= 2.9	9	15

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | (N)
Sampling Equipment ..... Dedicated | Y | (N)

Purging Device	A	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	A	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	36.29 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.10 (ft)	Pump Placement	50 (ft)

PH: 6.26 (STD)
Specific Conductivity: 7532 uS/cm
Sample Temp. 23.83 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	Y
P	500mL	ICE	Anions + TDS	Y
P	4L	HNO_3	Radium 226 + 228	

Sample Appearance: milky white Odor: None Color: milky white Turbidity: ~~302~~ ~~143~~ 40.5 CP 1/23/17
Weather Conditions: Sunny North wind 0-5mp 65°
Other: Purge water is milky white with sediment in it Purge well until dry. Allowed the well to recover and sampled (6 hours)

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Ground water SOP 5-7D

Date: 1/23/17
Sampler: CP/JG
Employer: LCRA

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

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Field Information Form

Sample Date: 1/19/17 (11)
Sample Time: 1217
Sample ID: CBL-308I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	V= WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170119		1.7	5.2	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Spectfy)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing = D_w	24.60 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	30 (ft)

PH 6.83 (STD) Specific Conductivity 9681 uS/cm Sample Temp. 22.11 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250ml	HNO_3	Metals	N
P	500ml	ICE	Anions + TDS	N
P	4L	HNO_3	Radium 226 + 228	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 0.62 ntu
Weather Conditions: Overcast, 5mph Sound, 60°
Other: Purge water is clear w/ no odor, collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ galtft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS - Groundwater SOP 5-20
Date: 1/19/2017
Sampler: JBW / CP
Employer: LCRA

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Field Information Form

Sample Date: 1/19/17 (12)
Sample Time: 1312
Sample ID: CBL306I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170119		V= 1.5	4.6	4

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	5.31 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.80 (ft)	Pump Placement	12 (ft)

PH 7.29 (STD)
Specific Conductivity 1422 uS/cm
Sample Temp. 20.83 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions + TDS	N
P	4L	HNO_3	Radium 226 + 228	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 4.49
Weather Conditions: Overcast, 10mph S wind, 60°
Other: Purgewater is clear w/ no odor. Collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w= depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No
If No, Explain

Procedure: ELS-Groundwater SOP 5-70
Date: 1/19/2017
Sampler: JBW/CP
Employer: LCRA

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Field Information Form

Sample Date: 1/23/17
Sample Time: 1541
Sample ID: CBL302 D

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
160123		V= 3.4	10	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- ____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	6.48 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.11 (ft)	Pump Placement	26 (ft)

5.36 (STD) PH — 7723 uS/cm Specific Conductivity — Sample Temp. 22.13 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions + TDS	N
P	250mL	HNO_3	Metals CBL602 Duplicate	N
P	500mL	ICE	Anions CBL602 " / Radium 226+228	N
P	250mL	HNO_3	Metals EQ Blank.	
P	500mL	ICE	Anions EQ	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 0.76
Weather Conditions: Clear Calm
Other: Purge water is clear w/ no odor, Collected all samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS Ground water SOP 5-70
Date: 1/23/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 1/23/17
Sample Time: 1229
Sample ID: CBL390I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170123		V= 3	9	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	21.75 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.20 (ft)	Pump Placement	38 (ft)

PH 5.46 (STD) Specific Conductivity 8259 uS/cm Sample Temp. 22.79 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions + TDS	N
P	4L	HNO_3	Radium 226 + Radium 228	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 1.26
Weather Conditions: Clear Northwind 0-5mph 70°
Other: Purge water is clear w/ no odor, collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross-sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS Groundwater SOP 5-70
Date: 1/23/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 1/23/17
Sample Time: 1334
Sample ID: CBL3411I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170123		V= 5	15	10

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	16.12 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	40 (ft)

PH: 5.74 (STD) Specific Conductivity: 6053 uS/cm Sample Temp. 21.95 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions + TDS	N
P	4L	HNO_3	Radium 226 + 228	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 1.61
Weather Conditions: Clear Sunny N wind 0-5mph 70°
Other: Purged 40 gallons on 1/19/2017. New monitoring well. Purge water is clear w/ no odor.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No New Well
If No, Explain

Procedure: ELS Groundwater SOP 5-70
Date: 1/23/17
Sampler: CP/JG
Employer: LCRA

New Monitoring well installed Jan. 2017

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FPP - CCR Well - Groundwater Purge Data - July 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
7/26/2017	12:08:36	24.21	6.14	0.47	5.8	7450	117.8	CBL 301 I
7/26/2017	12:11:36	24.52	6.10	0.36	4.4	7412	128.4	CBL 301 I
7/26/2017	12:14:36	24.68	6.07	0.32	3.9	7392	135.4	CBL 301 I
7/26/2017	12:17:36	24.73	6.05	0.30	3.7	7383	139.2	CBL 301 I
7/26/2017	12:20:36	24.72	6.04	0.27	3.3	7385	141.5	CBL 301 I
7/26/2017	12:23:37	24.94	6.04	0.26	3.2	7393	143.9	CBL 301 I
7/26/2017	12:26:30	24.94	6.04	0.24	3.0	7379	146.6	CBL 301 I
7/26/2017	12:29:33	24.95	6.02	0.19	2.4	7365	148.5	CBL 301 I
7/26/2017	13:00:23	26.70	6.84	5.90	74.3	3049	172.1	CBL 306I
7/26/2017	13:03:23	24.69	6.55	3.06	37.1	2625	186.3	CBL 306I
7/26/2017	13:06:23	24.43	6.48	2.37	28.5	2597	198.6	CBL 306I
7/26/2017	13:09:23	24.21	6.44	1.54	18.5	2666	209.6	CBL 306I
7/26/2017	13:12:23	24.00	6.39	1.26	15.1	2807	221.1	CBL 306I
7/26/2017	13:15:23	24.77	6.39	2.49	30.3	3042	231.1	CBL 306I
7/26/2017	13:18:40	24.41	6.39	3.44	41.6	3337	244.0	CBL 306I
7/26/2017	13:21:40	24.19	6.33	2.60	31.3	3404	199.7	CBL 306I
7/26/2017	13:55:45	27.92	6.73	6.08	80.1	10526	186.6	CBL 308I
7/26/2017	13:58:45	24.99	6.30	3.14	39.3	10418	188.7	CBL 308I
7/26/2017	14:01:45	24.79	6.19	2.78	34.6	10328	180.6	CBL 308I
7/26/2017	14:04:45	24.78	6.14	2.78	34.6	10276	180.2	CBL 308I
7/26/2017	14:07:45	24.68	6.11	2.51	31.3	10245	182.7	CBL 308I
7/26/2017	14:10:45	24.64	6.09	2.49	30.9	10184	186.5	CBL 308I
7/26/2017	14:13:45	24.30	6.09	2.41	29.7	10153	189.4	CBL 308I
7/26/2017	14:16:47	24.25	6.12	2.29	28.2	10147	185.7	CBL 308I
7/26/2017	14:19:47	24.18	6.16	2.33	28.7	10065	187.5	CBL 308I
7/26/2017	14:22:47	24.41	6.18	2.16	26.6	9985	188.1	CBL 308I
7/26/2017	14:25:47	24.54	6.19	2.08	25.8	9960	188.9	CBL 308I
7/26/2017	14:28:48	24.61	6.23	2.08	25.8	9968	187.8	CBL 308I
7/26/2017	14:31:48	24.58	6.25	2.10	26.1	9959	184.8	CBL 308I
7/26/2017	14:34:48	24.32	6.26	2.15	26.5	9975	183.6	CBL 308I
7/26/2017	14:37:57	24.36	6.26	2.06	25.4	9931	180.6	CBL 308I
7/26/2017	14:41:46	24.50	6.27	2.08	25.8	9936	178.2	CBL 308I
7/26/2017	14:44:46	24.75	6.27	2.09	26.0	9929	176.5	CBL 308I
7/27/2017	9:37:28	23.64	6.76	6.89	83.6	8448	239.2	CBL340I
7/27/2017	9:37:38	23.47	6.72	6.18	74.7	8460	240.5	CBL340I
7/27/2017	9:40:38	22.91	6.53	4.14	49.5	8438	251.8	CBL340I
7/27/2017	9:43:38	22.77	6.49	3.75	44.7	8451	258.6	CBL340I
7/27/2017	9:46:38	22.73	6.47	3.55	42.2	8453	264.7	CBL340I
7/27/2017	9:49:38	22.72	6.45	3.41	40.7	8443	270.0	CBL340I

7/27/2017	9:52:32	22.71	6.45	3.36	40.0	8449	271.1	CBL340I
7/27/2017	9:55:32	22.63	6.44	3.25	38.7	8420	277.2	CBL340I
7/27/2017	9:58:32	22.63	6.44	3.22	38.2	8402	281.4	CBL340I
7/27/2017	10:01:32	22.70	6.44	3.17	37.7	8394	284.5	CBL340I
7/27/2017	10:04:32	22.73	6.44	3.14	37.4	8363	287.7	CBL340I
7/27/2017	10:07:32	22.74	6.43	3.12	37.1	8350	291.2	CBL340I
7/27/2017	10:10:32	22.77	6.43	3.15	37.5	8299	295.0	CBL340I
7/27/2017	10:13:32	22.77	6.42	3.13	37.3	8294	299.1	CBL340I
7/27/2017	10:16:12	22.73	6.42	3.10	36.9	8292	302.7	CBL340I
7/27/2017	10:43:32	24.22	6.60	9.13	111.5	7718	239.5	CBL 302I
7/27/2017	11:18:09	22.15	6.22	1.01	11.8	7751	270.4	CBL 302I
7/27/2017	11:21:02	22.18	6.21	1.00	11.8	7750	266.5	CBL 302I
7/27/2017	11:24:02	22.18	6.21	1.01	11.9	7746	267.4	CBL 302I
7/27/2017	11:27:02	22.22	6.20	1.00	11.8	7749	267.3	CBL 302I
7/27/2017	11:30:02	22.09	6.20	0.99	11.6	7751	268.9	CBL 302I
7/27/2017	11:33:02	22.11	6.20	0.99	11.6	7752	269.6	CBL 302I
7/27/2017	11:36:02	22.03	6.20	0.99	11.6	7754	270.5	CBL 302I
7/27/2017	11:39:02	22.10	6.20	0.99	11.6	7753	270.2	CBL 302I
7/27/2017	12:07:07	23.51	6.41	8.51	102.1	6189	223.3	CBL 341I
7/27/2017	12:10:07	22.78	6.27	3.38	40.0	6087	237.9	CBL 341I
7/27/2017	12:13:07	22.75	6.25	3.01	35.6	6089	242.7	CBL 341I
7/27/2017	12:16:07	22.74	6.25	2.87	33.9	6076	246.6	CBL 341I
7/27/2017	12:19:07	22.66	6.25	2.78	32.9	6072	251.2	CBL 341I
7/27/2017	12:22:07	22.80	6.25	2.70	32.0	6042	253.4	CBL 341I
7/27/2017	12:25:07	22.70	6.24	2.66	31.4	6082	256.8	CBL 341I
7/27/2017	12:28:07	22.91	6.24	2.60	30.9	6078	258.3	CBL 341I
7/27/2017	12:31:07	22.88	6.24	2.59	30.7	6069	261.2	CBL 341I
7/27/2017	12:34:07	22.76	6.24	2.65	31.3	6046	264.8	CBL 341I
7/27/2017	12:37:07	22.98	6.24	2.63	31.2	6016	266.7	CBL 341I
7/27/2017	12:40:07	22.96	6.23	2.61	31.0	5987	269.6	CBL 341I
7/27/2017	12:41:07	23.02	6.23	2.60	30.9	5977	270.5	CBL 341I
7/27/2017	12:44:07	23.02	6.23	2.57	30.5	6091	274.7	CBL 341I
7/27/2017	12:47:07	23.04	6.22	2.55	30.4	6075	278.8	CBL 341I
7/27/2017	12:50:07	23.08	6.22	2.55	30.4	6056	283.1	CBL 341I
7/27/2017	12:53:07	23.10	6.21	2.55	30.4	6031	287.7	CBL 341I
7/27/2017	12:56:07	23.09	6.21	3.06	36.4	6055	292.4	CBL 341I
7/27/2017	12:59:07	23.09	6.21	2.53	30.2	6046	296.4	CBL 341I
7/27/2017	13:02:07	23.12	6.21	2.53	30.1	6057	300.4	CBL 341I
7/27/2017	13:05:07	23.11	6.21	2.58	30.7	6050	304.4	CBL 341I
7/27/2017	13:08:05	23.17	6.21	2.58	30.7	6036	307.9	CBL 341I

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Field Information Form

Sample Date: 7/26/17 9

Sample Time: 1229

Sample ID: CBL30~~0~~1 I

CP 7/26/17

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	V= WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170726	1205	1	3	9

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated I Y I (N) Sampling Equipment ..... Dedicated I Y I (N)

Purging Device	4	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	4	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	~~53.33~~ 35. CP 7/26/17 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.10 (ft)	Pump Placement	(ft)

PH: 6.02 (STD) Specific Conductivity: 7365 uS/cm Sample Temp. 24.95 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	250m	HNO_3	Metals	N
P	500mL	ICE	Anion	N
P	500mL	ICE	Anions	N

4L - Radium 226+228 ICE 4L-Radium 226+228 EQ Blank 4L Radium 226+228 Field Blank

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 4.34

Weather Conditions: Partly Cloudy South wind 5-10mph 98°

Other: Purge water is milky white clearing after 4 gallons.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes ✓ No _____

If No, Explain _____

Procedure: ELS Ground water SOP 5-7D

Date: 7/26/17

Sampler: CP/JG

Employer: LCRA

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Field Information Form

Sample Date: 7/26/17
Sample Time: 920
Sample ID: CBL3061

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170726	1300	V= 0.7	2.1	2.5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	10.43 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.80 (ft)	Pump Placement	13 (ft)

6.94 (STD) PH 2687 uS/cm Specific Conductivity Sample Temp. 23.89 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226+228	N
P	250mL	HNO_3	Field Blank 2 Metals	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: _____
Weather Conditions: Partly Cloudy South wind 5-10mph 100°
Other: Purge Water is Clear with no odor. Well purged dry after 2.5 gallons

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-710

Date: 7/26/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 7/26/17
Sample Time: 1444
Sample ID: CBC3081

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170726	1255	V= 1.7	5.2	7

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | N | Sampling Equipment ..... Dedicated | Y | N |

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	24.71 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	(ft)

PH: 6.27 (STD) Specific Conductivity: 9929 uS/cm Sample Temp. 24.75 (°C)

Bottle			Analysis	Field Filt.Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226-228	N

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 0.85
Weather Conditions: Partly cloudy South wind 5-10mph 102°
Other:

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No
If No, Explain

Procedure: ELS Ground water SOP 5-70

Date:
Sampler:
Employer:

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Field Information Form

Sample Date: 7/27/17
Sample Time: 1016
Sample ID: CBL3401

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170727	0930	V= 28	84	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene
Sampling Material	F	B-Stainless Steel	D-PVC	
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene

C-Rope X- _____ (Specify)

X- _____ Purging Other (Specify)
X- _____ Sampling Other (Specify)
X- _____ Purging Other (Specify)
X- _____ Sampling Other (Specify)
X- _____ Purging Other (Specify)
X- _____ Sampling Other (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	23.00 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.14 (ft)	Pump Placement	34 (ft)

PH 6.42 (STD)
Specific Conductivity 8292 uS/cm
Sample Temp. 22.73 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226 + 228	N
				N

Sample Appearance: Clear Odor: none Color: clear Turbidity: 4.08
Weather Conditions: Partly Cloudy South wind 5-10mph 82°
Other: Purge water is clear with no odor

WELL VOLUME CALCULATION

V=(D-D_w) (A) (7.48 galtft³) where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
a. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-70
Date: 7/27/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 7/27/17
Sample Time: 1139
Sample ID: CBL3021

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	V= WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170727	1040	2.6	7.7	8

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Lift Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- ____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	11.4 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.1 (ft)	Pump Placement	20 (ft)

PH: 6.20 (STD) Specific Conductivity: 7753 uS/cm Sample Temp. 22.1 (°C)

Bottle Type	Size	Preservative	Analysis	Field Filt. Y/N
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226+228	N
P	250mL	HNO_3	Metals Field Blank 1	
P	500mL	ICE	Anions Field Blank 1	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 2.41
Weather Conditions: Partly Cloudy South wind 5-10mph 90°
Other: Purge water is clear with no odor

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross-sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: FLS Ground water SOP 5-71
Date: 7/27/17
Sampler: CP/JC
Employer: LCRA

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Field Information Form

Sample Date: 7/27/17 14
Sample Time: 1308
Sample ID: CBL3411

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
17 07 27	1205	V= 4.9	14.8	12

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	16.08 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	(ft)

PH: 6.21 (STD)
Specific Conductivity: 6036 uS/cm
Sample Temp. 23.17 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	500mL	ICE	Anions	
P	250mL	HNO_3	Metals	
P	4L	ICE	Radium 226+228	
P	4L	ICE	Radium 226+228 641 Dup	
P	250mL	HNO_3	metals 641 Dup	
P	500mL	ICE	Anions 641 Dup	

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 1.10
Weather Conditions: Partly Cloudy South Wind 5-10mph 95°
Other: Purge water is clear with no odor.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross-sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-7D
Date: 7/27/17
Sampler: CP/JG
Employer: LCRA

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
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August 9, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1730994

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

SAMPLE SUMMARY

Workorder: Q1730994

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1730994001	CBL - 301I	Aqueous	7/26/2017 12:29	7/27/2017 15:35
Q1730994002	CBL - 302I	Aqueous	7/27/2017 11:39	7/27/2017 15:35
Q1730994003	CBL - 306I	Aqueous	7/27/2017 09:26	7/27/2017 15:35
Q1730994004	CBL - 308I	Aqueous	7/26/2017 14:44	7/27/2017 15:35
Q1730994005	CBL - 340I	Aqueous	7/27/2017 10:16	7/27/2017 15:35
Q1730994006	CBL - 341I	Aqueous	7/27/2017 13:08	7/27/2017 15:35
Q1730994007	CBL - 641I	Aqueous	7/27/2017 13:10	7/27/2017 15:35
Q1730994008	FB # 1	Aqueous	7/26/2017 12:40	7/27/2017 15:35
Q1730994009	EQ Blank	Aqueous	7/26/2017 12:40	7/27/2017 15:35

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994001**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	7/26/2017 12:29	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2500	mg/L	50.0	20.0		50	07/27/17 22:37	BC	07/27/17 22:37	BC	
Fluoride	<0.0200	mg/L	0.0200	0.00800		2	07/28/17 15:34	BC	07/28/17 15:34	BC	
Sulfate	381	mg/L	50.0	20.0		50	07/27/17 22:37	BC	07/27/17 22:37	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	08/01/17 16:43	MM	08/02/17 14:01	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	08/01/17 16:43	MM	08/02/17 14:01	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	08/01/17 16:43	MM	08/02/17 14:01	SLW	
Chromium Total	0.00220	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:01	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:01	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	08/01/17 16:43	MM	08/02/17 14:01	SLW	
Lithium Total	0.0941	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/04/17 12:46	SLW	N
Molybdenum Total	0.00109	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:01	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	08/01/17 16:43	MM	08/02/17 14:01	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	08/01/17 16:43	MM	08/02/17 14:01	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	07/31/17 09:00	FM	07/31/17 12:06	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4290	mg/L	250	250		100	08/01/17 13:02	ADG	08/01/17 13:02	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0467	mg/L	0.0100	0.00400	2	1	08/01/17 15:55	MM	08/03/17 16:52	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994001**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	7/26/2017 12:29	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	08/01/17 15:55	MM	08/03/17 16:52	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	08/01/17 15:55	MM	08/03/17 16:52	FO	
Calcium Total	961	mg/L	1.00	0.350		5	08/01/17 15:55	MM	08/07/17 18:48	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	24.95	C				1	07/26/17 12:29	CCP	07/26/17 12:29	CCP	N
pH	6.02	pH				1	07/26/17 12:29	CCP	07/26/17 12:29	CCP	N
Specific Conductance	7365	us/cm				1	07/26/17 12:29	CCP	07/26/17 12:29	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994002**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	7/27/2017 11:39	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	2040	mg/L	50.0	20.0		50	07/27/17 22:54	BC	07/27/17 22:54	BC	
Fluoride	<0.0200	mg/L	0.0200	0.00800		2	07/28/17 15:50	BC	07/28/17 15:50	BC	
Sulfate	1180	mg/L	50.0	20.0		50	07/27/17 22:54	BC	07/27/17 22:54	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	08/01/17 16:43	MM	08/02/17 14:02	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	08/01/17 16:43	MM	08/02/17 14:02	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	08/01/17 16:43	MM	08/02/17 14:02	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:02	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:02	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	08/01/17 16:43	MM	08/02/17 14:02	SLW	
Lithium Total	0.0534	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:02	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:02	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	08/01/17 16:43	MM	08/02/17 14:02	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	08/01/17 16:43	MM	08/02/17 14:02	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	07/31/17 09:00	FM	07/31/17 12:08	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5120	mg/L	250	250		100	08/01/17 13:02	ADG	08/01/17 13:02	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0260	mg/L	0.0100	0.00400	2	1	08/01/17 15:55	MM	08/03/17 16:37	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994002**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	7/27/2017 11:39	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	08/01/17 15:55	MM	08/03/17 16:37	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	08/01/17 15:55	MM	08/03/17 16:37	FO	
Calcium Total	1040	mg/L	1.00	0.350		5	08/01/17 15:55	MM	08/07/17 18:41	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	22.10	C			1	07/27/17 11:39	CCP	07/27/17 11:39	CCP	N
pH	6.20	pH			1	07/27/17 11:39	CCP	07/27/17 11:39	CCP	N
Specific Conductance	7753	us/cm			1	07/27/17 11:39	CCP	07/27/17 11:39	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994003**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	7/27/2017 09:26	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	350	mg/L	25.0	10.0		25	07/27/17 23:11	BC	07/27/17 23:11	BC	
Fluoride	2.91	mg/L	0.250	0.100		25	07/27/17 23:11	BC	07/27/17 23:11	BC	
Sulfate	513	mg/L	25.0	10.0		25	07/27/17 23:11	BC	07/27/17 23:11	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	08/01/17 16:43	MM	08/02/17 14:04	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	08/01/17 16:43	MM	08/02/17 14:04	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	08/01/17 16:43	MM	08/02/17 14:04	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:04	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:04	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	08/01/17 16:43	MM	08/02/17 14:04	SLW	
Lithium Total	0.0332	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:04	SLW	N
Molybdenum Total	0.00352	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:04	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	08/01/17 16:43	MM	08/02/17 14:04	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	08/01/17 16:43	MM	08/02/17 14:04	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	07/31/17 09:00	FM	07/31/17 12:10	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	1280	mg/L	125	125		50	08/01/17 13:02	ADG	08/01/17 13:02	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0648	mg/L	0.0100	0.00400	2	1	08/01/17 15:55	MM	08/03/17 16:59	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994003**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	7/27/2017 09:26	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	08/01/17 15:55	MM	08/03/17 16:59	FO	
Boron Total	0.0531	mg/L	0.0500	0.0200		1	08/01/17 15:55	MM	08/03/17 16:59	FO	
Calcium Total	234	mg/L	0.200	0.0700		1	08/01/17 15:55	MM	08/03/17 16:59	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	23.89	C				1	07/27/17 09:26	CCP	07/27/17 09:26	CCP	N
pH	6.94	pH				1	07/27/17 09:26	CCP	07/27/17 09:26	CCP	N
Specific Conductance	2687	us/cm				1	07/27/17 09:26	CCP	07/27/17 09:26	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994004**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	7/26/2017 14:44	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2760	mg/L	50.0	20.0		50	07/27/17 23:27	BC	07/27/17 23:27	BC	
Fluoride	1.90	mg/L	0.500	0.200		50	07/27/17 23:27	BC	07/27/17 23:27	BC	
Sulfate	1550	mg/L	50.0	20.0		50	07/27/17 23:27	BC	07/27/17 23:27	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	08/01/17 16:43	MM	08/02/17 14:06	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	08/01/17 16:43	MM	08/02/17 14:06	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	08/01/17 16:43	MM	08/02/17 14:06	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:06	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:06	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	08/01/17 16:43	MM	08/02/17 14:06	SLW	
Lithium Total	0.125	mg/L	0.00500	0.00200		5	08/01/17 16:43	MM	08/04/17 12:45	SLW	N
Molybdenum Total	0.00106	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:06	SLW	
Selenium Total	0.00769	mg/L	0.00500	0.00170	0.05	1	08/01/17 16:43	MM	08/02/17 14:06	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	08/01/17 16:43	MM	08/02/17 14:06	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	07/31/17 09:00	FM	07/31/17 12:12	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6480	mg/L	500	500		200	08/01/17 13:02	ADG	08/01/17 13:02	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0436	mg/L	0.0100	0.00400	2	1	08/01/17 15:55	MM	08/03/17 17:06	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994004**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	7/26/2017 14:44	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	08/01/17 15:55	MM	08/03/17 17:06	FO	
Boron Total	0.0799	mg/L	0.0500	0.0200		1	08/01/17 15:55	MM	08/03/17 17:06	FO	
Calcium Total	878	mg/L	1.00	0.350		5	08/01/17 15:55	MM	08/07/17 18:54	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	24.75	C				1	07/26/17 14:44	CCP	07/26/17 14:44	CCP	N
pH	6.27	pH				1	07/26/17 14:44	CCP	07/26/17 14:44	CCP	N
Specific Conductance	9929	us/cm				1	07/26/17 14:44	CCP	07/26/17 14:44	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994005**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	7/27/2017 10:16	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2380	mg/L	50.0	20.0		50	07/27/17 23:44	BC	07/27/17 23:44	BC	
Fluoride	0.850	mg/L	0.500	0.200		50	07/27/17 23:44	BC	07/27/17 23:44	BC	
Sulfate	685	mg/L	50.0	20.0		50	07/27/17 23:44	BC	07/27/17 23:44	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	08/01/17 16:43	MM	08/02/17 14:07	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	08/01/17 16:43	MM	08/02/17 14:07	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	08/01/17 16:43	MM	08/02/17 14:07	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:07	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:07	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	08/01/17 16:43	MM	08/02/17 14:07	SLW	
Lithium Total	0.0875	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:07	SLW	N
Molybdenum Total	0.00261	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:07	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	08/01/17 16:43	MM	08/02/17 14:07	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	08/01/17 16:43	MM	08/02/17 14:07	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	07/31/17 09:00	FM	07/31/17 12:14	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4880	mg/L	250	250		100	08/01/17 13:02	ADG	08/01/17 13:02	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0272	mg/L	0.0100	0.00400	2	1	08/01/17 15:55	MM	08/03/17 17:13	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994005**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	7/27/2017 10:16	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	08/01/17 15:55	MM	08/03/17 17:13	FO	
Boron Total	0.0816	mg/L	0.0500	0.0200		1	08/01/17 15:55	MM	08/03/17 17:13	FO	
Calcium Total	571	mg/L	1.00	0.350		5	08/01/17 15:55	MM	08/07/17 19:01	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	22.73	C				1	07/27/17 10:16	CCP	07/27/17 10:16	CCP	N
pH	6.42	pH				1	07/27/17 10:16	CCP	07/27/17 10:16	CCP	N
Specific Conductance	8292	us/cm				1	07/27/17 10:16	CCP	07/27/17 10:16	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994006**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	7/27/2017 13:08	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1970	mg/L	50.0	20.0		50	07/28/17 01:40	BC	07/28/17 01:40	BC	
Fluoride	0.0550	mg/L	0.0200	0.00800		2	07/28/17 16:07	BC	07/28/17 16:07	BC	
Sulfate	419	mg/L	50.0	20.0		50	07/28/17 01:40	BC	07/28/17 01:40	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	08/01/17 16:43	MM	08/02/17 14:11	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	08/01/17 16:43	MM	08/02/17 14:11	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	08/01/17 16:43	MM	08/02/17 14:11	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:11	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:11	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	08/01/17 16:43	MM	08/02/17 14:11	SLW	
Lithium Total	0.0912	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:11	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:11	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	08/01/17 16:43	MM	08/02/17 14:11	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	08/01/17 16:43	MM	08/02/17 14:11	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	07/31/17 09:00	FM	07/31/17 12:15	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4150	mg/L	250	250		100	08/01/17 13:02	ADG	08/01/17 13:02	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0685	mg/L	0.0100	0.00400	2	1	08/01/17 15:55	MM	08/03/17 17:20	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994006**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	7/27/2017 13:08	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	08/01/17 15:55	MM	08/03/17 17:20	FO	
Boron Total	0.0507	mg/L	0.0500	0.0200		1	08/01/17 15:55	MM	08/03/17 17:20	FO	
Calcium Total	829	mg/L	1.00	0.350		5	08/01/17 15:55	MM	08/07/17 19:07	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	23.17	C				1	07/27/17 13:08	CCP	07/27/17 13:08	CCP	N
pH	6.21	pH				1	07/27/17 13:08	CCP	07/27/17 13:08	CCP	N
Specific Conductance	6036	us/cm				1	07/27/17 13:08	CCP	07/27/17 13:08	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994007**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	7/27/2017 13:10	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1800	mg/L	50.0	20.0		50	07/28/17 01:56	BC	07/28/17 01:56	BC	
Fluoride	0.130	mg/L	0.0500	0.0200		5	07/28/17 16:23	BC	07/28/17 16:23	BC	
Sulfate	347	mg/L	50.0	20.0		50	07/28/17 01:56	BC	07/28/17 01:56	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	08/01/17 16:43	MM	08/02/17 14:12	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	08/01/17 16:43	MM	08/02/17 14:12	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	08/01/17 16:43	MM	08/02/17 14:12	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:12	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:12	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	08/01/17 16:43	MM	08/02/17 14:12	SLW	
Lithium Total	0.0938	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:12	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:12	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	08/01/17 16:43	MM	08/02/17 14:12	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	08/01/17 16:43	MM	08/02/17 14:12	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	07/31/17 09:00	FM	07/31/17 12:17	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4490	mg/L	250	250		100	08/01/17 13:02	ADG	08/01/17 13:02	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0715	mg/L	0.0100	0.00400	2	1	08/01/17 15:55	MM	08/03/17 17:27	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994007**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	7/27/2017 13:10	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	08/01/17 15:55	MM	08/03/17 17:27	FO	
Boron Total	0.0509	mg/L	0.0500	0.0200		1	08/01/17 15:55	MM	08/03/17 17:27	FO	
Calcium Total	854	mg/L	1.00	0.350		5	08/01/17 15:55	MM	08/07/17 19:13	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994008**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	7/26/2017 12:40	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	07/28/17 02:13	BC	07/28/17 02:13	BC	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	07/28/17 02:13	BC	07/28/17 02:13	BC	
Sulfate	<1.00	mg/L	1.00	0.400		1	07/28/17 02:13	BC	07/28/17 02:13	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	08/01/17 16:43	MM	08/02/17 14:14	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	08/01/17 16:43	MM	08/02/17 14:14	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	08/01/17 16:43	MM	08/02/17 14:14	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:14	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:14	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	08/01/17 16:43	MM	08/02/17 14:14	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:14	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:14	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	08/01/17 16:43	MM	08/02/17 14:14	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	08/01/17 16:43	MM	08/02/17 14:14	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	07/31/17 09:00	FM	07/31/17 12:19	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<25.0	mg/L	25.0	25.0		10	08/01/17 13:02	ADG	08/01/17 13:02	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	08/01/17 15:55	MM	08/03/17 17:35	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994008**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	7/26/2017 12:40	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	08/01/17 15:55	MM	08/03/17 17:35	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	08/01/17 15:55	MM	08/03/17 17:35	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	08/01/17 15:55	MM	08/03/17 17:35	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994009**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	7/26/2017 12:40	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	07/28/17 02:30	BC	07/28/17 02:30	BC	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	07/28/17 02:30	BC	07/28/17 02:30	BC	
Sulfate	<1.00	mg/L	1.00	0.400		1	07/28/17 02:30	BC	07/28/17 02:30	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	08/01/17 16:43	MM	08/02/17 14:15	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	08/01/17 16:43	MM	08/02/17 14:15	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	08/01/17 16:43	MM	08/02/17 14:15	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:15	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:15	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	08/01/17 16:43	MM	08/02/17 14:15	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:15	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	08/01/17 16:43	MM	08/02/17 14:15	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	08/01/17 16:43	MM	08/02/17 14:15	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	08/01/17 16:43	MM	08/02/17 14:15	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	07/31/17 09:00	FM	07/31/17 12:29	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<25.0	mg/L	25.0	25.0		10	08/01/17 13:02	ADG	08/01/17 13:02	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	08/01/17 15:55	MM	08/03/17 17:41	FO	

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ANALYTICAL RESULTS

Workorder: Q1730994

Lab ID:	**Q1730994009**	Date Received:	7/27/2017 15:35	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	7/26/2017 12:40	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	08/01/17 15:55	MM	08/03/17 17:41	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	08/01/17 15:55	MM	08/03/17 17:41	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	08/01/17 15:55	MM	08/03/17 17:41	FO	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1730994

PARAMETER QUALIFIERS

Lab ID: Q1730994001

N Not Accredited

Lab ID: Q1730994002

N Not Accredited

Lab ID: Q1730994003

N Not Accredited

Lab ID: Q1730994004

N Not Accredited

Lab ID: Q1730994005

N Not Accredited

Lab ID: Q1730994006

N Not Accredited

Lab ID: Q1730994007

N Not Accredited

Lab ID: Q1730994008

N Not Accredited

Lab ID: Q1730994009

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QUALITY CONTROL DATA

Workorder: Q1730994

QC Batch: WET/14703 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1730994001, Q1730994002, Q1730994003, Q1730994004, Q1730994005, Q1730994006, Q1730994007, Q1730994008, Q1730994009

METHOD BLANK: 895389

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

LABORATORY CONTROL SAMPLE: 895390

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	29.8	99.4	90 - 110	
Fluoride	mg/L	1	1	99.6	90 - 110	
Sulfate	mg/L	30	29.6	98.7	90 - 110	

MATRIX SPIKE: 895391 DUPLICATE: 895392 ORIGINAL: Q1730931001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	mg/L	82.9	100	182	183	99.6	99.8	80 - 120	.548	20	
Fluoride	mg/L	1.19	5	6.18	6.23	99.9	101	80 - 120	.806	20	
Sulfate	mg/L	31.9	100	133	133	101	101	80 - 120	0	20	

METHOD BLANK: 896313

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1730994

LABORATORY CONTROL SAMPLE: 896314

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	29.9	99.5	90 - 110	
Fluoride	mg/L	1	.99	98.8	90 - 110	
Sulfate	mg/L	30	29.7	99	90 - 110	

MATRIX SPIKE: 896315 DUPLICATE: 896316 ORIGINAL: Q1730998001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	mg/L	229	100	323	322	93.4	92.7	80 - 120	.31	20	
Fluoride	mg/L	1.15	5	5.96	5.95	96.4	96.1	80 - 120	.168	20	
Sulfate	mg/L	122	100	224	224	102	102	80 - 120	0	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1730994

QC Batch: WET/14719 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1730994001, Q1730994002, Q1730994006, Q1730994007

METHOD BLANK: 896751

Parameter	Units	Blank Result	Reporting Limit	Qual
Fluoride	mg/L	<0.0100	0.0100	

LABORATORY CONTROL SAMPLE: 896754

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Fluoride	mg/L	1	.98	98.1	90 - 110	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1730994

QC Batch: MEP/7312 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1730994001, Q1730994002, Q1730994003, Q1730994004, Q1730994005, Q1730994006, Q1730994007, Q1730994008, Q1730994009

METHOD BLANK: 897086

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 897087

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	2.06	1.96	103	97.9	85 - 115	4.98	20	

MATRIX SPIKE: 897089 DUPLICATE: 897090 ORIGINAL: Q1729267001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	2.03	1.96	101	97.9	70 - 130	3.51	20	

SAMPLE DUPLICATE: 894868 ORIGINAL: Q1730329001

Parameter	Units	Original Result	DUP Result	% Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	***ug/L***	***0***	***0***			***200***	***20***	***R***

MATRIX SPIKE: 897093 DUPLICATE: 897094 ORIGINAL: Q1730994009

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	2.04	2.01	102	100	70 - 130	1.48	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1730994

QC Batch: WET/14746 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1730994001, Q1730994002, Q1730994003, Q1730994004, Q1730994005, Q1730994006, Q1730994007, Q1730994008, Q1730994009

METHOD BLANK: 898038

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 898039

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	400	373	93.2	80 - 120	

MATRIX SPIKE SAMPLE: 898041 ORIGINAL: Q1730994009

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	8	400	452	113	70 - 130	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1730994

QC Batch: MEP/7322 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1730994001, Q1730994002, Q1730994003, Q1730994004, Q1730994005, Q1730994006, Q1730994007, Q1730994008, Q1730994009

LABORATORY CONTROL SAMPLE: 898248

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.05	.05	103	102	85 - 115	.584	20	
Arsenic Total	mg/L	.05	.05	.05	99.6	101	85 - 115	1.4	20	
Cadmium Total	mg/L	.05	.05	.05	101	101	85 - 115	0	20	
Chromium Total	mg/L	.05	.05	.05	100	101	85 - 115	.597	20	
Cobalt Total	mg/L	.05	.05	.05	101	103	85 - 115	2.36	20	
Lead Total	mg/L	.05	.05	.05	100	101	85 - 115	.991	20	
Lithium Total	mg/L	.05	.05	.05	98.4	106	85 - 115	7.44	20	
Molybdenum Total	mg/L	.05	.05	.05	104	104	85 - 115	.192	20	
Selenium Total	mg/L	.25	.25	.25	99.3	98	85 - 115	1.22	20	
Thallium Total	mg/L	.05	.05	.05	101	101	85 - 115	.792	20	

METHOD BLANK: 898250

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1730994

MATRIX SPIKE SAMPLE: 898251 ORIGINAL: Q1730994005

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Antimony Total	mg/L	0	.05	.05	105	70 - 130	
Arsenic Total	mg/L	0	.05	.05	102	70 - 130	
Cadmium Total	mg/L	0	.05	.05	98	70 - 130	
Chromium Total	mg/L	0	.05	.05	99.5	70 - 130	
Cobalt Total	mg/L	0	.05	.05	97.6	70 - 130	
Lead Total	mg/L	0	.05	.05	96.4	70 - 130	
Lithium Total	mg/L	.09	.05	.14	111	70 - 130	
Molybdenum Total	mg/L	0	.05	.06	110	70 - 130	
Selenium Total	mg/L	0	.25	.25	99.6	70 - 130	
Thallium Total	mg/L	0	.05	.05	98	70 - 130	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1730994

QC Batch: MEP/7324 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1730994001, Q1730994002, Q1730994003, Q1730994004, Q1730994005, Q1730994006, Q1730994007, Q1730994008, Q1730994009

LABORATORY CONTROL SAMPLE: 898262

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	.95	.93	94.6	93.2	80 - 120	1.49	20	
Beryllium Total	mg/L	1	.98	.96	98.1	96.3	80 - 120	1.85	20	
Boron Total	mg/L	1	.92	.91	91.9	90.8	80 - 120	1.2	20	
Calcium Total	mg/L	10	10.1	10	101	100	80 - 120	.995	20	

METHOD BLANK: 898264

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	<0.0500	0.0500	
Calcium Total	mg/L	<0.200	0.200	

MATRIX SPIKE SAMPLE: 898265 ORIGINAL: Q1730994002

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Barium Total	mg/L	.03	1	1.01	98.4	75 - 125	
Beryllium Total	mg/L	0	1	1.02	102	75 - 125	
Boron Total	mg/L	.01	1	.96	96.1	75 - 125	
Calcium Total	***mg/L***	***1040***	***10***	***1030***	***-152***	***75 - 125***	***S***

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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LCRA Environmental Laboratory Services
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Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1730994

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1730994001	CBL - 301I			E300.0, Anions	WET/14703
Q1730994002	CBL - 302I			E300.0, Anions	WET/14703
Q1730994003	CBL - 306I			E300.0, Anions	WET/14703
Q1730994004	CBL - 308I			E300.0, Anions	WET/14703
Q1730994005	CBL - 340I			E300.0, Anions	WET/14703
Q1730994006	CBL - 341I			E300.0, Anions	WET/14703
Q1730994007	CBL - 641I			E300.0, Anions	WET/14703
Q1730994008	FB # 1			E300.0, Anions	WET/14703
Q1730994009	EQ Blank			E300.0, Anions	WET/14703
Q1730994001	CBL - 301I			E300.0, Anions	WET/14719
Q1730994002	CBL - 302I			E300.0, Anions	WET/14719
Q1730994006	CBL - 341I			E300.0, Anions	WET/14719
Q1730994007	CBL - 641I			E300.0, Anions	WET/14719
Q1730994001	CBL - 301I	SW7470A Hg in Liquid Waste	MEP/7312	SW7470A Hg in Liquid Waste	MET/5712
Q1730994002	CBL - 302I	SW7470A Hg in Liquid Waste	MEP/7312	SW7470A Hg in Liquid Waste	MET/5712
Q1730994003	CBL - 306I	SW7470A Hg in Liquid Waste	MEP/7312	SW7470A Hg in Liquid Waste	MET/5712
Q1730994004	CBL - 308I	SW7470A Hg in Liquid Waste	MEP/7312	SW7470A Hg in Liquid Waste	MET/5712
Q1730994005	CBL - 340I	SW7470A Hg in Liquid Waste	MEP/7312	SW7470A Hg in Liquid Waste	MET/5712
Q1730994006	CBL - 341I	SW7470A Hg in Liquid Waste	MEP/7312	SW7470A Hg in Liquid Waste	MET/5712
Q1730994007	CBL - 641I	SW7470A Hg in Liquid Waste	MEP/7312	SW7470A Hg in Liquid Waste	MET/5712
Q1730994008	FB # 1	SW7470A Hg in Liquid Waste	MEP/7312	SW7470A Hg in Liquid Waste	MET/5712
Q1730994009	EQ Blank	SW7470A Hg in Liquid Waste	MEP/7312	SW7470A Hg in Liquid Waste	MET/5712
Q1730994001	CBL - 301I			SM2540C, TDS	WET/14746
Q1730994002	CBL - 302I			SM2540C, TDS	WET/14746
Q1730994003	CBL - 306I			SM2540C, TDS	WET/14746
Q1730994004	CBL - 308I			SM2540C, TDS	WET/14746
Q1730994005	CBL - 340I			SM2540C, TDS	WET/14746
Q1730994006	CBL - 341I			SM2540C, TDS	WET/14746

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Environmental Laboratory Services
The Solution Lab

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Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1730994

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1730994007	CBL - 641I			SM2540C, TDS	WET/14746
Q1730994008	FB # 1			SM2540C, TDS	WET/14746
Q1730994009	EQ Blank			SM2540C, TDS	WET/14746
Q1730994001	CBL - 301I	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5722
Q1730994002	CBL - 302I	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5722
Q1730994003	CBL - 306I	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5722
Q1730994004	CBL - 308I	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5722
Q1730994005	CBL - 340I	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5722
Q1730994006	CBL - 341I	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5722
Q1730994007	CBL - 641I	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5722
Q1730994008	FB # 1	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5722
Q1730994009	EQ Blank	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5722
Q1730994001	CBL - 301I	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5729
Q1730994004	CBL - 308I	SW3010A, Metals Prep	MEP/7322	SW6020 ICP-MS	MET/5729
Q1730994001	CBL - 301I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5728
Q1730994002	CBL - 302I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5728
Q1730994003	CBL - 306I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5728
Q1730994004	CBL - 308I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5728
Q1730994005	CBL - 340I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5728
Q1730994006	CBL - 341I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5728
Q1730994007	CBL - 641I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5728
Q1730994008	FB # 1	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5728
Q1730994009	EQ Blank	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5728
Q1730994001	CBL - 301I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5737
Q1730994002	CBL - 302I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5737
Q1730994004	CBL - 308I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5737
Q1730994005	CBL - 340I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5737
Q1730994006	CBL - 341I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5737
Q1730994007	CBL - 641I	SW3010A, Metals Prep	MEP/7324	SW6010B ICP-AES	MET/5737

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Q1730994

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:
Client PO:

Project:	FPP - CCR Wells - July 2017	Client:	LCRA
Collector:	Coffpetri/John Gallagher	Contact:	
Event#:	1362707 / 4739	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	500PU	250PHNO3							6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28						
001	1	CBL - 301I	7/26/17	1229	AQ	N	N	1	1							X	X	X	X	X	X						
002	2	CBL - 302I	7/27/17	1139	AQ			1	1							X	X	X	X	X	X						
003	3	CBL - 306I	7/27/17	926	AQ			1	1							X	X	X	X	X	X						
004	4	CBL - 308I	7/26/17	1444	AQ			1	1							X	X	X	X	X	X						
005	5	CBL - 340I	7/27/17	1016	AQ			1	1							X	X	X	X	X	X						
006	6	CBL - 341I	7/27/17	1308	AQ			1	1							X	X	X	X	X	X						
007	7	CBL - 641I	7/27/17	1310	AQ			1	1							X	X	X	X	X	X						
008	8	FB # 1	7/26/17	1240	AQ			1	1							X	X	X	X	X	X						
009	9	EQ Blank	7/26/17	1240	AQ			1	1							X	X	X	X	X	X						

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Coffpetri	7/27/17 1535	[illegible]	7/27/17 1535
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	4.12	4.19
2			

Client Special Instructions:

Lab U

Q1730994 273682

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

FPP - CCR Well - Groundwater Purge Data - July 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
7/26/2017	12:08:36	24.21	6.14	0.47	5.8	7450	117.8	CBL 301 I
7/26/2017	12:11:36	24.52	6.10	0.36	4.4	7412	128.4	CBL 301 I
7/26/2017	12:14:36	24.68	6.07	0.32	3.9	7392	135.4	CBL 301 I
7/26/2017	12:17:36	24.73	6.05	0.30	3.7	7383	139.2	CBL 301 I
7/26/2017	12:20:36	24.72	6.04	0.27	3.3	7385	141.5	CBL 301 I
7/26/2017	12:23:37	24.94	6.04	0.26	3.2	7393	143.9	CBL 301 I
7/26/2017	12:26:30	24.94	6.04	0.24	3.0	7379	146.6	CBL 301 I
7/26/2017	12:29:33	24.95	6.02	0.19	2.4	7365	148.5	CBL 301 I
7/26/2017	13:00:23	26.70	6.84	5.90	74.3	3049	172.1	CBL 306I
7/26/2017	13:03:23	24.69	6.55	3.06	37.1	2625	186.3	CBL 306I
7/26/2017	13:06:23	24.43	6.48	2.37	28.5	2597	198.6	CBL 306I
7/26/2017	13:09:23	24.21	6.44	1.54	18.5	2666	209.6	CBL 306I
7/26/2017	13:12:23	24.00	6.39	1.26	15.1	2807	221.1	CBL 306I
7/26/2017	13:15:23	24.77	6.39	2.49	30.3	3042	231.1	CBL 306I
7/26/2017	13:18:40	24.41	6.39	3.44	41.6	3337	244.0	CBL 306I
7/26/2017	13:21:40	24.19	6.33	2.60	31.3	3404	199.7	CBL 306I
7/26/2017	13:55:45	27.92	6.73	6.08	80.1	10526	186.6	CBL 308I
7/26/2017	13:58:45	24.99	6.30	3.14	39.3	10418	188.7	CBL 308I
7/26/2017	14:01:45	24.79	6.19	2.78	34.6	10328	180.6	CBL 308I
7/26/2017	14:04:45	24.78	6.14	2.78	34.6	10276	180.2	CBL 308I
7/26/2017	14:07:45	24.68	6.11	2.51	31.3	10245	182.7	CBL 308I
7/26/2017	14:10:45	24.64	6.09	2.49	30.9	10184	186.5	CBL 308I
7/26/2017	14:13:45	24.30	6.09	2.41	29.7	10153	189.4	CBL 308I
7/26/2017	14:16:47	24.25	6.12	2.29	28.2	10147	185.7	CBL 308I
7/26/2017	14:19:47	24.18	6.16	2.33	28.7	10065	187.5	CBL 308I
7/26/2017	14:22:47	24.41	6.18	2.16	26.6	9985	188.1	CBL 308I
7/26/2017	14:25:47	24.54	6.19	2.08	25.8	9960	188.9	CBL 308I
7/26/2017	14:28:48	24.61	6.23	2.08	25.8	9968	187.8	CBL 308I
7/26/2017	14:31:48	24.58	6.25	2.10	26.1	9959	184.8	CBL 308I
7/26/2017	14:34:48	24.32	6.26	2.15	26.5	9975	183.6	CBL 308I
7/26/2017	14:37:57	24.36	6.26	2.06	25.4	9931	180.6	CBL 308I
7/26/2017	14:41:46	24.50	6.27	2.08	25.8	9936	178.2	CBL 308I
7/26/2017	14:44:46	24.75	6.27	2.09	26.0	9929	176.5	CBL 308I
7/27/2017	9:37:28	23.64	6.76	6.89	83.6	8448	239.2	CBL340I
7/27/2017	9:37:38	23.47	6.72	6.18	74.7	8460	240.5	CBL340I
7/27/2017	9:40:38	22.91	6.53	4.14	49.5	8438	251.8	CBL340I
7/27/2017	9:43:38	22.77	6.49	3.75	44.7	8451	258.6	CBL340I
7/27/2017	9:46:38	22.73	6.47	3.55	42.2	8453	264.7	CBL340I
7/27/2017	9:49:38	22.72	6.45	3.41	40.7	8443	270.0	CBL340I

7/27/2017	9:52:32	22.71	6.45	3.36	40.0	8449	271.1	CBL340I
7/27/2017	9:55:32	22.63	6.44	3.25	38.7	8420	277.2	CBL340I
7/27/2017	9:58:32	22.63	6.44	3.22	38.2	8402	281.4	CBL340I
7/27/2017	10:01:32	22.70	6.44	3.17	37.7	8394	284.5	CBL340I
7/27/2017	10:04:32	22.73	6.44	3.14	37.4	8363	287.7	CBL340I
7/27/2017	10:07:32	22.74	6.43	3.12	37.1	8350	291.2	CBL340I
7/27/2017	10:10:32	22.77	6.43	3.15	37.5	8299	295.0	CBL340I
7/27/2017	10:13:32	22.77	6.42	3.13	37.3	8294	299.1	CBL340I
7/27/2017	10:16:12	22.73	6.42	3.10	36.9	8292	302.7	CBL340I
7/27/2017	10:43:32	24.22	6.60	9.13	111.5	7718	239.5	CBL 302I
7/27/2017	11:18:09	22.15	6.22	1.01	11.8	7751	270.4	CBL 302I
7/27/2017	11:21:02	22.18	6.21	1.00	11.8	7750	266.5	CBL 302I
7/27/2017	11:24:02	22.18	6.21	1.01	11.9	7746	267.4	CBL 302I
7/27/2017	11:27:02	22.22	6.20	1.00	11.8	7749	267.3	CBL 302I
7/27/2017	11:30:02	22.09	6.20	0.99	11.6	7751	268.9	CBL 302I
7/27/2017	11:33:02	22.11	6.20	0.99	11.6	7752	269.6	CBL 302I
7/27/2017	11:36:02	22.03	6.20	0.99	11.6	7754	270.5	CBL 302I
7/27/2017	11:39:02	22.10	6.20	0.99	11.6	7753	270.2	CBL 302I
7/27/2017	12:07:07	23.51	6.41	8.51	102.1	6189	223.3	CBL 341I
7/27/2017	12:10:07	22.78	6.27	3.38	40.0	6087	237.9	CBL 341I
7/27/2017	12:13:07	22.75	6.25	3.01	35.6	6089	242.7	CBL 341I
7/27/2017	12:16:07	22.74	6.25	2.87	33.9	6076	246.6	CBL 341I
7/27/2017	12:19:07	22.66	6.25	2.78	32.9	6072	251.2	CBL 341I
7/27/2017	12:22:07	22.80	6.25	2.70	32.0	6042	253.4	CBL 341I
7/27/2017	12:25:07	22.70	6.24	2.66	31.4	6082	256.8	CBL 341I
7/27/2017	12:28:07	22.91	6.24	2.60	30.9	6078	258.3	CBL 341I
7/27/2017	12:31:07	22.88	6.24	2.59	30.7	6069	261.2	CBL 341I
7/27/2017	12:34:07	22.76	6.24	2.65	31.3	6046	264.8	CBL 341I
7/27/2017	12:37:07	22.98	6.24	2.63	31.2	6016	266.7	CBL 341I
7/27/2017	12:40:07	22.96	6.23	2.61	31.0	5987	269.6	CBL 341I
7/27/2017	12:41:07	23.02	6.23	2.60	30.9	5977	270.5	CBL 341I
7/27/2017	12:44:07	23.02	6.23	2.57	30.5	6091	274.7	CBL 341I
7/27/2017	12:47:07	23.04	6.22	2.55	30.4	6075	278.8	CBL 341I
7/27/2017	12:50:07	23.08	6.22	2.55	30.4	6056	283.1	CBL 341I
7/27/2017	12:53:07	23.10	6.21	2.55	30.4	6031	287.7	CBL 341I
7/27/2017	12:56:07	23.09	6.21	3.06	36.4	6055	292.4	CBL 341I
7/27/2017	12:59:07	23.09	6.21	2.53	30.2	6046	296.4	CBL 341I
7/27/2017	13:02:07	23.12	6.21	2.53	30.1	6057	300.4	CBL 341I
7/27/2017	13:05:07	23.11	6.21	2.58	30.7	6050	304.4	CBL 341I
7/27/2017	13:08:05	23.17	6.21	2.58	30.7	6036	307.9	CBL 341I

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Field Information Form

Sample Date: 7/26/17 9

Sample Time: 1229

Sample ID: CBL30~~0~~1 I

CP 7/26/17

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	V= WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170726	1205	1	3	9

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated I Y I (N) Sampling Equipment ..... Dedicated I Y I (N)

Purging Device	4	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	4	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	~~53.33~~ 35. CP 7/26/17 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.10 (ft)	Pump Placement	(ft)

PH: 6.02 (STD) Specific Conductivity: 7365 uS/cm Sample Temp. 24.95 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	250m	HNO_3	Metals	N
P	500mL	ICE	Anion	N
P	500mL	ICE	Anions	N

4L - Radium 226+228 ICE 4L-Radium 226+228 EQ Blank 4L Radium 226+228 Field Blank

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 4.34

Weather Conditions: Partly Cloudy South wind 5-10mph 98°

Other: Purge water is milky white clearing after 4 gallons.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes ✓ No _____

If No, Explain _____

Procedure: ELS Ground water SOP 5-7D

Date: 7/26/17

Sampler: CP/JG

Employer: LCRA

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Field Information Form

Sample Date: 7/26/17
Sample Time: 920
Sample ID: CBL3061

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170726	1300	V= 0.7	2.1	2.5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	10.43 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.80 (ft)	Pump Placement	13 (ft)

6.94 (STD) PH 2687 uS/cm Specific Conductivity Sample Temp. 23.89 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226+228	N
P	250mL	HNO_3	Field Blank 2 Metals	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: _____
Weather Conditions: Partly Cloudy South wind 5-10mph 100°
Other: Purge Water is Clear with no odor. Well purged dry after 2.5 gallons

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-710

Date: 7/26/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 7/26/17
Sample Time: 1444
Sample ID: CBC3081

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170726	1255	V= 1.7	5.2	7

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | N | Sampling Equipment ..... Dedicated | Y | N |

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	24.71 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	(ft)

PH: 6.27 (STD) Specific Conductivity: 9929 uS/cm Sample Temp. 24.75 (°C)

Bottle			Analysis	Field Filt.Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226-228	N

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 0.85
Weather Conditions: Partly cloudy South wind 5-10mph 102°
Other:

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No
If No, Explain

Procedure: ELS Ground water SOP 5-70

Date:
Sampler:
Employer:

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Field Information Form

Sample Date: 7/27/17
Sample Time: 1016
Sample ID: CBL3401

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170727	0930	V= 28	84	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene
Sampling Material	F	B-Stainless Steel	D-PVC	
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene

C-Rope X- _____ (Specify)

X- _____ Purging Other (Specify)
X- _____ Sampling Other (Specify)
X- _____ Purging Other (Specify)
X- _____ Sampling Other (Specify)
X- _____ Purging Other (Specify)
X- _____ Sampling Other (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	23.00 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.14 (ft)	Pump Placement	34 (ft)

PH 6.42 (STD)
Specific Conductivity 8292 uS/cm
Sample Temp. 22.73 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226 + 228	N
				N

Sample Appearance: Clear Odor: none Color: clear Turbidity: 4.08
Weather Conditions: Partly Cloudy South wind 5-10mph 82°
Other: Purge water is clear with no odor

WELL VOLUME CALCULATION

V=(D-D_w) (A) (7.48 galtft³) where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
a. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-70
Date: 7/27/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 7/27/17
Sample Time: 1139
Sample ID: CBL3021

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	V= WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170727	1040	2.6	7.7	8

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Lift Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- ____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	11.4 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.1 (ft)	Pump Placement	20 (ft)

PH: 6.20 (STD) Specific Conductivity: 7753 uS/cm Sample Temp. 22.1 (°C)

Bottle Type	Size	Preservative	Analysis	Field Filt. Y/N
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226+228	N
P	250mL	HNO_3	Metals Field Blank 1	
P	500mL	ICE	Anions Field Blank 1	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 2.41
Weather Conditions: Partly Cloudy South wind 5-10mph 90°
Other: Purge water is clear with no odor

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross-sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: FLS Ground water SOP 5-71
Date: 7/27/17
Sampler: CP/JC
Employer: LCRA

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Field Information Form

Sample Date: 7/27/17 14
Sample Time: 1308
Sample ID: CBL3411

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
17 07 27	1205	V= 4.9	14.8	12

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	16.08 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	(ft)

PH: 6.21 (STD)
Specific Conductivity: 6036 uS/cm
Sample Temp. 23.17 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	500mL	ICE	Anions	
P	250mL	HNO_3	Metals	
P	4L	ICE	Radium 226+228	
P	4L	ICE	Radium 226+228 641 Dup	
P	250mL	HNO_3	metals 641 Dup	
P	500mL	ICE	Anions 641 Dup	

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 1.10
Weather Conditions: Partly Cloudy South Wind 5-10mph 95°
Other: Purge water is clear with no odor.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross-sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-7D
Date: 7/27/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 6/20/17
Sample Time: 10:45
Sample ID: CBL3411I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170620	1015	V= 5	15	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	15.63 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	25 (ft)

PH: 6.19 (STD) Specific Conductivity: 5931 uS/cm Sample Temp. 22.8 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	250mL	ICE	Anions	N
P	4L	ICE	Rad 226 + 228 / Rads Dup CBL641I	N
P	250mL	HNO_3	Metals Dup CBL641I	
P	500mL	ICE	Anions Dup CBL641I	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 0.74
Weather Conditions: Partly Cloudy, 87°F, Calm wind
Other: Purge water is clear with no odor. Collected sample once parameters were stable

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS Ground water SOP 5-70
Date: 6/20/17
Sampler: JG
Employer: LCRA

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FPP - Groundwater - Purge Data - June 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
6/20/2017	10:06:24	23.53	6.56	5.83	70.0	6033	249.4	CBL - 341I
6/20/2017	10:06:46	23.04	6.50	5.31	63.1	6042	247.6	CBL - 341I
6/20/2017	10:07:12	22.65	6.45	5.18	61.1	6024	245.4	CBL - 341I
6/20/2017	10:07:19	22.61	6.44	5.15	60.8	6022	245.1	CBL - 341I
6/20/2017	10:07:44	22.35	6.41	5.03	59.1	6025	244.3	CBL - 341I
6/20/2017	10:10:44	22.22	6.33	4.82	56.4	5985	260.4	CBL - 341I
6/20/2017	10:13:44	22.25	6.29	4.61	54.0	5951	270.2	CBL - 341I
6/20/2017	10:16:44	22.28	6.27	4.05	47.4	5960	276.2	CBL - 341I
6/20/2017	10:19:44	22.32	6.25	4.47	52.4	5939	282.0	CBL - 341I
6/20/2017	10:22:44	22.28	6.24	4.47	52.4	5922	288.5	CBL - 341I
6/20/2017	10:25:44	22.33	6.22	4.49	52.7	5918	293.8	CBL - 341I
6/20/2017	10:28:44	22.40	6.20	4.59	53.9	5953	299.0	CBL - 341I
6/20/2017	10:31:44	22.43	6.19	4.95	58.2	5939	304.7	CBL - 341I
6/20/2017	10:34:44	22.51	6.17	4.87	57.3	5932	310.9	CBL - 341I
6/20/2017	10:37:44	22.64	6.17	4.88	57.6	5969	316.9	CBL - 341I
6/20/2017	10:40:44	22.68	6.18	5.71	67.4	5942	323.5	CBL - 341I
6/20/2017	10:43:11	22.86	6.19	5.26	62.3	5931	297.7	CBL - 341I

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July 7, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1725371

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

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SAMPLE SUMMARY

Workorder: Q1725371

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1725371001	CBL - 341I	Aqueous	6/20/2017 10:43	6/20/2017 12:50
Q1725371002	CBL - 641I	Aqueous	6/20/2017 10:43	6/20/2017 12:50
Q1725371003	FB # 1	Aqueous	6/20/2017 10:43	6/20/2017 12:50
Q1725371004	EQ Blank	Aqueous	6/20/2017 11:00	6/20/2017 12:50

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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PROJECT SUMMARY

Workorder: Q1725371

Workorder Comments

Sample CBL - 641I is a duplicate for sample CBL - 341I.

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ANALYTICAL RESULTS

Workorder: Q1725371

Lab ID:	**Q1725371001**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	6/20/2017 10:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1820	mg/L	50.0	20.0		50	06/20/17 20:12	BC	06/20/17 20:12	BC	
Fluoride	0.335	mg/L	0.0500	0.0200		5	06/21/17 12:38	BC	06/21/17 12:38	BC	
Sulfate	363	mg/L	50.0	20.0		50	06/20/17 20:12	BC	06/20/17 20:12	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/28/17 08:50	MM	06/28/17 12:15	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	06/28/17 08:50	MM	06/28/17 12:15	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	06/28/17 08:50	MM	06/28/17 12:15	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 12:15	SLW	
Cobalt Total	0.00163	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 12:15	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	06/28/17 08:50	MM	06/28/17 12:15	SLW	
Lithium Total	0.0825	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 12:15	SLW	N
Molybdenum Total	0.00328	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 12:15	SLW	
Selenium Total	0.00692	mg/L	0.00500	0.00170	0.05	1	06/28/17 08:50	MM	06/28/17 12:15	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	06/28/17 08:50	MM	06/28/17 12:15	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	06/28/17 10:17	MM	06/30/17 12:35	MM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5940	mg/L	250	250		100	06/23/17 11:58	CG	06/23/17 11:58	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0693	mg/L	0.0100	0.00400	2	1	06/28/17 09:12	MM	06/28/17 21:15	MV	

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ANALYTICAL RESULTS

Workorder: Q1725371

Lab ID:	**Q1725371001**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	6/20/2017 10:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	06/28/17 09:12	MM	06/28/17 21:15	MV	
Boron Total	0.0668	mg/L	0.0500	0.0200		1	06/28/17 09:12	MM	06/28/17 21:15	MV	
Calcium Total	950	mg/L	1.00	0.350		5	06/28/17 09:12	MM	06/29/17 11:15	FM	
Field Parameters											
Analysis Desc: TCEQ SOP V1			Preparation Method: TCEQ SOP V1								
			Analytical Method: TCEQ SOP V1								
Temperature	22.86	C				1	06/20/17 10:43	JEG	06/20/17 10:43	JEG	N
pH	6.19	pH				1	06/20/17 10:43	JEG	06/20/17 10:43	JEG	N
Specific Conductance	5931	us/cm				1	06/20/17 10:43	JEG	06/20/17 10:43	JEG	N

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ANALYTICAL RESULTS

Workorder: Q1725371

Lab ID:	**Q1725371002**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	6/20/2017 10:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1780	mg/L	50.0	20.0		50	06/20/17 20:32	BC	06/20/17 20:32	BC	
Fluoride	0.288	mg/L	0.0500	0.0200		5	06/21/17 12:58	BC	06/21/17 12:58	BC	
Sulfate	347	mg/L	50.0	20.0		50	06/20/17 20:32	BC	06/20/17 20:32	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/28/17 08:50	MM	06/28/17 12:16	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	06/28/17 08:50	MM	06/28/17 12:16	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	06/28/17 08:50	MM	06/28/17 12:16	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 12:16	SLW	
Cobalt Total	0.00139	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 12:16	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	06/28/17 08:50	MM	06/28/17 12:16	SLW	
Lithium Total	0.0817	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 12:16	SLW	N
Molybdenum Total	0.00252	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 12:16	SLW	
Selenium Total	0.00575	mg/L	0.00500	0.00170	0.05	1	06/28/17 08:50	MM	06/28/17 12:16	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	06/28/17 08:50	MM	06/28/17 12:16	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	06/28/17 10:17	MM	06/30/17 12:37	MM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5710	mg/L	250	250		100	06/23/17 11:58	CG	06/23/17 11:58	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0711	mg/L	0.0100	0.00400	2	1	06/28/17 09:12	MM	06/28/17 21:23	MV	

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ANALYTICAL RESULTS

Workorder: Q1725371

Lab ID:	**Q1725371002**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	6/20/2017 10:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	06/28/17 09:12	MM	06/28/17 21:23	MV	
Boron Total	0.0701	mg/L	0.0500	0.0200		1	06/28/17 09:12	MM	06/28/17 21:23	MV	
Calcium Total	1050	mg/L	1.00	0.350		5	06/28/17 09:12	MM	06/29/17 11:21	FM	

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ANALYTICAL RESULTS

Workorder: Q1725371

Lab ID:	**Q1725371003**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	6/20/2017 10:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	06/20/17 20:52	BC	06/20/17 20:52	BC	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	06/20/17 20:52	BC	06/20/17 20:52	BC	
Sulfate	<1.00	mg/L	1.00	0.400		1	06/20/17 20:52	BC	06/20/17 20:52	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/28/17 08:50	MM	06/28/17 13:00	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	06/28/17 08:50	MM	06/28/17 13:00	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	06/28/17 08:50	MM	06/28/17 13:00	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 13:00	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 13:00	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	06/28/17 08:50	MM	06/28/17 13:00	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 13:00	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 13:00	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	06/28/17 08:50	MM	06/28/17 13:00	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	06/28/17 08:50	MM	06/28/17 13:00	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	06/28/17 10:17	MM	06/30/17 12:39	MM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	95.0	mg/L	25.0	25.0		10	06/23/17 16:17	CG	06/23/17 16:17	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	06/28/17 09:12	MM	06/28/17 21:31	MV	

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ANALYTICAL RESULTS

Workorder: Q1725371

Lab ID:	**Q1725371003**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	6/20/2017 10:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	06/28/17 09:12	MM	06/28/17 21:31	MV	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	06/28/17 09:12	MM	06/28/17 21:31	MV	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	06/28/17 09:12	MM	06/28/17 21:31	MV	

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ANALYTICAL RESULTS

Workorder: Q1725371

Lab ID:	**Q1725371004**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	6/20/2017 11:00	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	06/20/17 21:12	BC	06/20/17 21:12	BC	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	06/20/17 21:12	BC	06/20/17 21:12	BC	
Sulfate	<1.00	mg/L	1.00	0.400		1	06/20/17 21:12	BC	06/20/17 21:12	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/28/17 08:50	MM	06/28/17 13:02	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	06/28/17 08:50	MM	06/28/17 13:02	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	06/28/17 08:50	MM	06/28/17 13:02	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 13:02	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 13:02	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	06/28/17 08:50	MM	06/28/17 13:02	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 13:02	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	06/28/17 08:50	MM	06/28/17 13:02	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	06/28/17 08:50	MM	06/28/17 13:02	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	06/28/17 08:50	MM	06/28/17 13:02	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	06/28/17 10:17	MM	06/30/17 12:41	MM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	415	mg/L	25.0	25.0		10	06/23/17 16:17	CG	06/23/17 16:17	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	06/28/17 09:12	MM	06/28/17 21:38	MV	

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ANALYTICAL RESULTS

Workorder: Q1725371

Lab ID:	**Q1725371004**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	6/20/2017 11:00	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	06/28/17 09:12	MM	06/28/17 21:38	MV	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	06/28/17 09:12	MM	06/28/17 21:38	MV	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	06/28/17 09:12	MM	06/28/17 21:38	MV	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1725371

PARAMETER QUALIFIERS

Lab ID: Q1725371001

N Not Accredited

Lab ID: Q1725371002

N Not Accredited

Lab ID: Q1725371003

N Not Accredited

Lab ID: Q1725371004

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QUALITY CONTROL DATA

Workorder: Q1725371

QC Batch: WET/14317 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1725371001, Q1725371002, Q1725371003, Q1725371004

METHOD BLANK: 872629

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

LABORATORY CONTROL SAMPLE: 872630

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	30.6	102	90 - 110	
Fluoride	mg/L	1	1.01	101	90 - 110	
Sulfate	mg/L	30	30.5	102	90 - 110	

MATRIX SPIKE: 872631 DUPLICATE: 872632 ORIGINAL: Q1725362002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	mg/L	14.4	20	34	34.2	98	99.3	80 - 120	.587	20	
Fluoride	mg/L	.67	1	1.65	1.66	97.9	99.3	80 - 120	.604	20	
Sulfate	mg/L	21.9	20	42.4	42.4	102	103	80 - 120	0	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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Austin, TX 78744
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Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1725371

QC Batch: WET/14329 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1725371001, Q1725371002

METHOD BLANK: 873064

Parameter	Units	Blank Result	Reporting Limit	Qual
Fluoride	mg/L	<0.0100	0.0100	

LABORATORY CONTROL SAMPLE: 873067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Fluoride	mg/L	1	1	100	90 - 110	

MATRIX SPIKE: 873069 DUPLICATE: 873070 ORIGINAL: Q1725446001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Fluoride	mg/L	2.38	5	7.53	7.46	103	101	80 - 120	.934	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

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QUALITY CONTROL DATA

Workorder: Q1725371

QC Batch: WET/14360 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1725371001, Q1725371002

METHOD BLANK: 874993

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 874994

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	400	389	97.2	80 - 120	

MATRIX SPIKE SAMPLE: 875382 ORIGINAL: Q1725852003

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	322	400	692	92.5	70 - 130	

SAMPLE DUPLICATE: 875383 ORIGINAL: Q1725852003

Parameter	Units	Original Result	DUP Result	% Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	322	322			0	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

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QUALITY CONTROL DATA

Workorder: Q1725371

QC Batch: WET/14365 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1725371003, Q1725371004

METHOD BLANK: 875385

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 875386

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	400	403	101	80 - 120	

MATRIX SPIKE SAMPLE: 874995 ORIGINAL: Q1725972004

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	452	400	930	120	70 - 130	

SAMPLE DUPLICATE: 874996 ORIGINAL: Q1725972004

Parameter	Units	Original Result	DUP Result	% Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	452	450			.443	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1725371

QC Batch: MEP/7183 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1725371001, Q1725371002, Q1725371003, Q1725371004

METHOD BLANK: 876553

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 876554

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	2.17	2.17	108	108	85 - 115	0	20	

MATRIX SPIKE: 876556 DUPLICATE: 876557 ORIGINAL: Q1725371002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	2.19	2.2	110	110	70 - 130	.456	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

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QUALITY CONTROL DATA

Workorder: Q1725371

QC Batch: MEP/7191 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1725371001, Q1725371002, Q1725371003, Q1725371004

LABORATORY CONTROL SAMPLE: 877627

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.05	.05	95.3	97.5	85 - 115	2.49	20	
Arsenic Total	mg/L	.05	.05	.05	93.8	96	85 - 115	2.32	20	
Cadmium Total	mg/L	.05	.05	.05	95	97	85 - 115	2.08	20	
Chromium Total	mg/L	.05	.05	.05	92.6	94.9	85 - 115	2.56	20	
Cobalt Total	mg/L	.05	.05	.05	95.2	97.6	85 - 115	2.49	20	
Lead Total	mg/L	.05	.05	.05	96.3	99.1	85 - 115	3.07	20	
Lithium Total	mg/L	.05	.05	.05	91.4	94.2	85 - 115	3.02	20	
Molybdenum Total	mg/L	.05	.05	.05	106	106	85 - 115	.755	20	
Selenium Total	mg/L	.25	.23	.24	92.8	95.1	85 - 115	2.55	20	
Thallium Total	mg/L	.05	.05	.05	96.8	99.4	85 - 115	2.65	20	

METHOD BLANK: 877629

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

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QUALITY CONTROL DATA

Workorder: Q1725371

MATRIX SPIKE: 877630 DUPLICATE: 877631 ORIGINAL: Q1725371002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Antimony Total	mg/L	0	.05	.05	.05	102	98.4	70 - 130	3.2	20	
Arsenic Total	mg/L	0	.05	.05	.05	99.2	96.6	70 - 130	2.66	20	
Cadmium Total	mg/L	0	.05	.05	.05	98.7	95.1	70 - 130	3.71	20	
Chromium Total	mg/L	0	.05	.05	.05	93.3	90	70 - 130	3.71	20	
Cobalt Total	mg/L	0	.05	.05	.05	94.1	91.2	70 - 130	3.14	20	
Lead Total	mg/L	0	.05	.05	.05	102	99.4	70 - 130	2.97	20	
Lithium Total	mg/L	.08	.05	.13	.12	94.2	82.5	70 - 130	4.76	20	
Molybdenum Total	mg/L	0	.05	.06	.05	106	101	70 - 130	4.06	20	
Selenium Total	mg/L	.01	.25	.25	.24	97.2	94.4	70 - 130	2.85	20	
Thallium Total	mg/L	0	.05	.05	.05	103	100	70 - 130	2.75	20	

Qualifiers

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R - RPD Outside Recovery Limits

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QUALITY CONTROL DATA

Workorder: Q1725371

QC Batch: MEP/7192 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1725371001, Q1725371002, Q1725371003, Q1725371004

LABORATORY CONTROL SAMPLE: 877632

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	.98	1	98	99.9	80 - 120	1.92	20	
Beryllium Total	mg/L	1	1.04	1.06	104	106	80 - 120	1.9	20	
Boron Total	mg/L	1	.99	.99	98.7	99.3	80 - 120	.606	20	
Calcium Total	mg/L	10	11	11.3	110	113	80 - 120	2.69	20	

METHOD BLANK: 877634

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	<0.0500	0.0500	
Calcium Total	mg/L	<0.200	0.200	

MATRIX SPIKE: 877635 DUPLICATE: 877636 ORIGINAL: Q1725371001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.07	1	1.05	1.01	97.6	94.6	75 - 125	3.88	20	
Beryllium Total	mg/L	0	1	1.01	.97	101	96.6	75 - 125	4.45	20	
Boron Total	mg/L	.07	1	1.03	1	96.6	93.2	75 - 125	3.06	20	
Calcium Total	***mg/L***	***950***	***10***	***904***	***863***	***-459***	***-871***	***75 - 125***	***4.64***	***20***	***S***

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1725371

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1725371001	CBL - 341I			E300.0, Anions	WET/14317
Q1725371002	CBL - 641I			E300.0, Anions	WET/14317
Q1725371003	FB # 1			E300.0, Anions	WET/14317
Q1725371004	EQ Blank			E300.0, Anions	WET/14317
Q1725371001	CBL - 341I			E300.0, Anions	WET/14329
Q1725371002	CBL - 641I			E300.0, Anions	WET/14329
Q1725371001	CBL - 341I			SM2540C, TDS	WET/14360
Q1725371002	CBL - 641I			SM2540C, TDS	WET/14360
Q1725371003	FB # 1			SM2540C, TDS	WET/14365
Q1725371004	EQ Blank			SM2540C, TDS	WET/14365
Q1725371001	CBL - 341I	SW7470A Hg in Liquid Waste	MEP/7183	SW7470A Hg in Liquid Waste	MET/5619
Q1725371002	CBL - 641I	SW7470A Hg in Liquid Waste	MEP/7183	SW7470A Hg in Liquid Waste	MET/5619
Q1725371003	FB # 1	SW7470A Hg in Liquid Waste	MEP/7183	SW7470A Hg in Liquid Waste	MET/5619
Q1725371004	EQ Blank	SW7470A Hg in Liquid Waste	MEP/7183	SW7470A Hg in Liquid Waste	MET/5619
Q1725371001	CBL - 341I	SW3010A, Metals Prep	MEP/7191	SW6020 ICP-MS	MET/5617
Q1725371002	CBL - 641I	SW3010A, Metals Prep	MEP/7191	SW6020 ICP-MS	MET/5617
Q1725371003	FB # 1	SW3010A, Metals Prep	MEP/7191	SW6020 ICP-MS	MET/5617
Q1725371004	EQ Blank	SW3010A, Metals Prep	MEP/7191	SW6020 ICP-MS	MET/5617
Q1725371001	CBL - 341I	SW3010A, Metals Prep	MEP/7192	SW6010B ICP-AES	MET/5616
Q1725371002	CBL - 641I	SW3010A, Metals Prep	MEP/7192	SW6010B ICP-AES	MET/5616
Q1725371003	FB # 1	SW3010A, Metals Prep	MEP/7192	SW6010B ICP-AES	MET/5616
Q1725371004	EQ Blank	SW3010A, Metals Prep	MEP/7192	SW6010B ICP-AES	MET/5616
Q1725371001	CBL - 341I	SW3010A, Metals Prep	MEP/7192	SW6010B ICP-AES	MET/5624
Q1725371002	CBL - 641I	SW3010A, Metals Prep	MEP/7192	SW6010B ICP-AES	MET/5624

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Q1725371

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:
Client PO:

Project:	FPP - CCR Well - June 2017	Client:	LCRA
Collector:	John Gallagher / Jason Woods	Contact:	
Event#:	1370645 / 4620	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	500PU	250PHNO3							6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28						
						Container(s) Type/Preservative/Number *										Requested Analysis *											
001	1	CBL - 341I	6-20-17	10:43	AQ	N	N	1	1							X	X	X	X	X	X						
002	2	CBL - 641I		10:43	AQ			1	1							X	X	X	X	X	X						
003	3	FB # 1		10:43	AQ			1	1							X	X	X	X	X	X						
004	4	EQ Blank		11:00	AQ			1	1							X	X	X	X	X	X						
	5																										
	6																										
	7																										

Transfers	Relinquished By	Date/Time	Received By	Date/Time	Cooler Temp: #	T#	Obs.	Corr.
1	[signature]	6/20/17 1250	[signature]	6/20/17 1250				
2					1	6	4.0	4.0 °C
3					2			

Client Special Instructions:

Lab Use Only:

Q1725371 268059

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

FPP - Groundwater - Purge Data - June 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
6/20/2017	10:06:24	23.53	6.56	5.83	70.0	6033	249.4	CBL - 341I
6/20/2017	10:06:46	23.04	6.50	5.31	63.1	6042	247.6	CBL - 341I
6/20/2017	10:07:12	22.65	6.45	5.18	61.1	6024	245.4	CBL - 341I
6/20/2017	10:07:19	22.61	6.44	5.15	60.8	6022	245.1	CBL - 341I
6/20/2017	10:07:44	22.35	6.41	5.03	59.1	6025	244.3	CBL - 341I
6/20/2017	10:10:44	22.22	6.33	4.82	56.4	5985	260.4	CBL - 341I
6/20/2017	10:13:44	22.25	6.29	4.61	54.0	5951	270.2	CBL - 341I
6/20/2017	10:16:44	22.28	6.27	4.05	47.4	5960	276.2	CBL - 341I
6/20/2017	10:19:44	22.32	6.25	4.47	52.4	5939	282.0	CBL - 341I
6/20/2017	10:22:44	22.28	6.24	4.47	52.4	5922	288.5	CBL - 341I
6/20/2017	10:25:44	22.33	6.22	4.49	52.7	5918	293.8	CBL - 341I
6/20/2017	10:28:44	22.40	6.20	4.59	53.9	5953	299.0	CBL - 341I
6/20/2017	10:31:44	22.43	6.19	4.95	58.2	5939	304.7	CBL - 341I
6/20/2017	10:34:44	22.51	6.17	4.87	57.3	5932	310.9	CBL - 341I
6/20/2017	10:37:44	22.64	6.17	4.88	57.6	5969	316.9	CBL - 341I
6/20/2017	10:40:44	22.68	6.18	5.71	67.4	5942	323.5	CBL - 341I
6/20/2017	10:43:11	22.86	6.19	5.26	62.3	5931	297.7	CBL - 341I

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 6/20/17
Sample Time: 10:45
Sample ID: CBL3411I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170620	1015	V= 5	15	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	15.63 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	25 (ft)

PH: 6.19 (STD) Specific Conductivity: 5931 uS/cm Sample Temp. 22.8 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	250mL	ICE	Anions	N
P	4L	ICE	Rad 226 + 228 / Rads Dup CBL641I	N
P	250mL	HNO_3	Metals Dup CBL641I	
P	500mL	ICE	Anions Dup CBL641I	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 0.74
Weather Conditions: Partly Cloudy, 87°F, Calm wind
Other: Purge water is clear with no odor. Collected sample once parameters were stable

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS Ground water SOP 5-70
Date: 6/20/17
Sampler: JG
Employer: LCRA

Rev. 1 (08/2009)

LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

August 15, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1725372

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

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Fax: (512)356-6021

SAMPLE SUMMARY

Workorder: Q1725372

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1725372001	CBL - 341I	Aqueous	6/20/2017 10:43	6/20/2017 12:50
Q1725372002	CBL - 641I	Aqueous	6/20/2017 10:43	6/20/2017 12:50
Q1725372003	FB # 1	Aqueous	6/20/2017 10:43	6/20/2017 12:50
Q1725372004	EQ Blank	Aqueous	6/20/2017 11:00	6/20/2017 12:50

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1725372

Lab ID:	**Q1725372001**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	6/20/2017 10:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	08/15/17 15:46	JBW	08/15/17 15:46	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	08/15/17 15:46	JBW	08/15/17 15:46	JBW	

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Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1725372

Lab ID:	**Q1725372002**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	6/20/2017 10:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	08/15/17 15:47	JBW	08/15/17 15:47	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	08/15/17 15:47	JBW	08/15/17 15:47	JBW	

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ANALYTICAL RESULTS

Workorder: Q1725372

Lab ID:	**Q1725372003**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	6/20/2017 10:43	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	08/15/17 15:47	JBW	08/15/17 15:47	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	08/15/17 15:47	JBW	08/15/17 15:47	JBW	

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ANALYTICAL RESULTS

Workorder: Q1725372

Lab ID:	**Q1725372004**	Date Received:	6/20/2017 12:50	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	6/20/2017 11:00	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	08/15/17 15:47	JBW	08/15/17 15:47	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	08/15/17 15:47	JBW	08/15/17 15:47	JBW	

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Q1725372

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:	
Client PO:	

Project:	FPP - CCR Well - Sub Rads - June	Client:	LCRA
Collector:	John Gallagher / Jason Woods	Contact:	
Event#:	1370646 / 4621	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU								Requested Analysis * S-Rad228	S-Rad226										
001	1	CBL - 341I	6-20-17	10:43	AQ	N	N	1								X	X										
002	2	CBL - 641I		10:43	AQ			1								X	X										
003	3	FB # 1		10:43	AQ			1								X	X										
004	4	EQ Blank		11:00	AQ			1								X	X										
	5																										
	6																										
	7																										

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	[signature]	6/20/17 1250	[signature]	6/20/17 1250
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	4.0C	4.0C
2			

Client Special Instructions:

Lab Use Only:
Q1725372 268060

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Q1725372

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:	
Client PO:	

Project:	FPP - CCR Well - Sub Rads - June	Client:	LCRA
Collector:	John Gallagher / Jason Woods	Contact:	
Event#:	1370646 / 4621	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	4LCBU								S-Rad228	S-Rad226										
001	1	CBL - 341I	6-20-17	10:43	AQ	N	N	1								X	X										
002	2	CBL - 641I		10:43	AQ			1								X	X										
003	3	FB # 1		10:43	AQ			1								X	X										
004	4	EQ Blank		11:00	AQ			1								X	X										
	5																										
	6																										
	7																										

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	[signature]	6/20/17 1250	[signature]	6/20/17 1250
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	4.0°C	4.0°C
2			

Client Special Instructions:

Lab Use Only:

Q1725372 268060

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45224731 - HBN 60990 PO #Q1725372 Results Requested By

Report To

Jason Woods
LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)356-6022
Fax (512)356-6021
Email envlab@lcra.org

Subcontract To

Summit Environmental Lab Technologies, Inc.
3310 Win Street
Cuyahoga Falls, OH 44223
Phone (800)278-0140
Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1725372001	6/20/2017 10:43		Aqueous	1						X	X											
2	Q1725372002	6/20/2017 10:43		Aqueous	1						X	X											
3	Q1725372003	6/20/2017 10:43		Aqueous	1						X	X											
4	Q1725372004	6/20/2017 11:00		Aqueous	1						X	X											
5																							

Report

- [ ] Standard (Results only)
- [ ] Standard with Batch QC
- [ ] CLP
- [ ] Other _____

Electronic Data Deliverables

- [ ] SEDD Stage 2A
- [ ] SEDD Stage 2B
- [ ] SEDD Stage 3
- [ ] Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1725372 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	6/26/17 1015		
2				
3				
4				
5				

FedEx Shipment Receipt

Address Information

Ship to:	**Ship from:**
Sample Receiving- Summit Env	Sample Receiving
SUMMIT ENVIRONMENTAL TECHNOLOGIES	ENVIRONMENTAL LABORATORY SERVICES
3310 WIN ST	3505 MONTOPOLIS DRIVE LCRA-ENVIRONMENTAL LAB ONLY
CUYAHOGA FALLS, OH	AUSTIN, TX
442233790	78744
US	US
8002780140	5123566022

Shipment Information:
Tracking no.: 779489449397
Ship date: 06/26/2017
Estimated shipping charges: 0.00

Package Information
Pricing option: FedEx Standard Rate
Service type: FedEx Ground
Package type: Your Packaging
Number of packages: 2
Total weight: 99 LBS
Declared Value: 0.00 USD
Special Services:
Pickup/Drop-off: pickup confirmation number:CPU524171770

Billing Information:
Bill transportation to: Third party
Your reference: 3533318
P.O. no.:
Invoice no.:
Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits; Consult the applicable FedEx Service Guide for details.
The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

August 03, 2017

Jason Woods
LCRA Environmental Laboratory Services
P.O. Box 220 78767-02203505 Montopolis
Austin, TX 78744
TEL: 512-356-6022
FAX: 512-356-6021

RE: Q1725372

Dear Jason Woods:

Order No.: 17061782

Summit Environmental Technologies, Inc. received 4 sample(s) on 6/30/2017 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0108, Delaware, Florida NELAC E87688, Georgia E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061, Maryland 339, Minnesota 409711, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Utah OH009232011-1, Virginia 00440 and 1581, Washington C891

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Case Narrative

WO#: **17061782**
Date: **8/3/2017**

CLIENT: LCRA Environmental Laboratory Services
Project: Q1725372

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. State Certificates and Scopes of Accreditation are attached as applicable. Results provided in this report for any parameter not listed on the Scope of Accreditation should be considered “not certified.”

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Workorder Sample Summary

WO#: **17061782**

03-Aug-17

CLIENT: LCRA Environmental Laboratory Services
Project: Q1725372

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
17061782-001	Q1725372001		6/20/2017 10:43:00 AM	6/30/2017 2:00:00 PM	Aqueous
17061782-002	Q1725372002		6/20/2017 10:43:00 AM	6/30/2017 2:00:00 PM	Aqueous
17061782-003	Q1725372003		6/20/2017 10:43:00 AM	6/30/2017 2:00:00 PM	Aqueous
17061782-004	Q1725372004		6/20/2017 11:00:00 AM	6/30/2017 2:00:00 PM	Aqueous

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Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17061782**

Date Reported: **8/3/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 6/20/2017 10:43:00 AM

Project: Q1725372

Lab ID: 17061782-001 **Matrix:** AQUEOUS

Client Sample ID: Q1725372001

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.26	1	7/28/2017 12:48:00 PM
Yield	1.00					1	7/28/2017 12:48:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	2.30	1.00		pCi/L	± 0.66	1	8/2/2017 1:49:00 PM
Yield	1.00					1	8/2/2017 1:49:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17061782**

Date Reported: **8/3/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 6/20/2017 10:43:00 AM

Project: Q1725372

Lab ID: 17061782-002 **Matrix:** AQUEOUS

Client Sample ID: Q1725372002

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	1.42	1.00		pCi/L	± 0.33	1	7/28/2017 12:49:00 PM
Yield	1.00					1	7/28/2017 12:49:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	3.04	1.00		pCi/L	± 0.73	1	8/2/2017 1:49:00 PM
Yield	0.870					1	8/2/2017 1:49:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17061782**

Date Reported: **8/3/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 6/20/2017 10:43:00 AM

Project: Q1725372

Lab ID: 17061782-003 **Matrix:** AQUEOUS

Client Sample ID: Q1725372003

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.21	1	7/28/2017 12:49:00 PM
Yield	1.00					1	7/28/2017 12:49:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.43	1	8/2/2017 1:46:00 PM
Yield	0.800					1	8/2/2017 1:46:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17061782**

Date Reported: **8/3/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 6/20/2017 11:00:00 AM

Project: Q1725372

Lab ID: 17061782-004 **Matrix:** AQUEOUS

Client Sample ID: Q1725372004

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.25	1	7/28/2017 12:49:00 PM
Yield	1.00					1	7/28/2017 12:49:00 PM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.44	1	8/2/2017 1:46:00 PM
Yield	0.850					1	8/2/2017 1:46:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **17061782**
03-Aug-17

Client: LCRA Environmental Laboratory Services
Project: Q1725372 **BatchID:** **28120**

Sample ID: **lcs-28120** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/28/2017** RunNo: **72933**
Client ID: **LCSW** Batch ID: **28120** TestNo: **E904.0** **E903-904** Analysis Date: **8/2/2017** SeqNo: **1216683**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.11	1.00	5.000	0	82.2	70	130				
Yield	1.00			0	0						

Sample ID: **lcsd-28120** SampType: **LCSD** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/28/2017** RunNo: **72933**
Client ID: **LCSS02** Batch ID: **28120** TestNo: **E904.0** **E903-904** Analysis Date: **8/2/2017** SeqNo: **1216684**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	3.81	1.00	5.000	0	76.2	70	130	4.110	7.58	20	
Yield	0.830			0	0			1.000	18.6		

Sample ID: **17070155-001aMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/28/2017** RunNo: **72933**
Client ID: **BatchQC** Batch ID: **28120** TestNo: **E904.0** **E903-904** Analysis Date: **8/2/2017** SeqNo: **1216686**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.53	1.00	5.000	0.8000	74.6	70	130				
Yield	0.870			0.9700	0						

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Original

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **17061782**

03-Aug-17

Client: LCRA Environmental Laboratory Services

Project: Q1725372 **BatchID:** **28120**

Sample ID: **mb-28120** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **7/28/2017** RunNo: **72933**

Client ID: **PBW** Batch ID: **28120** TestNo: **E904.0** **E903-904** Analysis Date: **8/2/2017** SeqNo: **1216708**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	0.940			0	0						

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Original

Summit Environmental Technologies, In
3310 Win S
Cuyahoga Falls, Ohio 4422
TEL: (330) 253-8211 FAX: (330) 253-448
Website: http://www.settek.co

Qualifiers and Acronyms

WO#: **17061782**
Date: **8/3/2017**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45224731 - HBN 60990

PO #Q1725372

Results Requested By

Report To

Jason Woods
LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)356-6022
Fax (512)356-6021
Email envlab@lcra.org

Subcontract To

Summit Environmental Lab Technologies, Inc.
3310 Win Street
Cuyahoga Falls, OH 44223
Phone (800)278-0140
Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1725372001	6/20/2017 10:43		Aqueous	1						X	X											
2	Q1725372002	6/20/2017 10:43		Aqueous	1						X	X											
3	Q1725372003	6/20/2017 10:43		Aqueous	1						X	X											
4	Q1725372004	6/20/2017 11:00		Aqueous	1						X	X											
5																							

1706 1782-001-004se

Report

- [ ] Standard (Results only)
- [ ] Standard with Batch QC
- [ ] CLP
- [ ] Other _____

Electronic Data Deliverables

- [ ] SEDD Stage 2A
- [ ] SEDD Stage 2B
- [ ] SEDD Stage 3
- [ ] Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1725372 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	6/16/17 105		
2				
3			SNCampbell	6-30-17
4				1400
5				

Monday, June 26, 2017 9:16:59 AM
Page 1 of 1

2001.2.0.0

DC-7
Rev. 16

Effective Date 07/14/16

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Initials of person inspecting cooler and samples: SC

Client: LCRA

Order Number:

Date Received: 6-30-17 Time Received: 1400 Date cooler(s) opened and samples inspected: 6-30-17

Number of Coolers/Boxes: 2 N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other:

Packaging: Peanuts Bubble Wrap Paper Foam None Other

Tape on cooler/box: Y N N/A

Custody Seals intact Y N N/A

C-O-C in plastic Y N N/A

Ice_____ Blue ice _____ present / absent / melted N/A

Sample Temperature IR Gun #16020459 CF 0.0 °C 13.7 °C N/A

Radiological Testing Instrument serial #35127 Y N N/A
(see page 2 for scan results)
Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.

C-O-C filled out properly Y N N/A

Samples in separate bags Y N N/A

Sample containers intact* Y N N/A

*If no, list broken sample(s):

Sample label(s) complete (ID, date, etc.) Y N N/A

Label(s) agree with C-O-C Y N N/A

Correct containers used Y N N/A

Sufficient sample received Y N N/A

Samples received within holding time Y N N/A

Bubbles absent from 40 mL vials** Y N N/A

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm.

Was client contacted about samples Y N

Will client send new samples Y N

Client contact:

Date/Time:

Logged in by:

Comments:

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# WC-03-1174 pH strip (2.8-4.6) SET#OES-01-0250
Total DPD packet SET#OES-02-0239 Free DPD packet SET#OES-01-0290
Disp. Pipette SET# WC-03-0510

Sample or OMEGA ID	Method	pH	Chlorine (±)	Comments
1	✓	2		
2		2		
3		2		
4		2		

Radiological scan on sample

ID	scan	CPM
1	✓	22
2	✓	23
3	✓	28
4	✓	27

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for **Total** chlorine
552.2 checked for **Free** chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0250)
524.2 = pH and Chlorine checked at bench and not log in department

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

in accordance with Texas Water Code Chapter 5, Subchapter R, Title 30 Texas Administrative Code Chapter 25, and the National Environmental Laboratory Accreditation Program.

The laboratory's scope of accreditation includes the fields of accreditation that accompany this certificate. Continued accreditation depends upon successful ongoing participation in the program. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current location(s) and accreditation status for particular methods and analyses (www.tceq.texas.gov/goto/lab). Accreditation does not imply that a product, process, system or person is approved by the Texas Commission on Environmental Quality.

Executive Director Texas Commission on Environmental Quality

Certificate Number: T104704466-17-12
Effective Date: 8/1/2017
Expiration Date: 7/31/2018

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate:	T104704466-17-12
Expiration Date:	7/31/2018
Issue Date:	8/1/2017

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10120204

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10013806
Antimony	FL	1005	10013806
Arsenic	FL	1010	10013806
Barium	FL	1015	10013806
Beryllium	FL	1020	10013806
Boron	FL	1025	10013806
Cadmium	FL	1030	10013806
Chromium	FL	1040	10013806
Copper	FL	1055	10013806
Iron	FL	1070	10013806
Lead	FL	1075	10013806
Magnesium	FL	1085	10013806
Manganese	FL	1090	10013806
Molybdenum	FL	1100	10013806
Nickel	FL	1105	10013806
Potassium	FL	1125	10013806
Selenium	FL	1140	10013806
Silica as SiO2	FL	1990	10013806
Silver	FL	1150	10013806
Sodium	FL	1155	10013806
Thallium	FL	1165	10013806
Vanadium	FL	1185	10013806
Zinc	FL	1190	10013806

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10014605

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Matrix: *Drinking Water*

Antimony	FL	1005	10014605
Arsenic	FL	1010	10014605
Barium	FL	1015	10014605
Beryllium	FL	1020	10014605
Cadmium	FL	1030	10014605
Chromium	FL	1040	10014605
Copper	FL	1055	10014605
Lead	FL	1075	10014605
Manganese	FL	1090	10014605
Nickel	FL	1105	10014605
Selenium	FL	1140	10014605
Silver	FL	1150	10014605
Thallium	FL	1165	10014605
Uranium	FL	3035	10014605
Zinc	FL	1190	10014605

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10053200
Chloride	FL	1575	10053200
Fluoride	FL	1730	10053200
Nitrate as N	FL	1810	10053200
Nitrite as N	FL	1840	10053200
Sulfate	FL	2000	10053200

Method EPA 300.0 B

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10275408

Method EPA 300.1

Analyte	AB	Analyte ID	Method ID

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Matrix: ***Drinking Water***

Bromate	FL	1535	10275602
Bromide	FL	1540	10275602
Chlorate	FL	1570	10275602
Chlorite	FL	1595	10275602

Method EPA 314.0

Analyte	AB	Analyte ID	Method ID
Perchlorate	FL	1895	10277006

Method EPA 900.0

Analyte	AB	Analyte ID	Method ID
Gross-alpha	FL	2830	10112400
Gross-beta	FL	2840	10112400

Method EPA 903.0

Analyte	AB	Analyte ID	Method ID
Radium-226	FL	2965	10113209

Method EPA 904.0

Analyte	AB	Analyte ID	Method ID
Radium-228	FL	2970	10113607

Method EPA 908.0

Analyte	AB	Analyte ID	Method ID
Uranium	FL	3035	10114202

Method SM 2510 B

Analyte	AB	Analyte ID	Method ID
Conductivity	FL	1610	20048004

Method SM 2540 C

Analyte	AB	Analyte ID	Method ID
Residue-filterable (TDS)	FL	1955	20049803

Method SM 4500-CN^- C,E

Analyte	AB	Analyte ID	Method ID
Total cyanide	FL	1645	20092404

Method SM 4500-CN^- C,G

Analyte	AB	Analyte ID	Method ID

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Matrix: ***Drinking Water***

Amenable cyanide	FL	1510	20093203

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Matrix: *Non-Potable Water*

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10116606

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	FL	1970	10010409

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10120204
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10120204
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10120204
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10120204
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10120204
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10120204
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10120204
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10120204
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10120204
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10120204
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10120204
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10120204
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10120204
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10120204
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10120204
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10120204
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10120204
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10120204
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10120204
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10120204
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10120204
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10120204
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10120204

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Matrix: ***Non-Potable Water***

Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10120204
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10120204

Method EPA 1631E

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10237204

Method EPA 1664

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10127807
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10127807

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10013806
Antimony	FL	1005	10013806
Arsenic	FL	1010	10013806
Barium	FL	1015	10013806
Beryllium	FL	1020	10013806
Boron	FL	1025	10013806
Cadmium	FL	1030	10013806
Calcium	FL	1035	10013806
Chromium	FL	1040	10013806
Cobalt	FL	1050	10013806
Copper	FL	1055	10013806
Iron	FL	1070	10013806
Lead	FL	1075	10013806
Magnesium	FL	1085	10013806
Manganese	FL	1090	10013806
Molybdenum	FL	1100	10013806
Nickel	FL	1105	10013806
Phosphorus	FL	1910	10013806
Potassium	FL	1125	10013806
Selenium	FL	1140	10013806

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Matrix: ***Non-Potable Water***

Silver	FL	1150	10013806
Sodium	FL	1155	10013806
Thallium	FL	1165	10013806
Tin	FL	1175	10013806
Titanium	FL	1180	10013806
Vanadium	FL	1185	10013806
Zinc	FL	1190	10013806

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10014605
Antimony	FL	1005	10014605
Arsenic	FL	1010	10014605
Barium	FL	1015	10014605
Beryllium	FL	1020	10014605
Cadmium	FL	1030	10014605
Chromium	FL	1040	10014605
Cobalt	FL	1050	10014605
Copper	FL	1055	10014605
Lead	FL	1075	10014605
Manganese	FL	1090	10014605
Molybdenum	FL	1100	10014605
Nickel	FL	1105	10014605
Selenium	FL	1140	10014605
Silver	FL	1150	10014605
Strontium	FL	1160	10014605
Thallium	FL	1165	10014605
Thorium	FL	1170	10014605
Uranium	FL	3035	10014605
Vanadium	FL	1185	10014605
Zinc	FL	1190	10014605

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Matrix: ***Non-Potable Water***

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10053200
Chloride	FL	1575	10053200
Fluoride	FL	1730	10053200
Nitrate as N	FL	1810	10053200
Nitrate-nitrite	FL	1820	10053200
Nitrite as N	FL	1840	10053200
Orthophosphate as P	FL	1870	10053200
Sulfate	FL	2000	10053200

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	FL	1905	10079400

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10155803
Antimony	FL	1005	10155803
Arsenic	FL	1010	10155803
Barium	FL	1015	10155803
Beryllium	FL	1020	10155803
Boron	FL	1025	10155803
Cadmium	FL	1030	10155803
Calcium	FL	1035	10155803
Chromium	FL	1040	10155803
Cobalt	FL	1050	10155803
Copper	FL	1055	10155803
Iron	FL	1070	10155803
Lead	FL	1075	10155803

Texas Commission on Environmental Quality

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Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2018
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2017

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Matrix: ***Non-Potable Water***

Magnesium	FL	1085	10155803
Manganese	FL	1090	10155803
Molybdenum	FL	1100	10155803
Nickel	FL	1105	10155803
Phosphorus	FL	1910	10155803
Potassium	FL	1125	10155803
Selenium	FL	1140	10155803
Silver	FL	1150	10155803
Sodium	FL	1155	10155803
Thallium	FL	1165	10155803
Vanadium	FL	1185	10155803
Zinc	FL	1190	10155803

Method EPA 608

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10103603
4,4'-DDE	FL	7360	10103603
4,4'-DDT	FL	7365	10103603
Aldrin	FL	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10103603
Aroclor-1016 (PCB-1016)	FL	8880	10103603
Aroclor-1221 (PCB-1221)	FL	8885	10103603
Aroclor-1232 (PCB-1232)	FL	8890	10103603
Aroclor-1242 (PCB-1242)	FL	8895	10103603
Aroclor-1248 (PCB-1248)	FL	8900	10103603
Aroclor-1254 (PCB-1254)	FL	8905	10103603
Aroclor-1260 (PCB-1260)	FL	8910	10103603
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10103603
Chlordane (tech.)	FL	7250	10103603
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10103603
Dieldrin	FL	7470	10103603

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NELAP - Recognized Laboratory Fields of Accreditation

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Expiration Date:	7/31/2018
Issue Date:	8/1/2017

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

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Matrix: ***Non-Potable Water***

Endosulfan I	FL	7510	10103603
Endosulfan II	FL	7515	10103603
Endosulfan sulfate	FL	7520	10103603
Endrin	FL	7540	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10103603
Heptachlor	FL	7685	10103603
Heptachlor epoxide	FL	7690	10103603
Toxaphene (Chlorinated camphene)	FL	8250	10103603

Method EPA 615

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10105609
2,4-D	FL	8545	10105609
2,4-DB	FL	8560	10105609
Dalapon	FL	8555	10105609
Dicamba	FL	8595	10105609
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10105609
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10105609
MCPA	FL	7775	10105609
MCPP	FL	7780	10105609
Silvex (2,4,5-TP)	FL	8650	10105609

Method EPA 624

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	FL	5160	10107207
1,1,2,2-Tetrachloroethane	FL	5110	10107207
1,1,2-Trichloroethane	FL	5165	10107207
1,1-Dichloroethane	FL	4630	10107207
1,1-Dichloroethylene	FL	4640	10107207
1,2-Dichlorobenzene	FL	4610	10107207
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10107207
1,2-Dichloropropane	FL	4655	10107207
1,3-Dichlorobenzene	FL	4615	10107207

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Matrix: ***Non-Potable Water***

1,4-Dichlorobenzene	FL	4620	10107207
2-Chloroethyl vinyl ether	FL	4500	10107207
Acrolein (Propenal)	FL	4325	10107207
Acrylonitrile	FL	4340	10107207
Benzene	FL	4375	10107207
Bromodichloromethane	FL	4395	10107207
Bromoform	FL	4400	10107207
Carbon tetrachloride	FL	4455	10107207
Chlorobenzene	FL	4475	10107207
Chlorodibromomethane	FL	4575	10107207
Chloroethane (Ethyl chloride)	FL	4485	10107207
Chloroform	FL	4505	10107207
cis-1,3-Dichloropropene	FL	4680	10107207
Ethylbenzene	FL	4765	10107207
Methyl bromide (Bromomethane)	FL	4950	10107207
Methyl chloride (Chloromethane)	FL	4960	10107207
Methylene chloride (Dichloromethane)	FL	4975	10107207
Tetrachloroethylene (Perchloroethylene)	FL	5115	10107207
Toluene	FL	5140	10107207
trans-1,2-Dichloroethylene	FL	4700	10107207
trans-1,3-Dichloropropylene	FL	4685	10107207
Trichloroethene (Trichloroethylene)	FL	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10107207
Vinyl chloride	FL	5235	10107207
Xylene (total)	FL	5260	10107207

Method EPA 625

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10107401
1,2,4-Trichlorobenzene	FL	5155	10107401
1,2-Dichlorobenzene	FL	4610	10107401

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Matrix: ***Non-Potable Water***

1,3-Dichlorobenzene	FL	4615	10107401
1,4-Dichlorobenzene	FL	4620	10107401
2,4,6-Trichlorophenol	FL	6840	10107401
2,4-Dichlorophenol	FL	6000	10107401
2,4-Dimethylphenol	FL	6130	10107401
2,4-Dinitrophenol	FL	6175	10107401
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10107401
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10107401
2-Chloronaphthalene	FL	5795	10107401
2-Chlorophenol	FL	5800	10107401
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10107401
2-Nitrophenol	FL	6490	10107401
3,3'-Dichlorobenzidine	FL	5945	10107401
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10107401
4-Chloro-3-methylphenol	FL	5700	10107401
4-Chlorophenyl phenylether	FL	5825	10107401
4-Nitrophenol	FL	6500	10107401
Acenaphthene	FL	5500	10107401
Acenaphthylene	FL	5505	10107401
Anthracene	FL	5555	10107401
Benzidine	FL	5595	10107401
Benzo(a)anthracene	FL	5575	10107401
Benzo(a)pyrene	FL	5580	10107401
Benzo(b)fluoranthene	FL	5585	10107401
Benzo(g,h,i)perylene	FL	5590	10107401
Benzo(k)fluoranthene	FL	5600	10107401
bis(2-Chloroethoxy)methane	FL	5760	10107401
bis(2-Chloroethyl) ether	FL	5765	10107401
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10107401
Butyl benzyl phthalate	FL	5670	10107401

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Matrix: ***Non-Potable Water***

Chrysene	FL	5855	10107401
Dibenz(a,h) anthracene	FL	5895	10107401
Diethyl phthalate	FL	6070	10107401
Dimethyl phthalate	FL	6135	10107401
Di-n-butyl phthalate	FL	5925	10107401
Di-n-octyl phthalate	FL	6200	10107401
Fluoranthene	FL	6265	10107401
Fluorene	FL	6270	10107401
Hexachlorobenzene	FL	6275	10107401
Hexachlorobutadiene	FL	4835	10107401
Hexachlorocyclopentadiene	FL	6285	10107401
Hexachloroethane	FL	4840	10107401
Indeno(1,2,3-cd) pyrene	FL	6315	10107401
Isophorone	FL	6320	10107401
Naphthalene	FL	5005	10107401
Nitrobenzene	FL	5015	10107401
n-Nitrosodimethylamine	FL	6530	10107401
n-Nitrosodi-n-propylamine	FL	6545	10107401
n-Nitrosodiphenylamine	FL	6535	10107401
Pentachlorophenol	FL	6605	10107401
Phenanthrene	FL	6615	10107401
Phenol	FL	6625	10107401
Pyrene	FL	6665	10107401

Method EPA 7196

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	FL	1045	10162400

Method EPA 7470

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10165603

Method EPA 8015

Analyte	AB	Analyte ID	Method ID

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Matrix: ***Non-Potable Water***

Diesel range organics (DRO)	FL	9369	10305609
Ethylene glycol	FL	4785	10305609
Gasoline range organics (GRO)	FL	9408	10305609
Methanol	FL	4930	10305609

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10178800
4,4'-DDE	FL	7360	10178800
4,4'-DDT	FL	7365	10178800
Aldrin	FL	7025	10178800
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10178800
alpha-Chlordane	FL	7240	10178800
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10178800
Chlordane (tech.)	FL	7250	10178800
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10178800
Dieldrin	FL	7470	10178800
Endosulfan I	FL	7510	10178800
Endosulfan II	FL	7515	10178800
Endosulfan sulfate	FL	7520	10178800
Endrin	FL	7540	10178800
Endrin ketone	FL	7535	10178800
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10178800
gamma-Chlordane	FL	7245	10178800
Heptachlor	FL	7685	10178800
Heptachlor epoxide	FL	7690	10178800
Methoxychlor	FL	7810	10178800
Toxaphene (Chlorinated camphene)	FL	8250	10178800

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	FL	8880	10179201
Aroclor-1221 (PCB-1221)	FL	8885	10179201

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Matrix: ***Non-Potable Water***

Aroclor-1232 (PCB-1232)	FL	8890	10179201
Aroclor-1242 (PCB-1242)	FL	8895	10179201
Aroclor-1248 (PCB-1248)	FL	8900	10179201
Aroclor-1254 (PCB-1254)	FL	8905	10179201
Aroclor-1260 (PCB-1260)	FL	8910	10179201
PCBs (total)	FL	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10183207
2,4-D	FL	8545	10183207
2,4-DB	FL	8560	10183207
Dalapon	FL	8555	10183207
Dicamba	FL	8595	10183207
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10183207
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10183207
MCPA	FL	7775	10183207
MCPP	FL	7780	10183207
Silvex (2,4,5-TP)	FL	8650	10183207

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	FL	5105	10184802
1,1,1-Trichloroethane	FL	5160	10184802
1,1,2,2-Tetrachloroethane	FL	5110	10184802
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	FL	5195	10184802
1,1,2-Trichloroethane	FL	5165	10184802
1,1-Dichloroethane	FL	4630	10184802
1,1-Dichloroethylene	FL	4640	10184802
1,1-Dichloropropene	FL	4670	10184802
1,2,3-Trichlorobenzene	FL	5150	10184802
1,2,3-Trichloropropane	FL	5180	10184802
1,2,4-Trichlorobenzene	FL	5155	10184802

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Matrix: ***Non-Potable Water***

1,2,4-Trimethylbenzene	FL	5210	10184802
1,2-Dibromo-3-chloropropane (DBCP)	FL	4570	10184802
1,2-Dibromoethane (EDB, Ethylene dibromide)	FL	4585	10184802
1,2-Dichlorobenzene	FL	4610	10184802
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10184802
1,2-Dichloropropane	FL	4655	10184802
1,3,5-Trimethylbenzene	FL	5215	10184802
1,3-Dichlorobenzene	FL	4615	10184802
1,3-Dichloropropane	FL	4660	10184802
1,4-Dichlorobenzene	FL	4620	10184802
2,2-Dichloropropane	FL	4665	10184802
2-Butanone (Methyl ethyl ketone, MEK)	FL	4410	10184802
2-Chloroethyl vinyl ether	FL	4500	10184802
2-Chlorotoluene	FL	4535	10184802
2-Hexanone (MBK)	FL	4860	10184802
2-Nitropropane	FL	5020	10184802
4-Chlorotoluene	FL	4540	10184802
4-Isopropyltoluene (p-Cymene)	FL	4915	10184802
4-Methyl-2-pentanone (MIBK)	FL	4995	10184802
Acetone (2-Propanone)	FL	4315	10184802
Acrolein (Propenal)	FL	4325	10184802
Acrylonitrile	FL	4340	10184802
Benzene	FL	4375	10184802
Bromobenzene	FL	4385	10184802
Bromochloromethane	FL	4390	10184802
Bromodichloromethane	FL	4395	10184802
Bromoform	FL	4400	10184802
Carbon disulfide	FL	4450	10184802
Carbon tetrachloride	FL	4455	10184802
Chlorobenzene	FL	4475	10184802

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Matrix: ***Non-Potable Water***

Chlorodibromomethane	FL	4575	10184802
Chloroethane (Ethyl chloride)	FL	4485	10184802
Chloroform	FL	4505	10184802
cis-1,2-Dichloroethylene	FL	4645	10184802
cis-1,3-Dichloropropene	FL	4680	10184802
Dibromomethane (Methylene bromide)	FL	4595	10184802
Dichlorodifluoromethane (Freon-12)	FL	4625	10184802
Diethyl ether	FL	4725	10184802
Ethyl acetate	FL	4755	10184802
Ethyl methacrylate	FL	4810	10184802
Ethylbenzene	FL	4765	10184802
Hexachlorobutadiene	FL	4835	10184802
Hexachloroethane	FL	4840	10184802
Iodomethane (Methyl iodide)	FL	4870	10184802
Isopropylbenzene (Cumene)	FL	4900	10184802
m+p-xylene	FL	5240	10184802
Methyl acetate	FL	4940	10184802
Methyl bromide (Bromomethane)	FL	4950	10184802
Methyl chloride (Chloromethane)	FL	4960	10184802
Methyl methacrylate	FL	4990	10184802
Methyl tert-butyl ether (MTBE)	FL	5000	10184802
Methylene chloride (Dichloromethane)	FL	4975	10184802
Naphthalene	FL	5005	10184802
n-Butyl alcohol (1-Butanol, n-Butanol)	FL	4425	10184802
n-Butylbenzene	FL	4435	10184802
n-Propylbenzene	FL	5090	10184802
o-Xylene	FL	5250	10184802
sec-Butylbenzene	FL	4440	10184802
Styrene	FL	5100	10184802
tert-Butyl alcohol	FL	4420	10184802

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Matrix: ***Non-Potable Water***

tert-Butylbenzene	FL	4445	10184802
Tetrachloroethylene (Perchloroethylene)	FL	5115	10184802
Toluene	FL	5140	10184802
trans-1,2-Dichloroethylene	FL	4700	10184802
trans-1,3-Dichloropropylene	FL	4685	10184802
trans-1,4-Dichloro-2-butene	FL	4605	10184802
Trichloroethene (Trichloroethylene)	FL	5170	10184802
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10184802
Vinyl acetate	FL	5225	10184802
Vinyl chloride	FL	5235	10184802
Xylene (total)	FL	5260	10184802

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10186002
1,2,4-Trichlorobenzene	FL	5155	10186002
1,2-Dichlorobenzene	FL	4610	10186002
1,3-Dichlorobenzene	FL	4615	10186002
1,4-Dichlorobenzene	FL	4620	10186002
2,4,5-Trichlorophenol	FL	6835	10186002
2,4,6-Trichlorophenol	FL	6840	10186002
2,4-Dichlorophenol	FL	6000	10186002
2,4-Dimethylphenol	FL	6130	10186002
2,4-Dinitrophenol	FL	6175	10186002
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10186002
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10186002
2-Chloronaphthalene	FL	5795	10186002
2-Chlorophenol	FL	5800	10186002
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10186002
2-Methylphenol (o-Cresol)	FL	6400	10186002
2-Nitrophenol	FL	6490	10186002

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Matrix: ***Non-Potable Water***

3,3'-Dichlorobenzidine	FL	5945	10186002
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10186002
4-Chloro-3-methylphenol	FL	5700	10186002
4-Chlorophenyl phenylether	FL	5825	10186002
4-Methylphenol (p-Cresol)	FL	6410	10186002
4-Nitrophenol	FL	6500	10186002
Acenaphthene	FL	5500	10186002
Acenaphthylene	FL	5505	10186002
Anthracene	FL	5555	10186002
Benzidine	FL	5595	10186002
Benzo(a)anthracene	FL	5575	10186002
Benzo(a)pyrene	FL	5580	10186002
Benzo(b)fluoranthene	FL	5585	10186002
Benzo(g,h,i)perylene	FL	5590	10186002
Benzo(k)fluoranthene	FL	5600	10186002
bis(2-Chloroethoxy)methane	FL	5760	10186002
bis(2-Chloroethyl) ether	FL	5765	10186002
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10186002
Butyl benzyl phthalate	FL	5670	10186002
Chrysene	FL	5855	10186002
Dibenz(a,h) anthracene	FL	5895	10186002
Diethyl phthalate	FL	6070	10186002
Dimethyl phthalate	FL	6135	10186002
Di-n-butyl phthalate	FL	5925	10186002
Di-n-octyl phthalate	FL	6200	10186002
Fluoranthene	FL	6265	10186002
Fluorene	FL	6270	10186002
Hexachlorobenzene	FL	6275	10186002
Hexachlorobutadiene	FL	4835	10186002
Hexachlorocyclopentadiene	FL	6285	10186002

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Matrix: ***Non-Potable Water***

Hexachloroethane	FL	4840	10186002
Indeno(1,2,3-cd) pyrene	FL	6315	10186002
Isophorone	FL	6320	10186002
Naphthalene	FL	5005	10186002
Nitrobenzene	FL	5015	10186002
n-Nitrosodimethylamine	FL	6530	10186002
n-Nitrosodi-n-propylamine	FL	6545	10186002
n-Nitrosodiphenylamine	FL	6535	10186002
Pentachlorophenol	FL	6605	10186002
Phenanthrene	FL	6615	10186002
Phenol	FL	6625	10186002
Pyrene	FL	6665	10186002
Pyridine	FL	5095	10186002

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10187403
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10187403
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10187403
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10187403
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10187403
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10187403
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10187403
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10187403
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10187403
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10187403
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10187403
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10187403
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10187403
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10187403
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10187403

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Summit Environmental Technologies, Inc.

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Matrix: ***Non-Potable Water***

2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10187403
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10187403
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10187403
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10187403
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10187403
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10187403
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10187403
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10187403
Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10187403
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10187403

Method EPA 8315

Analyte	AB	Analyte ID	Method ID
Formaldehyde	FL	4815	10188008

Method EPA 8321

Analyte	AB	Analyte ID	Method ID
2,4-D	FL	8545	10189001
Silvex (2,4,5-TP)	FL	8650	10189001

Method EPA 9014

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	FL	1510	10193803
Total cyanide	FL	1645	10193803

Method EPA 9020

Analyte	AB	Analyte ID	Method ID
Total organic halides (TOX)	FL	2045	10194000

Method EPA 9034

Analyte	AB	Analyte ID	Method ID
Sulfide	FL	2005	10196006

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
pH	FL	1900	10197203

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Matrix: ***Non-Potable Water***

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	FL	1610	10198808

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10199607
Chloride	FL	1575	10199607
Fluoride	FL	1730	10199607
Nitrate as N	FL	1810	10199607
Nitrate-nitrite	FL	1820	10199607
Nitrite as N	FL	1840	10199607
Orthophosphate as P	FL	1870	10199607
Sulfate	FL	2000	10199607

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	FL	2040	10200201

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	FL	1905	10200405

Method EPA 9070

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10201000
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10201000

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
Ethane	FL	4747	10212905
Ethene	FL	4752	10212905
Methane	FL	4926	10212905
n-Butane	FL	5007	10212905
n-Propane	FL	5029	10212905

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Matrix: *Non-Potable Water*

Method SM 2510 B

Analyte	AB	Analyte ID	Method ID
Conductivity	FL	1610	20048004

Method SM 2540 B

Analyte	AB	Analyte ID	Method ID
Residue-total (total solids)	FL	1950	20004608

Method SM 2540 C

Analyte	AB	Analyte ID	Method ID
Residue-filterable (TDS)	FL	1955	20049803

Method SM 2540 D

Analyte	AB	Analyte ID	Method ID
Residue-nonfilterable (TSS)	FL	1960	20004802

Method SM 4500-CN$^-$ E

Analyte	AB	Analyte ID	Method ID
Total cyanide	FL	1645	20021209

Method SM 4500-CN$^-$ G

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	FL	1510	20021607

Method SM 4500-H+ B

Analyte	AB	Analyte ID	Method ID
pH	FL	1900	20104603

Method SM 4500-NH3 D

Analyte	AB	Analyte ID	Method ID
Ammonia as N	FL	1515	20108809

Method SM 4500-P E

Analyte	AB	Analyte ID	Method ID
Phosphorus	FL	1910	20025803

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	FL	1530	20027401
Carbonaceous BOD, CBOD	FL	1555	20027401

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Matrix: *Non-Potable Water*

Method SM 5220 D

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	FL	1565	20027809

Method SM 5310 B

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	FL	2040	20137206

Method SM 5540 C

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	FL	2025	20144405

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Matrix: *Solid & Chemical Materials*

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10116606

Method EPA 1030

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10117201

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	FL	849	10118806

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10155803
Antimony	FL	1005	10155803
Arsenic	FL	1010	10155803
Barium	FL	1015	10155803
Beryllium	FL	1020	10155803
Cadmium	FL	1030	10155803
Calcium	FL	1035	10155803
Chromium	FL	1040	10155803
Cobalt	FL	1050	10155803
Copper	FL	1055	10155803
Iron	FL	1070	10155803
Lead	FL	1075	10155803
Magnesium	FL	1085	10155803
Manganese	FL	1090	10155803
Molybdenum	FL	1100	10155803
Nickel	FL	1105	10155803
Potassium	FL	1125	10155803
Selenium	FL	1140	10155803
Silver	FL	1150	10155803
Sodium	FL	1155	10155803

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Matrix: *Solid & Chemical Materials*

Thallium	FL	1165	10155803
Tin	FL	1175	10155803
Titanium	FL	1180	10155803
Vanadium	FL	1185	10155803
Zinc	FL	1190	10155803

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Antimony	FL	1005	10156408
Arsenic	FL	1010	10156408
Barium	FL	1015	10156408
Beryllium	FL	1020	10156408
Cadmium	FL	1030	10156408
Chromium	FL	1040	10156408
Cobalt	FL	1050	10156408
Copper	FL	1055	10156408
Lead	FL	1075	10156408
Manganese	FL	1090	10156408
Molybdenum	FL	1100	10156408
Nickel	FL	1105	10156408
Selenium	FL	1140	10156408
Silver	FL	1150	10156408
Strontium	FL	1160	10156408
Thallium	FL	1165	10156408
Vanadium	FL	1185	10156408
Zinc	FL	1190	10156408

Method EPA 7196

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	FL	1045	10162400

Method EPA 7470

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10165807

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Matrix: *Solid & Chemical Materials*

Method EPA 7471

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10166004

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	FL	9369	10305609
Ethylene glycol	FL	4785	10305609
Gasoline range organics (GRO)	FL	9408	10305609

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10178800
4,4'-DDE	FL	7360	10178800
4,4'-DDT	FL	7365	10178800
Aldrin	FL	7025	10178800
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10178800
alpha-Chlordane	FL	7240	10178800
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10178800
Chlordane (tech.)	FL	7250	10178800
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10178800
Dieldrin	FL	7470	10178800
Endosulfan I	FL	7510	10178800
Endosulfan II	FL	7515	10178800
Endosulfan sulfate	FL	7520	10178800
Endrin	FL	7540	10178800
Endrin aldehyde	FL	7530	10178800
Endrin ketone	FL	7535	10178800
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10178800
gamma-Chlordane	FL	7245	10178800
Heptachlor	FL	7685	10178800
Heptachlor epoxide	FL	7690	10178800
Methoxychlor	FL	7810	10178800

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Matrix: *Solid & Chemical Materials*

Toxaphene (Chlorinated camphene)	FL	8250	10178800

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	FL	8880	10179201
Aroclor-1221 (PCB-1221)	FL	8885	10179201
Aroclor-1232 (PCB-1232)	FL	8890	10179201
Aroclor-1242 (PCB-1242)	FL	8895	10179201
Aroclor-1248 (PCB-1248)	FL	8900	10179201
Aroclor-1254 (PCB-1254)	FL	8905	10179201
Aroclor-1260 (PCB-1260)	FL	8910	10179201
PCBs (total)	FL	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10183207
2,4-D	FL	8545	10183207
2,4-DB	FL	8560	10183207
Dalapon	FL	8555	10183207
Dicamba	FL	8595	10183207
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10183207
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10183207
MCPA	FL	7775	10183207
MCPP	FL	7780	10183207
Silvex (2,4,5-TP)	FL	8650	10183207

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	FL	5105	10184802
1,1,1-Trichloroethane	FL	5160	10184802
1,1,2,2-Tetrachloroethane	FL	5110	10184802
1,1,2-Trichloroethane	FL	5165	10184802
1,1-Dichloroethane	FL	4630	10184802
1,1-Dichloroethylene	FL	4640	10184802

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Matrix: ***Solid & Chemical Materials***

1,1-Dichloropropene	FL	4670	10184802
1,2,3-Trichlorobenzene	FL	5150	10184802
1,2,3-Trichloropropane	FL	5180	10184802
1,2,4-Trichlorobenzene	FL	5155	10184802
1,2,4-Trimethylbenzene	FL	5210	10184802
1,2-Dibromo-3-chloropropane (DBCP)	FL	4570	10184802
1,2-Dibromoethane (EDB, Ethylene dibromide)	FL	4585	10184802
1,2-Dichlorobenzene	FL	4610	10184802
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10184802
1,2-Dichloropropane	FL	4655	10184802
1,3,5-Trimethylbenzene	FL	5215	10184802
1,3-Dichlorobenzene	FL	4615	10184802
1,3-Dichloropropane	FL	4660	10184802
1,4-Dichlorobenzene	FL	4620	10184802
2,2-Dichloropropane	FL	4665	10184802
2-Butanone (Methyl ethyl ketone, MEK)	FL	4410	10184802
2-Chloroethyl vinyl ether	FL	4500	10184802
2-Chlorotoluene	FL	4535	10184802
2-Hexanone (MBK)	FL	4860	10184802
2-Nitropropane	FL	5020	10184802
4-Chlorotoluene	FL	4540	10184802
4-Methyl-2-pentanone (MIBK)	FL	4995	10184802
Acetone (2-Propanone)	FL	4315	10184802
Acrolein (Propenal)	FL	4325	10184802
Acrylonitrile	FL	4340	10184802
Benzene	FL	4375	10184802
Bromobenzene	FL	4385	10184802
Bromochloromethane	FL	4390	10184802
Bromodichloromethane	FL	4395	10184802
Bromoform	FL	4400	10184802

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Matrix: ***Solid & Chemical Materials***

Carbon disulfide	FL	4450	10184802
Carbon tetrachloride	FL	4455	10184802
Chlorobenzene	FL	4475	10184802
Chlorodibromomethane	FL	4575	10184802
Chloroethane (Ethyl chloride)	FL	4485	10184802
Chloroform	FL	4505	10184802
cis-1,2-Dichloroethylene	FL	4645	10184802
cis-1,3-Dichloropropene	FL	4680	10184802
Dibromomethane (Methylene bromide)	FL	4595	10184802
Dichlorodifluoromethane (Freon-12)	FL	4625	10184802
Diethyl ether	FL	4725	10184802
Ethyl acetate	FL	4755	10184802
Ethylbenzene	FL	4765	10184802
Methyl bromide (Bromomethane)	FL	4950	10184802
Methyl chloride (Chloromethane)	FL	4960	10184802
Methyl tert-butyl ether (MTBE)	FL	5000	10184802
Methylene chloride (Dichloromethane)	FL	4975	10184802
Naphthalene	FL	5005	10184802
n-Butyl alcohol (1-Butanol, n-Butanol)	FL	4425	10184802
n-Butylbenzene	FL	4435	10184802
n-Propylbenzene	FL	5090	10184802
sec-Butylbenzene	FL	4440	10184802
Styrene	FL	5100	10184802
tert-Butylbenzene	FL	4445	10184802
Tetrachloroethylene (Perchloroethylene)	FL	5115	10184802
Toluene	FL	5140	10184802
trans-1,2-Dichloroethylene	FL	4700	10184802
trans-1,3-Dichloropropylene	FL	4685	10184802
Trichloroethene (Trichloroethylene)	FL	5170	10184802
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10184802

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Matrix: ***Solid & Chemical Materials***

Vinyl acetate	FL	5225	10184802
Vinyl chloride	FL	5235	10184802
Xylene (total)	FL	5260	10184802

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10186002
1,2,4-Trichlorobenzene	FL	5155	10186002
1,2-Dichlorobenzene	FL	4610	10186002
1,3-Dichlorobenzene	FL	4615	10186002
1,4-Dichlorobenzene	FL	4620	10186002
2,4,5-Trichlorophenol	FL	6835	10186002
2,4,6-Trichlorophenol	FL	6840	10186002
2,4-Dichlorophenol	FL	6000	10186002
2,4-Dimethylphenol	FL	6130	10186002
2,4-Dinitrophenol	FL	6175	10186002
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10186002
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10186002
2-Chloronaphthalene	FL	5795	10186002
2-Chlorophenol	FL	5800	10186002
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10186002
2-Methylphenol (o-Cresol)	FL	6400	10186002
2-Nitrophenol	FL	6490	10186002
3,3'-Dichlorobenzidine	FL	5945	10186002
3-Methylphenol (m-Cresol)	FL	6405	10186002
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10186002
4-Chloro-3-methylphenol	FL	5700	10186002
4-Chlorophenyl phenylether	FL	5825	10186002
4-Methylphenol (p-Cresol)	FL	6410	10186002
4-Nitrophenol	FL	6500	10186002
Acenaphthene	FL	5500	10186002

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Matrix: ***Solid & Chemical Materials***

Acenaphthylene	FL	5505	10186002
Anthracene	FL	5555	10186002
Benzidine	FL	5595	10186002
Benzo(a)anthracene	FL	5575	10186002
Benzo(a)pyrene	FL	5580	10186002
Benzo(b)fluoranthene	FL	5585	10186002
Benzo(g,h,i)perylene	FL	5590	10186002
Benzo(k)fluoranthene	FL	5600	10186002
bis(2-Chloroethoxy)methane	FL	5760	10186002
bis(2-Chloroethyl) ether	FL	5765	10186002
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10186002
Butyl benzyl phthalate	FL	5670	10186002
Chrysene	FL	5855	10186002
Dibenz(a,h) anthracene	FL	5895	10186002
Diethyl phthalate	FL	6070	10186002
Dimethyl phthalate	FL	6135	10186002
Di-n-butyl phthalate	FL	5925	10186002
Di-n-octyl phthalate	FL	6200	10186002
Fluoranthene	FL	6265	10186002
Fluorene	FL	6270	10186002
Hexachlorobenzene	FL	6275	10186002
Hexachlorobutadiene	FL	4835	10186002
Hexachlorocyclopentadiene	FL	6285	10186002
Hexachloroethane	FL	4840	10186002
Indeno(1,2,3-cd) pyrene	FL	6315	10186002
Isophorone	FL	6320	10186002
Naphthalene	FL	5005	10186002
Nitrobenzene	FL	5015	10186002
n-Nitrosodimethylamine	FL	6530	10186002
n-Nitrosodi-n-propylamine	FL	6545	10186002

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Matrix: ***Solid & Chemical Materials***

n-Nitrosodiphenylamine	FL	6535	10186002
Pentachlorophenol	FL	6605	10186002
Phenanthrene	FL	6615	10186002
Phenol	FL	6625	10186002
Pyrene	FL	6665	10186002
Pyridine	FL	5095	10186002

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10187403
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10187403
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10187403
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10187403
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10187403
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10187403
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10187403
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10187403
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10187403
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10187403
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10187403
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10187403
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10187403
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10187403
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10187403
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10187403
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10187403
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10187403
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10187403
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10187403
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10187403
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10187403

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

	Certificate:	T104704466-17-12
Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2018
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2017

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Chemical Materials***

Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10187403
Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10187403
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10187403

Method EPA 9014

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	FL	1510	10193803
Total cyanide	FL	1645	10193803

Method EPA 9023

Analyte	AB	Analyte ID	Method ID
Extractable organics halides (EOX)	FL	1720	10195003

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
Corrosivity	FL	1615	10197203
pH	FL	1900	10197203

Method EPA 9045

Analyte	AB	Analyte ID	Method ID
Corrosivity	FL	1615	10244607
pH	FL	1900	10244607

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10199607
Chloride	FL	1575	10199607
Fluoride	FL	1730	10199607
Nitrate as N	FL	1810	10199607
Nitrate-nitrite	FL	1820	10199607
Nitrite as N	FL	1840	10199607
Orthophosphate as P	FL	1870	10199607
Sulfate	FL	2000	10199607

Method EPA 9071

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10201806

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

	Certificate:	T104704466-17-12
Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2018
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2017

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Chemical Materials***

Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10201806

Method EPA 9095

Analyte	AB	Analyte ID	Method ID
Paint Filter Liquids Test	FL	10312	10204203

Method EPA 9310

Analyte	AB	Analyte ID	Method ID
Gross-alpha	FL	2830	10208205
Gross-beta	FL	2840	10208205

①

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 3/21/17
Sample Time: 1001
Sample ID: CBL3410I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170321	0901	V= 3.2	9.7	8.5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	20.24 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.14 (ft)	Pump Placement	34 (ft)

6.49 (STD) PH 79000 uS/cm Specific Conductivity Sample Temp. 22.37 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226 + Radium 228	N

Sample Appearance: clear Odor: None Color: clear Turbidity: _____
Weather Conditions: Partly Cloudy South wind 5-10mph
Other: Purge water was clear no odor parameter stable @ Time of sample collection 70°

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes ✓ No _____
If No, Explain _____

Procedure: ELS SOP Ground water 5-7D

Date: 3/21/2017
Sampler: CP/JG
Employer: LCRA

Rev. 1 (08/2009)

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LCRA
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Field Information Form

Sample Date: 3/21/17
Sample Time: 1138
Sample ID: CBL308I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170321	1056	V= 1.8	5.4	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	24.04 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	33 (ft)

PH: 6.27 (STD) Specific Conductivity: 9659 uS/cm Sample Temp. 22.6 (C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226 + 228	N

Sample Appearance: Clear Odor: none Color: Clear Turbidity: _____
Weather Conditions: Partly Cloudy South wind 5-10mph
Other: Purge water is clear with no odor. Collected samples when parameters are stable 75°

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-7P

Date: 3/21/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 3/21/17
Sample Time: 1304
Sample ID: CBL306I

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PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170321	1206	V= 1.4	4.3	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	5.92 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.80 (ft)	Pump Placement	12 (ft)

PH: 4.41 (STD) Specific Conductivity: 2176 uS/cm Sample Temp. 22.38 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226+228	N

Sample Appearance: Clear Odor: none Color: Clear Turbidity: _____
Weather Conditions: Clear South wind 5-10mph 80°
Other: Purge water is clear. Collected samples after parameter stabilized

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-7A

Date: 3/21/17
Sampler: CP/JG
Employer: LCRA

Rev. 1 (08/2009)

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LCRA
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Field Information Form

Sample Date: 3/21/17
Sample Time: 1446
Sample ID: CBL302I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170321	1356	V= 3	9	

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	9.09 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.11 (ft)	Pump Placement	23 (ft)

PH: 5.40 (STD) Specific Conductivity: 7753 uS/cm Sample Temp. 21.79 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226+228	N

Sample Appearance: Clear Odor: none Color: clear Turbidity: _____
Weather Conditions: Clear South wind 5-10mph 85°
Other: Purge water is clear. Collected samples after Purge water stabilized

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-7A

Date: 3/21/17
Sampler: CP/JG
Employer: LCRA

Rev. 1 (08/2009)

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Field Information Form

Sample Date: 3/22/17
Sample Time: 938
Sample ID: CBL301I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170322	0850	V= 3	9	11

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated Y | N (N) Sampling Equipment ..... Dedicated Y | N (N)

Purging Device	A	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	A	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	36.19 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.10 (ft)	Pump Placement	50 (ft)

PH: 6.31 (STD) Specific Conductivity: 7495 uS/cm Sample Temp. 24.93 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	
P	500mL	ICE	Anions	
P	4L	ICE	Radium 226 + 228	
P	4L	ICE	Radium 226 + 228 Field Blank + Equipment Blank	
P	250mL	HNO_3	metals field Blank + Equipment Blank	
P	500mL	ICE	Anions field Blank + Equipment Blank	

Sample Appearance: Cloudy Odor: None Color: Milky Gray Turbidity: _____

Weather Conditions: Partly Cloudy South wind 0-5mph 75°

Other: ~~Purge~~ Purge water cleared after 2 gallons. Parameter stabilized before samples were collected

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS Ground water SOP 5-7D

Date: 3/22/17

Sampler: CP/JG

Employer: LCRA

Rev. 1 (08/2009)

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LCRA
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Field Information Form

Sample Date: 3/22/17
Sample Time: 1208
Sample ID: CBL3411I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170322	1023	V= 5	15	12

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	15.79 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	40 (ft)

PH: 5.72 (STD) Specific Conductivity: 6014 uS/cm Sample Temp. 22.08 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226+228	N
P	4L	ICE	CBL641I Dup Radium 226+228	
P	250mL	HNO_3	metals Dup CBL641I	
P	500mL	ICE	Anions Dup CBL641I	

Sample Appearance: Clear Odor: none Color: Clear Turbidity: _____

Weather Conditions: Partly Cloudy South wind 0-5mph 80°

Other: Purge water Clear. Collect Samples after field parameters stabilized

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS Ground water SOP 5-7P

Date: 3/22/17

Sampler: CP/JG

Employer: LCRA

Rev. 1 (08/2009)

FPP - Groundwater Purge Data - CCR Wells - March 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
3/21/2017	9:01:03	22.00	6.67	6.15	72.1	8096	223.3	CBL - 340I
3/21/2017	9:04:03	22.28	6.57	4.29	50.7	8259	216.6	CBL - 340I
3/21/2017	9:07:03	22.32	6.56	3.99	47.2	8279	208.8	CBL - 340I
3/21/2017	9:10:03	22.32	6.56	3.94	46.6	8277	203.3	CBL - 340I
3/21/2017	9:13:03	22.32	6.55	3.87	45.7	8280	198.2	CBL - 340I
3/21/2017	9:16:03	22.32	6.55	3.83	45.2	8278	195.0	CBL - 340I
3/21/2017	9:19:03	22.34	6.54	4.08	48.2	8261	190.6	CBL - 340I
3/21/2017	9:22:03	22.35	6.54	4.06	48.0	8245	187.1	CBL - 340I
3/21/2017	9:25:03	22.35	6.54	4.02	47.6	8199	182.5	CBL - 340I
3/21/2017	9:28:03	22.33	6.53	4.00	47.2	8161	180.5	CBL - 340I
3/21/2017	9:31:03	22.34	6.53	4.01	47.4	8132	182.2	CBL - 340I
3/21/2017	9:34:03	22.37	6.53	4.27	50.5	8082	176.6	CBL - 340I
3/21/2017	9:37:05	22.38	6.51	4.17	49.3	8029	175.8	CBL - 340I
3/21/2017	9:40:05	22.35	6.50	4.02	47.5	7982	181.3	CBL - 340I
3/21/2017	9:43:05	22.34	6.51	4.01	47.3	7972	183.8	CBL - 340I
3/21/2017	9:46:05	22.35	6.51	4.06	47.9	7941	184.0	CBL - 340I
3/21/2017	9:49:05	22.36	6.52	4.03	47.6	7943	181.1	CBL - 340I
3/21/2017	9:52:05	22.37	6.51	4.04	47.7	7907	179.9	CBL - 340I
3/21/2017	9:55:05	22.39	6.50	4.04	47.7	7905	178.4	CBL - 340I
3/21/2017	9:58:05	22.40	6.49	4.00	47.3	7892	179.7	CBL - 340I
3/21/2017	10:01:05	22.37	6.49	4.12	48.7	7900	185.9	CBL - 340I
3/21/2017	10:56:09	22.77	6.62	3.30	39.6	9697	251.6	CBL - 308I
3/21/2017	10:59:09	22.49	6.43	2.80	33.3	9684	251.8	CBL - 308I
3/21/2017	11:02:09	22.47	6.40	2.58	30.7	9681	249.0	CBL - 308I
3/21/2017	11:05:09	22.44	6.40	2.47	29.4	9690	248.6	CBL - 308I
3/21/2017	11:08:09	22.42	6.40	2.38	28.3	9685	249.1	CBL - 308I
3/21/2017	11:11:09	22.43	6.40	2.30	27.4	9678	248.2	CBL - 308I
3/21/2017	11:14:09	22.50	6.40	2.27	27.1	9673	244.1	CBL - 308I
3/21/2017	11:17:09	22.58	6.38	2.22	26.5	9663	239.3	CBL - 308I
3/21/2017	11:20:09	22.57	6.36	2.22	26.5	9667	240.4	CBL - 308I
3/21/2017	11:23:09	22.58	6.35	2.22	26.5	9665	242.4	CBL - 308I
3/21/2017	11:26:09	22.60	6.32	2.22	26.4	9662	242.8	CBL - 308I
3/21/2017	11:29:09	22.60	6.30	2.21	26.4	9665	249.6	CBL - 308I
3/21/2017	11:32:09	22.60	6.28	2.21	26.4	9658	257.9	CBL - 308I
3/21/2017	11:35:09	22.63	6.28	2.21	26.4	9660	260.0	CBL - 308I
3/21/2017	11:38:09	22.67	6.27	2.23	26.6	9659	261.9	CBL - 308I
3/21/2017	12:07:11	23.02	6.48	7.66	90.0	2756	186.8	CBL - 306I
3/21/2017	12:07:18	22.98	6.46	7.60	89.3	2748	189.8	CBL - 306I
3/21/2017	12:10:18	21.68	6.17	7.36	84.3	2640	222.7	CBL - 306I
3/21/2017	12:13:18	21.47	6.06	7.39	84.3	2628	198.0	CBL - 306I

3/21/2017	12:16:18	21.49	5.98	7.42	84.7	2625	130.2	CBL - 306I
3/21/2017	12:19:18	21.49	5.82	7.50	85.6	2623	120.7	CBL - 306I
3/21/2017	12:22:18	21.58	5.66	7.52	86.0	2619	182.1	CBL - 306I
3/21/2017	12:25:18	21.66	5.58	7.56	86.5	2608	204.3	CBL - 306I
3/21/2017	12:28:18	21.68	5.48	7.61	87.1	2601	271.5	CBL - 306I
3/21/2017	12:31:18	21.76	5.32	7.64	87.6	2597	297.8	CBL - 306I
3/21/2017	12:34:18	21.82	5.23	7.68	88.2	2591	379.0	CBL - 306I
3/21/2017	12:37:18	21.92	5.10	7.70	88.6	2541	421.5	CBL - 306I
3/21/2017	12:40:18	21.95	5.03	7.76	89.3	2443	460.9	CBL - 306I
3/21/2017	12:43:18	21.98	4.96	7.83	90.2	2341	495.6	CBL - 306I
3/21/2017	12:46:18	22.00	4.87	7.86	90.4	2227	509.2	CBL - 306I
3/21/2017	12:49:18	22.06	4.82	7.90	91.0	2134	532.1	CBL - 306I
3/21/2017	12:52:18	22.07	4.74	7.96	91.8	2061	545.9	CBL - 306I
3/21/2017	12:55:18	22.13	4.62	8.02	92.6	2058	556.3	CBL - 306I
3/21/2017	12:58:18	22.25	4.46	8.06	93.2	2073	566.4	CBL - 306I
3/21/2017	13:01:18	22.33	4.51	8.08	93.5	2117	572.1	CBL - 306I
3/21/2017	13:04:18	22.38	4.41	8.10	93.9	2176	575.7	CBL - 306I
3/21/2017	14:01:03	21.23	5.64	3.50	40.5	7784	400.9	CBL - 302I
3/21/2017	14:04:03	21.36	5.55	2.87	33.3	7765	459.1	CBL - 302I
3/21/2017	14:07:03	21.45	5.53	2.62	30.4	7772	472.3	CBL - 302I
3/21/2017	14:10:03	21.56	5.53	2.54	29.5	7767	476.2	CBL - 302I
3/21/2017	14:13:03	21.62	5.50	2.48	28.9	7771	474.2	CBL - 302I
3/21/2017	14:16:03	21.69	5.51	2.47	28.8	7765	475.4	CBL - 302I
3/21/2017	14:19:03	21.71	5.50	2.52	29.4	7768	472.8	CBL - 302I
3/21/2017	14:22:03	21.68	5.48	2.53	29.5	7768	468.8	CBL - 302I
3/21/2017	14:25:03	21.75	5.48	2.58	30.1	7764	466.0	CBL - 302I
3/21/2017	14:28:03	21.73	5.47	2.59	30.2	7764	465.5	CBL - 302I
3/21/2017	14:31:03	21.71	5.45	2.60	30.3	7766	465.6	CBL - 302I
3/21/2017	14:34:03	21.72	5.45	2.64	30.8	7765	463.5	CBL - 302I
3/21/2017	14:37:03	21.77	5.43	2.69	31.4	7760	460.9	CBL - 302I
3/21/2017	14:40:03	21.76	5.40	2.71	31.6	7760	463.4	CBL - 302I
3/21/2017	14:43:03	21.78	5.41	2.75	32.1	7760	466.3	CBL - 302I
3/21/2017	14:46:03	21.79	5.40	2.77	32.4	7753	470.2	CBL - 302I
3/22/2017	9:11:29	24.23	6.32	1.20	14.6	7446	133.3	CBL - 301I
3/22/2017	9:14:29	24.35	6.33	1.28	15.7	7448	130.9	CBL - 301I
3/22/2017	9:17:29	24.35	6.33	1.32	16.2	7456	129.7	CBL - 301I
3/22/2017	9:20:29	24.42	6.33	1.45	17.7	7458	128.8	CBL - 301I
3/22/2017	9:23:29	24.54	6.33	1.43	17.6	7464	127.6	CBL - 301I
3/22/2017	9:26:29	24.66	6.33	1.25	15.3	7461	126.1	CBL - 301I
3/22/2017	9:29:29	24.70	6.32	1.26	15.5	7479	123.1	CBL - 301I
3/22/2017	9:32:29	24.79	6.32	1.25	15.5	7480	118.4	CBL - 301I
3/22/2017	9:35:32	24.86	6.31	1.29	16.0	7493	115.7	CBL - 301I
3/22/2017	9:38:32	24.93	6.31	1.30	16.0	7495	115.6	CBL - 301I
3/22/2017	10:20:43	22.31	6.79	6.34	74.4	6175	157.5	CBL - 341I

3/22/2017	10:20:51	22.21	6.76	6.22	72.9	6177	157.7	CBL - 341I
3/22/2017	10:23:51	21.66	6.48	4.56	52.8	6082	160.9	CBL - 341I
3/22/2017	10:26:51	21.64	6.44	4.33	50.1	6045	162.4	CBL - 341I
3/22/2017	10:29:51	21.71	6.43	4.22	48.9	6033	162.9	CBL - 341I
3/22/2017	10:32:51	21.71	6.39	3.95	45.7	6022	159.8	CBL - 341I
3/22/2017	10:35:51	21.83	6.34	3.53	41.0	6002	151.6	CBL - 341I
3/22/2017	10:38:51	22.22	6.42	4.86	56.9	5995	87.3	CBL - 341I
3/22/2017	10:41:51	22.30	6.53	5.95	69.8	6004	-31.3	CBL - 341I
3/22/2017	10:44:51	22.16	6.44	6.53	76.3	6000	-10.6	CBL - 341I
3/22/2017	10:47:51	22.04	6.34	6.76	78.8	5994	31.8	CBL - 341I
3/22/2017	10:50:51	22.13	6.44	6.95	81.1	5997	15.6	CBL - 341I
3/22/2017	10:53:51	22.08	6.32	6.31	73.6	6019	3.0	CBL - 341I
3/22/2017	10:56:51	21.97	6.38	4.63	53.9	6040	-73.4	CBL - 341I
3/22/2017	10:59:51	22.14	6.38	3.65	42.7	6028	-100.7	CBL - 341I
3/22/2017	11:02:51	22.04	6.05	3.20	37.3	6039	-77.3	CBL - 341I
3/22/2017	11:05:51	21.85	5.91	2.92	34.0	6033	-41.0	CBL - 341I
3/22/2017	11:08:51	21.96	6.04	2.78	32.4	6020	-65.2	CBL - 341I
3/22/2017	11:11:51	21.87	5.94	2.74	31.8	6036	-38.8	CBL - 341I
3/22/2017	11:14:51	21.82	5.90	2.67	31.1	6024	3.8	CBL - 341I
3/22/2017	11:17:51	21.93	6.00	2.62	30.4	6009	1.2	CBL - 341I
3/22/2017	11:29:08	22.04	6.04	4.03	47.0	6025	72.5	CBL - 341I
3/22/2017	11:32:08	22.05	6.06	2.83	33.1	6021	-118.4	CBL - 341I
3/22/2017	11:35:08	22.10	6.06	2.76	32.2	6013	-135.1	CBL - 341I
3/22/2017	11:38:08	22.09	5.89	2.79	32.6	6023	-128.4	CBL - 341I
3/22/2017	11:41:08	22.00	5.66	2.78	32.4	6047	-107.9	CBL - 341I
3/22/2017	11:44:08	22.00	5.40	2.69	31.4	6024	28.6	CBL - 341I
3/22/2017	11:47:08	21.96	5.48	2.69	31.3	6034	-57.5	CBL - 341I
3/22/2017	11:50:08	21.95	5.36	2.62	30.5	6022	58.4	CBL - 341I
3/22/2017	11:53:08	21.92	5.46	2.62	30.5	6028	3.3	CBL - 341I
3/22/2017	11:56:04	22.01	5.89	2.66	31.0	6051	-119.8	CBL - 341I
3/22/2017	11:59:04	21.97	5.51	2.66	31.0	6045	-40.0	CBL - 341I
3/22/2017	12:02:37	22.05	5.76	2.58	30.1	6052	-88.0	CBL - 341I
3/22/2017	12:05:32	22.24	5.69	2.53	29.7	6034	-72.9	CBL - 341I
3/22/2017	12:08:06	22.08	5.72	2.54	29.7	6014	-83.0	CBL - 341I

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April 3, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1712168

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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SAMPLE SUMMARY

Workorder: Q1712168

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1712168001	CBL - 301I	Aqueous	3/22/2017 09:38	3/22/2017 16:10
Q1712168002	CBL - 302I	Aqueous	3/22/2017 14:46	3/22/2017 16:10
Q1712168003	CBL - 306I	Aqueous	3/22/2017 13:04	3/22/2017 16:10
Q1712168004	CBL - 308I	Aqueous	3/22/2017 11:38	3/22/2017 16:10
Q1712168005	CBL - 340I	Aqueous	3/22/2017 10:01	3/22/2017 16:10
Q1712168006	CBL - 341I	Aqueous	3/22/2017 12:08	3/22/2017 16:10
Q1712168007	CBL - 641I	Aqueous	3/22/2017 12:10	3/22/2017 16:10
Q1712168008	FB # 1	Aqueous	3/22/2017 09:40	3/22/2017 16:10
Q1712168009	EQ Blank	Aqueous	3/22/2017 09:45	3/22/2017 16:10

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168001**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	3/22/2017 09:38	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2390	mg/L	50.0	20.0		50	03/23/17 22:14	JR	03/23/17 22:14	JR	
Fluoride	<0.500	mg/L	0.500	0.200		50	03/23/17 22:14	JR	03/23/17 22:14	JR	
Sulfate	337	mg/L	50.0	20.0		50	03/23/17 22:14	JR	03/23/17 22:14	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	03/23/17 16:38	MM	03/29/17 14:42	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	03/23/17 16:38	MM	03/29/17 14:42	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	03/23/17 16:38	MM	03/29/17 14:42	SLW	
Chromium Total	0.00546	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:42	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:42	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	03/23/17 16:38	MM	03/29/17 14:42	SLW	
Lithium Total	0.0950	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:42	SLW	N
Molybdenum Total	0.00137	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:42	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	03/23/17 16:38	MM	03/29/17 14:42	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	03/23/17 16:38	MM	03/29/17 14:42	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	03/27/17 09:21	FM	03/27/17 12:55	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6570	mg/L	250	250		100	03/24/17 10:59	CG	03/24/17 10:59	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0662	mg/L	0.0100	0.00400	2	1	03/23/17 16:38	MM	03/27/17 18:27	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168001**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	3/22/2017 09:38	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	03/23/17 16:38	MM	03/27/17 18:27	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	03/29/17 18:16	MM	03/30/17 14:52	FO	
Calcium Total	1030	mg/L	1.00	0.350		5	03/23/17 16:38	MM	03/27/17 17:22	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	24.93	C		1	03/22/17 09:38	CCP	03/22/17 09:38	CCP	N
pH	6.31	pH		1	03/22/17 09:38	CCP	03/22/17 09:38	CCP	N
Specific Conductance	7495	us/cm		1	03/22/17 09:38	CCP	03/22/17 09:38	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168002**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	3/22/2017 14:46	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2050	mg/L	50.0	20.0		50	03/23/17 22:30	JR	03/23/17 22:30	JR	
Fluoride	<0.500	mg/L	0.500	0.200		50	03/23/17 22:30	JR	03/23/17 22:30	JR	
Sulfate	1120	mg/L	50.0	20.0		50	03/23/17 22:30	JR	03/23/17 22:30	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	03/23/17 16:38	MM	03/29/17 14:48	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	03/23/17 16:38	MM	03/29/17 14:48	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	03/23/17 16:38	MM	03/29/17 14:48	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:48	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:48	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	03/23/17 16:38	MM	03/29/17 14:48	SLW	
Lithium Total	0.0558	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:48	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:48	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	03/23/17 16:38	MM	03/29/17 14:48	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	03/23/17 16:38	MM	03/29/17 14:48	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	03/27/17 09:21	FM	03/27/17 12:57	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6460	mg/L	250	250		100	03/24/17 10:59	CG	03/24/17 10:59	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0277	mg/L	0.0100	0.00400	2	1	03/23/17 16:38	MM	03/27/17 18:32	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168002**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	3/22/2017 14:46	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	03/23/17 16:38	MM	03/27/17 18:32	FO	
Boron Total	0.297	mg/L	0.0500	0.0200		1	03/29/17 18:16	MM	03/30/17 14:36	FO	
Calcium Total	1090	mg/L	1.00	0.350		5	03/23/17 16:38	MM	03/27/17 17:27	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	21.79	C				1	03/22/17 14:46	CCP	03/22/17 14:46	CCP	N
pH	5.40	pH				1	03/22/17 14:46	CCP	03/22/17 14:46	CCP	N
Specific Conductance	7753	us/cm				1	03/22/17 14:46	CCP	03/22/17 14:46	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168003**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	3/22/2017 13:04	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	231	mg/L	50.0	20.0		50	03/23/17 22:47	JR	03/23/17 22:47	JR	
Fluoride	12.6	mg/L	0.500	0.200		50	03/23/17 22:47	JR	03/23/17 22:47	JR	
Sulfate	340	mg/L	50.0	20.0		50	03/23/17 22:47	JR	03/23/17 22:47	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	03/23/17 16:38	MM	03/29/17 14:50	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	03/23/17 16:38	MM	03/29/17 14:50	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	03/23/17 16:38	MM	03/29/17 14:50	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:50	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:50	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	03/23/17 16:38	MM	03/29/17 14:50	SLW	
Lithium Total	0.0229	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:50	SLW	N
Molybdenum Total	0.00266	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:50	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	03/23/17 16:38	MM	03/29/17 14:50	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	03/23/17 16:38	MM	03/29/17 14:50	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	03/27/17 09:21	FM	03/27/17 12:59	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	1460	mg/L	125	125		50	03/24/17 10:59	CG	03/24/17 10:59	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0688	mg/L	0.0100	0.00400	2	1	03/23/17 16:38	MM	03/27/17 18:02	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168003**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	3/22/2017 13:04	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	03/23/17 16:38	MM	03/27/17 18:02	FO	
Boron Total	0.124	mg/L	0.0500	0.0200		1	03/29/17 18:16	MM	03/30/17 14:57	FO	
Calcium Total	204	mg/L	0.200	0.0700		1	03/23/17 16:38	MM	03/27/17 18:02	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	22.38	C				1	03/22/17 13:04	CCP	03/22/17 13:04	CCP	N
pH	4.41	pH				1	03/22/17 13:04	CCP	03/22/17 13:04	CCP	N
Specific Conductance	2176	us/cm				1	03/22/17 13:04	CCP	03/22/17 13:04	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168004**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	3/22/2017 11:38	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2530	mg/L	50.0	20.0		50	03/23/17 23:03	JR	03/23/17 23:03	JR	
Fluoride	9.05	mg/L	0.500	0.200		50	03/23/17 23:03	JR	03/23/17 23:03	JR	
Sulfate	1470	mg/L	50.0	20.0		50	03/23/17 23:03	JR	03/23/17 23:03	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	03/23/17 16:38	MM	03/29/17 14:52	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	03/23/17 16:38	MM	03/29/17 14:52	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	03/23/17 16:38	MM	03/29/17 14:52	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:52	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:52	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	03/23/17 16:38	MM	03/29/17 14:52	SLW	
Lithium Total	0.123	mg/L	0.00500	0.00200		5	03/23/17 16:38	MM	03/29/17 15:13	SLW	N
Molybdenum Total	0.00105	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:52	SLW	
Selenium Total	0.00761	mg/L	0.00500	0.00170	0.05	1	03/23/17 16:38	MM	03/29/17 14:52	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	03/23/17 16:38	MM	03/29/17 14:52	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	03/27/17 09:21	FM	03/27/17 13:00	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	7260	mg/L	500	500		200	03/24/17 10:59	CG	03/24/17 10:59	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0495	mg/L	0.0100	0.00400	2	1	03/23/17 16:38	MM	03/27/17 18:37	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168004**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	3/22/2017 11:38	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	03/23/17 16:38	MM	03/27/17 18:37	FO	
Boron Total	0.545	mg/L	0.0500	0.0200		1	03/29/17 18:16	MM	03/30/17 15:02	FO	
Calcium Total	947	mg/L	1.00	0.350		5	03/23/17 16:38	MM	03/27/17 17:32	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	22.67	C				1	03/22/17 11:38	CCP	03/22/17 11:38	CCP	N
pH	6.27	pH				1	03/22/17 11:38	CCP	03/22/17 11:38	CCP	N
Specific Conductance	9659	us/cm				1	03/22/17 11:38	CCP	03/22/17 11:38	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168005**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	3/22/2017 10:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	2280	mg/L	50.0	20.0		50	03/23/17 23:20	JR	03/23/17 23:20	JR	
Fluoride	8.44	mg/L	0.500	0.200		50	03/23/17 23:20	JR	03/23/17 23:20	JR	
Sulfate	635	mg/L	50.0	20.0		50	03/23/17 23:20	JR	03/23/17 23:20	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	03/23/17 16:38	MM	03/29/17 14:54	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	03/23/17 16:38	MM	03/29/17 14:54	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	03/23/17 16:38	MM	03/29/17 14:54	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:54	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:54	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	03/23/17 16:38	MM	03/29/17 14:54	SLW	
Lithium Total	0.0684	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:54	SLW	N
Molybdenum Total	0.00229	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:54	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	03/23/17 16:38	MM	03/29/17 14:54	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	03/23/17 16:38	MM	03/29/17 14:54	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	03/27/17 09:21	FM	03/27/17 13:02	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5480	mg/L	250	250		100	03/24/17 10:59	CG	03/24/17 10:59	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0259	mg/L	0.0100	0.00400	2	1	03/23/17 16:38	MM	03/27/17 18:43	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168005**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	3/22/2017 10:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	03/23/17 16:38	MM	03/27/17 18:43	FO	
Boron Total	0.174	mg/L	0.0500	0.0200		1	03/29/17 18:16	MM	03/30/17 15:07	FO	
Calcium Total	581	mg/L	1.00	0.350		5	03/23/17 16:38	MM	03/27/17 17:37	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1 — Preparation Method: TCEQ SOP V1
Analytical Method: TCEQ SOP V1

Temperature	22.37	C				1	03/22/17 10:01	CCP	03/22/17 10:01	CCP	N
pH	6.49	pH				1	03/22/17 10:01	CCP	03/22/17 10:01	CCP	N
Specific Conductance	7900	us/cm				1	03/22/17 10:01	CCP	03/22/17 10:01	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168006**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	3/22/2017 12:08	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1780	mg/L	50.0	20.0		50	03/23/17 23:37	JR	03/23/17 23:37	JR	
Fluoride	<0.500	mg/L	0.500	0.200		50	03/23/17 23:37	JR	03/23/17 23:37	JR	
Sulfate	346	mg/L	50.0	20.0		50	03/23/17 23:37	JR	03/23/17 23:37	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	03/23/17 16:38	MM	03/29/17 14:56	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	03/23/17 16:38	MM	03/29/17 14:56	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	03/23/17 16:38	MM	03/29/17 14:56	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:56	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:56	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	03/23/17 16:38	MM	03/29/17 14:56	SLW	
Lithium Total	0.0895	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:56	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:56	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	03/23/17 16:38	MM	03/29/17 14:56	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	03/23/17 16:38	MM	03/29/17 14:56	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	03/27/17 09:21	FM	03/27/17 13:04	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5110	mg/L	250	250		100	03/24/17 10:59	CG	03/24/17 10:59	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0739	mg/L	0.0100	0.00400	2	1	03/23/17 16:38	MM	03/27/17 18:48	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168006**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	3/22/2017 12:08	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	03/23/17 16:38	MM	03/27/17 18:48	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	03/29/17 18:16	MM	03/30/17 15:13	FO	
Calcium Total	906	mg/L	1.00	0.350		5	03/23/17 16:38	MM	03/27/17 17:42	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	22.08	C		1	03/22/17 12:08	CCP	03/22/17 12:08	CCP	N
pH	5.72	pH		1	03/22/17 12:08	CCP	03/22/17 12:08	CCP	N
Specific Conductance	6014	us/cm		1	03/22/17 12:08	CCP	03/22/17 12:08	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168007**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	3/22/2017 12:10	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1830	mg/L	50.0	20.0		50	03/23/17 23:53	JR	03/23/17 23:53	JR	
Fluoride	<0.500	mg/L	0.500	0.200		50	03/23/17 23:53	JR	03/23/17 23:53	JR	
Sulfate	357	mg/L	50.0	20.0		50	03/23/17 23:53	JR	03/23/17 23:53	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	03/23/17 16:38	MM	03/29/17 14:58	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	03/23/17 16:38	MM	03/29/17 14:58	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	03/23/17 16:38	MM	03/29/17 14:58	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:58	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:58	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	03/23/17 16:38	MM	03/29/17 14:58	SLW	
Lithium Total	0.0820	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:58	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 14:58	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	03/23/17 16:38	MM	03/29/17 14:58	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	03/23/17 16:38	MM	03/29/17 14:58	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	03/27/17 09:21	FM	03/27/17 13:06	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5330	mg/L	250	250		100	03/24/17 10:59	CG	03/24/17 10:59	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0723	mg/L	0.0100	0.00400	2	1	03/23/17 16:38	MM	03/27/17 18:53	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168007**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	3/22/2017 12:10	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	03/23/17 16:38	MM	03/27/17 18:53	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	03/29/17 18:16	MM	03/30/17 15:18	FO	
Calcium Total	892	mg/L	1.00	0.350		5	03/23/17 16:38	MM	03/27/17 17:47	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168008**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	3/22/2017 09:40	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	03/24/17 00:10	JR	03/24/17 00:10	JR	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	03/24/17 00:10	JR	03/24/17 00:10	JR	
Sulfate	<1.00	mg/L	1.00	0.400		1	03/24/17 00:10	JR	03/24/17 00:10	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	03/23/17 16:38	MM	03/29/17 15:00	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	03/23/17 16:38	MM	03/29/17 15:00	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	03/23/17 16:38	MM	03/29/17 15:00	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 15:00	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 15:00	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	03/23/17 16:38	MM	03/29/17 15:00	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 15:00	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 15:00	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	03/23/17 16:38	MM	03/29/17 15:00	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	03/23/17 16:38	MM	03/29/17 15:00	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	03/27/17 09:21	FM	03/27/17 13:08	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	40.0	mg/L	25.0	25.0		10	03/24/17 10:59	CG	03/24/17 10:59	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	03/23/17 16:38	MM	03/27/17 18:08	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168008**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	3/22/2017 09:40	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	03/23/17 16:38	MM	03/27/17 18:08	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	03/29/17 18:16	MM	03/30/17 15:23	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	03/23/17 16:38	MM	03/27/17 18:08	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168009**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	3/22/2017 09:45	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	03/24/17 00:26	JR	03/24/17 00:26	JR	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	03/24/17 00:26	JR	03/24/17 00:26	JR	
Sulfate	<1.00	mg/L	1.00	0.400		1	03/24/17 00:26	JR	03/24/17 00:26	JR	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	03/23/17 16:38	MM	03/29/17 15:02	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	03/23/17 16:38	MM	03/29/17 15:02	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	03/23/17 16:38	MM	03/29/17 15:02	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 15:02	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 15:02	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	03/23/17 16:38	MM	03/29/17 15:02	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 15:02	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	03/23/17 16:38	MM	03/29/17 15:02	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	03/23/17 16:38	MM	03/29/17 15:02	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	03/23/17 16:38	MM	03/29/17 15:02	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	03/27/17 09:21	FM	03/27/17 13:10	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<25.0	mg/L	25.0	25.0		10	03/24/17 10:59	CG	03/24/17 10:59	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	03/23/17 16:38	MM	03/27/17 18:12	FO	

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ANALYTICAL RESULTS

Workorder: Q1712168

Lab ID:	**Q1712168009**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	3/22/2017 09:45	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	03/23/17 16:38	MM	03/27/17 18:12	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	03/29/17 18:16	MM	03/30/17 15:28	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	03/23/17 16:38	MM	03/27/17 18:12	FO	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1712168

PARAMETER QUALIFIERS

Lab ID: Q1712168001

N Not Accredited

Lab ID: Q1712168002

N Not Accredited

Lab ID: Q1712168003

N Not Accredited

Lab ID: Q1712168004

N Not Accredited

Lab ID: Q1712168005

N Not Accredited

Lab ID: Q1712168006

N Not Accredited

Lab ID: Q1712168007

N Not Accredited

Lab ID: Q1712168008

N Not Accredited

Lab ID: Q1712168009

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QUALITY CONTROL DATA

Workorder: Q1712168

QC Batch: MEP/6820 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1712168001, Q1712168002, Q1712168003, Q1712168004, Q1712168005, Q1712168006, Q1712168007, Q1712168008, Q1712168009

LABORATORY CONTROL SAMPLE: 825841

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	1.03	1.02	103	102	80 - 120	.976	20	
Beryllium Total	mg/L	1	1.05	1.07	105	107	80 - 120	1.89	20	
Calcium Total	mg/L	10	10.4	10.3	104	103	80 - 120	.966	20	

METHOD BLANK: 825843

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Calcium Total	mg/L	<0.200	0.200	

MATRIX SPIKE: 825844 DUPLICATE: 825845 ORIGINAL: Q1710864001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.13	1	1.21	1.1	108	97.4	75 - 125	9.52	20	
Beryllium Total	mg/L	0	1	1.21	1.14	121	114	75 - 125	5.96	20	
Calcium Total	mg/L	60.7	10	72.1	68.6	114	78.9	75 - 125	4.98	20	

MATRIX SPIKE: 825846 DUPLICATE: 825847 ORIGINAL: Q1712168007

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.07	1	1.12	1.09	104	102	75 - 125	2.71	20	
Beryllium Total	mg/L	0	1	1.05	1.04	105	104	75 - 125	.957	20	
Calcium Total	***mg/L***	***892***	***10***	***913***	***895***	***214***	***29.1***	***75 - 125***	***1.99***	***20***	***S***

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1712168

QC Batch: MEP/6821 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1712168001, Q1712168002, Q1712168003, Q1712168004, Q1712168005, Q1712168006, Q1712168007, Q1712168008, Q1712168009

LABORATORY CONTROL SAMPLE: 825848

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.05	.05	97.5	98.2	85 - 115	.818	20	
Arsenic Total	mg/L	.05	.05	.05	94	96.3	85 - 115	2.31	20	
Cadmium Total	mg/L	.05	.05	.05	96	97.2	85 - 115	1.24	20	
Chromium Total	mg/L	.05	.05	.05	93.7	96.3	85 - 115	2.73	20	
Cobalt Total	mg/L	.05	.05	.05	96.4	98.4	85 - 115	2.05	20	
Lead Total	mg/L	.05	.05	.05	97.4	97	85 - 115	.412	20	
Lithium Total	mg/L	.05	.05	.05	93	97.2	85 - 115	4.42	20	
Molybdenum Total	mg/L	.05	.05	.05	101	102	85 - 115	1.19	20	
Selenium Total	mg/L	.25	.23	.24	93.5	94.2	85 - 115	.426	20	
Thallium Total	mg/L	.05	.05	.05	97	97.5	85 - 115	.617	20	

METHOD BLANK: 825850

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1712168

MATRIX SPIKE: 825851 DUPLICATE: 825852 ORIGINAL: Q1712168001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Antimony Total	mg/L	0	.05	.05	.05	96.9	99.3	70 - 130	2.65	20	
Arsenic Total	mg/L	0	.05	.05	.05	95.9	97.4	70 - 130	1.66	20	
Cadmium Total	mg/L	0	.05	.05	.05	94.6	95.7	70 - 130	1.26	20	
Chromium Total	mg/L	.01	.05	.05	.05	93.5	95.6	70 - 130	1.9	20	
Cobalt Total	mg/L	0	.05	.05	.05	93	94.6	70 - 130	1.71	20	
Lead Total	mg/L	0	.05	.05	.05	100	101	70 - 130	1.19	20	
Lithium Total	mg/L	.1	.05	.14	.16	88.6	124	70 - 130	12.2	20	
Molybdenum Total	mg/L	0	.05	.05	.06	105	108	70 - 130	3.12	20	
Selenium Total	mg/L	0	.25	.23	.23	93.2	93.4	70 - 130	.428	20	
Thallium Total	mg/L	0	.05	.05	.05	98.4	101	70 - 130	2.21	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1712168

QC Batch: WET/13474 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1712168001, Q1712168002, Q1712168003, Q1712168004, Q1712168005, Q1712168006, Q1712168007, Q1712168008, Q1712168009

METHOD BLANK: 826187

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

LABORATORY CONTROL SAMPLE: 826188

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	30.9	103	90 - 110	
Fluoride	mg/L	1	1.01	101	90 - 110	
Sulfate	mg/L	30	30.8	103	90 - 110	

MATRIX SPIKE: 826189 DUPLICATE: 826190 ORIGINAL: Q1712087010

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	***mg/L***	***5510***	***1000***	***3300***	***3300***	***-221***	***-220***	***80 - 120***	***0***	***20***	***S***
Fluoride	mg/L	0	50	49.8	49.9	99.7	99.7	80 - 120	.201	20	
Sulfate	***mg/L***	***914***	***1000***	***1480***	***1480***	***56.5***	***56.6***	***80 - 120***	***0***	***20***	***S***

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1712168

QC Batch: WET/13483 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1712168001, Q1712168002, Q1712168003, Q1712168004, Q1712168005, Q1712168006, Q1712168007, Q1712168008, Q1712168009

METHOD BLANK: 826560

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 826561

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	400	360	373	90	93.2	80 - 120	3.55	20	

MATRIX SPIKE SAMPLE: 826563 ORIGINAL: Q1712170001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	735	400	1160	106	70 - 130	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1712168

QC Batch: MEP/6833 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1712168001, Q1712168002, Q1712168003, Q1712168004, Q1712168005, Q1712168006, Q1712168007, Q1712168008, Q1712168009

METHOD BLANK: 826848

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 826849

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	2.14	2.14	107	107	85 - 115	0	20	

MATRIX SPIKE: 826851 DUPLICATE: 826852 ORIGINAL: Q1712168009

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	2.17	2.16	109	108	70 - 130	.462	20	

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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QUALITY CONTROL DATA

Workorder: Q1712168

QC Batch: MEP/6852 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1712168001, Q1712168002, Q1712168003, Q1712168004, Q1712168005, Q1712168006, Q1712168007, Q1712168008, Q1712168009

LABORATORY CONTROL SAMPLE: 828736

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Boron Total	mg/L	1	.96	.99	96.2	98.8	80 - 120	2.67	20	

METHOD BLANK: 828738

Parameter	Units	Blank Result	Reporting Limit	Qual
Boron Total	mg/L	<0.0500	0.0500	

MATRIX SPIKE: 828739 DUPLICATE: 828740 ORIGINAL: Q1712168002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Boron Total	***mg/L***	***.3***	***1***	***.92***	***.94***	***62.7***	***63.8***	***75 - 125***	***1.29***	***20***	***S***

Qualifiers

S - Spike Recovery Outside

R - RPD Outside Recovery Limits

B - Analyte Detected in Method

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1712168

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1712168001	CBL - 301I	SW3010A, Metals Prep	MEP/6820	SW6010B ICP-AES	MET/5376
Q1712168002	CBL - 302I	SW3010A, Metals Prep	MEP/6820	SW6010B ICP-AES	MET/5376
Q1712168003	CBL - 306I	SW3010A, Metals Prep	MEP/6820	SW6010B ICP-AES	MET/5376
Q1712168004	CBL - 308I	SW3010A, Metals Prep	MEP/6820	SW6010B ICP-AES	MET/5376
Q1712168005	CBL - 340I	SW3010A, Metals Prep	MEP/6820	SW6010B ICP-AES	MET/5376
Q1712168006	CBL - 341I	SW3010A, Metals Prep	MEP/6820	SW6010B ICP-AES	MET/5376
Q1712168007	CBL - 641I	SW3010A, Metals Prep	MEP/6820	SW6010B ICP-AES	MET/5376
Q1712168008	FB # 1	SW3010A, Metals Prep	MEP/6820	SW6010B ICP-AES	MET/5376
Q1712168009	EQ Blank	SW3010A, Metals Prep	MEP/6820	SW6010B ICP-AES	MET/5376
Q1712168001	CBL - 301I	SW3010A, Metals Prep	MEP/6821	SW6020 ICP-MS	MET/5385
Q1712168002	CBL - 302I	SW3010A, Metals Prep	MEP/6821	SW6020 ICP-MS	MET/5385
Q1712168003	CBL - 306I	SW3010A, Metals Prep	MEP/6821	SW6020 ICP-MS	MET/5385
Q1712168004	CBL - 308I	SW3010A, Metals Prep	MEP/6821	SW6020 ICP-MS	MET/5385
Q1712168005	CBL - 340I	SW3010A, Metals Prep	MEP/6821	SW6020 ICP-MS	MET/5385
Q1712168006	CBL - 341I	SW3010A, Metals Prep	MEP/6821	SW6020 ICP-MS	MET/5385
Q1712168007	CBL - 641I	SW3010A, Metals Prep	MEP/6821	SW6020 ICP-MS	MET/5385
Q1712168008	FB # 1	SW3010A, Metals Prep	MEP/6821	SW6020 ICP-MS	MET/5385
Q1712168009	EQ Blank	SW3010A, Metals Prep	MEP/6821	SW6020 ICP-MS	MET/5385
Q1712168001	CBL - 301I			E300.0, Anions	WET/13474
Q1712168002	CBL - 302I			E300.0, Anions	WET/13474
Q1712168003	CBL - 306I			E300.0, Anions	WET/13474
Q1712168004	CBL - 308I			E300.0, Anions	WET/13474
Q1712168005	CBL - 340I			E300.0, Anions	WET/13474
Q1712168006	CBL - 341I			E300.0, Anions	WET/13474
Q1712168007	CBL - 641I			E300.0, Anions	WET/13474
Q1712168008	FB # 1			E300.0, Anions	WET/13474
Q1712168009	EQ Blank			E300.0, Anions	WET/13474
Q1712168001	CBL - 301I			SM2540C, TDS	WET/13483
Q1712168002	CBL - 302I			SM2540C, TDS	WET/13483
Q1712168003	CBL - 306I			SM2540C, TDS	WET/13483
Q1712168004	CBL - 308I			SM2540C, TDS	WET/13483

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1712168

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1712168005	CBL - 340I			SM2540C, TDS	WET/13483
Q1712168006	CBL - 341I			SM2540C, TDS	WET/13483
Q1712168007	CBL - 641I			SM2540C, TDS	WET/13483
Q1712168008	FB # 1			SM2540C, TDS	WET/13483
Q1712168009	EQ Blank			SM2540C, TDS	WET/13483
Q1712168001	CBL - 301I	SW7470A Hg in Liquid Waste	MEP/6833	SW7470A Hg in Liquid Waste	MET/5377
Q1712168002	CBL - 302I	SW7470A Hg in Liquid Waste	MEP/6833	SW7470A Hg in Liquid Waste	MET/5377
Q1712168003	CBL - 306I	SW7470A Hg in Liquid Waste	MEP/6833	SW7470A Hg in Liquid Waste	MET/5377
Q1712168004	CBL - 308I	SW7470A Hg in Liquid Waste	MEP/6833	SW7470A Hg in Liquid Waste	MET/5377
Q1712168005	CBL - 340I	SW7470A Hg in Liquid Waste	MEP/6833	SW7470A Hg in Liquid Waste	MET/5377
Q1712168006	CBL - 341I	SW7470A Hg in Liquid Waste	MEP/6833	SW7470A Hg in Liquid Waste	MET/5377
Q1712168007	CBL - 641I	SW7470A Hg in Liquid Waste	MEP/6833	SW7470A Hg in Liquid Waste	MET/5377
Q1712168008	FB # 1	SW7470A Hg in Liquid Waste	MEP/6833	SW7470A Hg in Liquid Waste	MET/5377
Q1712168009	EQ Blank	SW7470A Hg in Liquid Waste	MEP/6833	SW7470A Hg in Liquid Waste	MET/5377
Q1712168001	CBL - 301I	SW3010A, Metals Prep	MEP/6852	SW6010B ICP-AES	MET/5389
Q1712168002	CBL - 302I	SW3010A, Metals Prep	MEP/6852	SW6010B ICP-AES	MET/5389
Q1712168003	CBL - 306I	SW3010A, Metals Prep	MEP/6852	SW6010B ICP-AES	MET/5389
Q1712168004	CBL - 308I	SW3010A, Metals Prep	MEP/6852	SW6010B ICP-AES	MET/5389
Q1712168005	CBL - 340I	SW3010A, Metals Prep	MEP/6852	SW6010B ICP-AES	MET/5389
Q1712168006	CBL - 341I	SW3010A, Metals Prep	MEP/6852	SW6010B ICP-AES	MET/5389
Q1712168007	CBL - 641I	SW3010A, Metals Prep	MEP/6852	SW6010B ICP-AES	MET/5389
Q1712168008	FB # 1	SW3010A, Metals Prep	MEP/6852	SW6010B ICP-AES	MET/5389
Q1712168009	EQ Blank	SW3010A, Metals Prep	MEP/6852	SW6010B ICP-AES	MET/5389

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Q1712168

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:	
Client PO:	

Project:	FPP - CCR Wells - March 2017	Client:	LCRA
Collector:	Colt Petri / John Gallegher	Contact:	
Event#:	1362703 / 4242	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	500PU	250PHNO3							6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28						
						Container(s) Type/Preservative/Number *										Requested Analysis *											
c01	1	CBL - 301I	3/22/17	938	AQ	N	N	1	1							X	X	X	X	X	X						
c02	2	CBL - 302I	3/21/17	1446	AQ			1	1							X	X	X	X	X	X						
c03	3	CBL - 306I	3/21/17	1304	AQ			1	1							X	X	X	X	X	X						
c04	4	CBL - 308I	3/21/17	1138	AQ			1	1							X	X	X	X	X	X						
c05	5	CBL - 340I	3/21/17	1001	AQ			1	1							X	X	X	X	X	X						
c06	6	CBL - 341I	3/22/17	1208	AQ			1	1							X	X	X	X	X	X						
c07	7	CBL - 641I	3/22/17	1210	AQ			1	1							X	X	X	X	X	X						
c08	8	FB # 1	3/22/17	940	AQ			1	1							X	X	X	X	X	X						
c09	9	EQ Blank	3/22/17	945	AQ			1	1							X	X	X	X	X	X						

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Colt Petri	3/22/17 1610	[illegible]	3/22/17 1610
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	3.3C	3.3C
2			

Client Special Instructions:

Lab Use Only:

Q1712168 254856

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

FPP - Groundwater Purge Data - CCR Wells - March 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
3/21/2017	9:01:03	22.00	6.67	6.15	72.1	8096	223.3	CBL - 340I
3/21/2017	9:04:03	22.28	6.57	4.29	50.7	8259	216.6	CBL - 340I
3/21/2017	9:07:03	22.32	6.56	3.99	47.2	8279	208.8	CBL - 340I
3/21/2017	9:10:03	22.32	6.56	3.94	46.6	8277	203.3	CBL - 340I
3/21/2017	9:13:03	22.32	6.55	3.87	45.7	8280	198.2	CBL - 340I
3/21/2017	9:16:03	22.32	6.55	3.83	45.2	8278	195.0	CBL - 340I
3/21/2017	9:19:03	22.34	6.54	4.08	48.2	8261	190.6	CBL - 340I
3/21/2017	9:22:03	22.35	6.54	4.06	48.0	8245	187.1	CBL - 340I
3/21/2017	9:25:03	22.35	6.54	4.02	47.6	8199	182.5	CBL - 340I
3/21/2017	9:28:03	22.33	6.53	4.00	47.2	8161	180.5	CBL - 340I
3/21/2017	9:31:03	22.34	6.53	4.01	47.4	8132	182.2	CBL - 340I
3/21/2017	9:34:03	22.37	6.53	4.27	50.5	8082	176.6	CBL - 340I
3/21/2017	9:37:05	22.38	6.51	4.17	49.3	8029	175.8	CBL - 340I
3/21/2017	9:40:05	22.35	6.50	4.02	47.5	7982	181.3	CBL - 340I
3/21/2017	9:43:05	22.34	6.51	4.01	47.3	7972	183.8	CBL - 340I
3/21/2017	9:46:05	22.35	6.51	4.06	47.9	7941	184.0	CBL - 340I
3/21/2017	9:49:05	22.36	6.52	4.03	47.6	7943	181.1	CBL - 340I
3/21/2017	9:52:05	22.37	6.51	4.04	47.7	7907	179.9	CBL - 340I
3/21/2017	9:55:05	22.39	6.50	4.04	47.7	7905	178.4	CBL - 340I
3/21/2017	9:58:05	22.40	6.49	4.00	47.3	7892	179.7	CBL - 340I
3/21/2017	10:01:05	22.37	6.49	4.12	48.7	7900	185.9	CBL - 340I
3/21/2017	10:56:09	22.77	6.62	3.30	39.6	9697	251.6	CBL - 308I
3/21/2017	10:59:09	22.49	6.43	2.80	33.3	9684	251.8	CBL - 308I
3/21/2017	11:02:09	22.47	6.40	2.58	30.7	9681	249.0	CBL - 308I
3/21/2017	11:05:09	22.44	6.40	2.47	29.4	9690	248.6	CBL - 308I
3/21/2017	11:08:09	22.42	6.40	2.38	28.3	9685	249.1	CBL - 308I
3/21/2017	11:11:09	22.43	6.40	2.30	27.4	9678	248.2	CBL - 308I
3/21/2017	11:14:09	22.50	6.40	2.27	27.1	9673	244.1	CBL - 308I
3/21/2017	11:17:09	22.58	6.38	2.22	26.5	9663	239.3	CBL - 308I
3/21/2017	11:20:09	22.57	6.36	2.22	26.5	9667	240.4	CBL - 308I
3/21/2017	11:23:09	22.58	6.35	2.22	26.5	9665	242.4	CBL - 308I
3/21/2017	11:26:09	22.60	6.32	2.22	26.4	9662	242.8	CBL - 308I
3/21/2017	11:29:09	22.60	6.30	2.21	26.4	9665	249.6	CBL - 308I
3/21/2017	11:32:09	22.60	6.28	2.21	26.4	9658	257.9	CBL - 308I
3/21/2017	11:35:09	22.63	6.28	2.21	26.4	9660	260.0	CBL - 308I
3/21/2017	11:38:09	22.67	6.27	2.23	26.6	9659	261.9	CBL - 308I
3/21/2017	12:07:11	23.02	6.48	7.66	90.0	2756	186.8	CBL - 306I
3/21/2017	12:07:18	22.98	6.46	7.60	89.3	2748	189.8	CBL - 306I
3/21/2017	12:10:18	21.68	6.17	7.36	84.3	2640	222.7	CBL - 306I
3/21/2017	12:13:18	21.47	6.06	7.39	84.3	2628	198.0	CBL - 306I

3/21/2017	12:16:18	21.49	5.98	7.42	84.7	2625	130.2	CBL - 306I
3/21/2017	12:19:18	21.49	5.82	7.50	85.6	2623	120.7	CBL - 306I
3/21/2017	12:22:18	21.58	5.66	7.52	86.0	2619	182.1	CBL - 306I
3/21/2017	12:25:18	21.66	5.58	7.56	86.5	2608	204.3	CBL - 306I
3/21/2017	12:28:18	21.68	5.48	7.61	87.1	2601	271.5	CBL - 306I
3/21/2017	12:31:18	21.76	5.32	7.64	87.6	2597	297.8	CBL - 306I
3/21/2017	12:34:18	21.82	5.23	7.68	88.2	2591	379.0	CBL - 306I
3/21/2017	12:37:18	21.92	5.10	7.70	88.6	2541	421.5	CBL - 306I
3/21/2017	12:40:18	21.95	5.03	7.76	89.3	2443	460.9	CBL - 306I
3/21/2017	12:43:18	21.98	4.96	7.83	90.2	2341	495.6	CBL - 306I
3/21/2017	12:46:18	22.00	4.87	7.86	90.4	2227	509.2	CBL - 306I
3/21/2017	12:49:18	22.06	4.82	7.90	91.0	2134	532.1	CBL - 306I
3/21/2017	12:52:18	22.07	4.74	7.96	91.8	2061	545.9	CBL - 306I
3/21/2017	12:55:18	22.13	4.62	8.02	92.6	2058	556.3	CBL - 306I
3/21/2017	12:58:18	22.25	4.46	8.06	93.2	2073	566.4	CBL - 306I
3/21/2017	13:01:18	22.33	4.51	8.08	93.5	2117	572.1	CBL - 306I
3/21/2017	13:04:18	22.38	4.41	8.10	93.9	2176	575.7	CBL - 306I
3/21/2017	14:01:03	21.23	5.64	3.50	40.5	7784	400.9	CBL - 302I
3/21/2017	14:04:03	21.36	5.55	2.87	33.3	7765	459.1	CBL - 302I
3/21/2017	14:07:03	21.45	5.53	2.62	30.4	7772	472.3	CBL - 302I
3/21/2017	14:10:03	21.56	5.53	2.54	29.5	7767	476.2	CBL - 302I
3/21/2017	14:13:03	21.62	5.50	2.48	28.9	7771	474.2	CBL - 302I
3/21/2017	14:16:03	21.69	5.51	2.47	28.8	7765	475.4	CBL - 302I
3/21/2017	14:19:03	21.71	5.50	2.52	29.4	7768	472.8	CBL - 302I
3/21/2017	14:22:03	21.68	5.48	2.53	29.5	7768	468.8	CBL - 302I
3/21/2017	14:25:03	21.75	5.48	2.58	30.1	7764	466.0	CBL - 302I
3/21/2017	14:28:03	21.73	5.47	2.59	30.2	7764	465.5	CBL - 302I
3/21/2017	14:31:03	21.71	5.45	2.60	30.3	7766	465.6	CBL - 302I
3/21/2017	14:34:03	21.72	5.45	2.64	30.8	7765	463.5	CBL - 302I
3/21/2017	14:37:03	21.77	5.43	2.69	31.4	7760	460.9	CBL - 302I
3/21/2017	14:40:03	21.76	5.40	2.71	31.6	7760	463.4	CBL - 302I
3/21/2017	14:43:03	21.78	5.41	2.75	32.1	7760	466.3	CBL - 302I
3/21/2017	14:46:03	21.79	5.40	2.77	32.4	7753	470.2	CBL - 302I
3/22/2017	9:11:29	24.23	6.32	1.20	14.6	7446	133.3	CBL - 301I
3/22/2017	9:14:29	24.35	6.33	1.28	15.7	7448	130.9	CBL - 301I
3/22/2017	9:17:29	24.35	6.33	1.32	16.2	7456	129.7	CBL - 301I
3/22/2017	9:20:29	24.42	6.33	1.45	17.7	7458	128.8	CBL - 301I
3/22/2017	9:23:29	24.54	6.33	1.43	17.6	7464	127.6	CBL - 301I
3/22/2017	9:26:29	24.66	6.33	1.25	15.3	7461	126.1	CBL - 301I
3/22/2017	9:29:29	24.70	6.32	1.26	15.5	7479	123.1	CBL - 301I
3/22/2017	9:32:29	24.79	6.32	1.25	15.5	7480	118.4	CBL - 301I
3/22/2017	9:35:32	24.86	6.31	1.29	16.0	7493	115.7	CBL - 301I
3/22/2017	9:38:32	24.93	6.31	1.30	16.0	7495	115.6	CBL - 301I
3/22/2017	10:20:43	22.31	6.79	6.34	74.4	6175	157.5	CBL - 341I

3/22/2017	10:20:51	22.21	6.76	6.22	72.9	6177	157.7	CBL - 341I
3/22/2017	10:23:51	21.66	6.48	4.56	52.8	6082	160.9	CBL - 341I
3/22/2017	10:26:51	21.64	6.44	4.33	50.1	6045	162.4	CBL - 341I
3/22/2017	10:29:51	21.71	6.43	4.22	48.9	6033	162.9	CBL - 341I
3/22/2017	10:32:51	21.71	6.39	3.95	45.7	6022	159.8	CBL - 341I
3/22/2017	10:35:51	21.83	6.34	3.53	41.0	6002	151.6	CBL - 341I
3/22/2017	10:38:51	22.22	6.42	4.86	56.9	5995	87.3	CBL - 341I
3/22/2017	10:41:51	22.30	6.53	5.95	69.8	6004	-31.3	CBL - 341I
3/22/2017	10:44:51	22.16	6.44	6.53	76.3	6000	-10.6	CBL - 341I
3/22/2017	10:47:51	22.04	6.34	6.76	78.8	5994	31.8	CBL - 341I
3/22/2017	10:50:51	22.13	6.44	6.95	81.1	5997	15.6	CBL - 341I
3/22/2017	10:53:51	22.08	6.32	6.31	73.6	6019	3.0	CBL - 341I
3/22/2017	10:56:51	21.97	6.38	4.63	53.9	6040	-73.4	CBL - 341I
3/22/2017	10:59:51	22.14	6.38	3.65	42.7	6028	-100.7	CBL - 341I
3/22/2017	11:02:51	22.04	6.05	3.20	37.3	6039	-77.3	CBL - 341I
3/22/2017	11:05:51	21.85	5.91	2.92	34.0	6033	-41.0	CBL - 341I
3/22/2017	11:08:51	21.96	6.04	2.78	32.4	6020	-65.2	CBL - 341I
3/22/2017	11:11:51	21.87	5.94	2.74	31.8	6036	-38.8	CBL - 341I
3/22/2017	11:14:51	21.82	5.90	2.67	31.1	6024	3.8	CBL - 341I
3/22/2017	11:17:51	21.93	6.00	2.62	30.4	6009	1.2	CBL - 341I
3/22/2017	11:29:08	22.04	6.04	4.03	47.0	6025	72.5	CBL - 341I
3/22/2017	11:32:08	22.05	6.06	2.83	33.1	6021	-118.4	CBL - 341I
3/22/2017	11:35:08	22.10	6.06	2.76	32.2	6013	-135.1	CBL - 341I
3/22/2017	11:38:08	22.09	5.89	2.79	32.6	6023	-128.4	CBL - 341I
3/22/2017	11:41:08	22.00	5.66	2.78	32.4	6047	-107.9	CBL - 341I
3/22/2017	11:44:08	22.00	5.40	2.69	31.4	6024	28.6	CBL - 341I
3/22/2017	11:47:08	21.96	5.48	2.69	31.3	6034	-57.5	CBL - 341I
3/22/2017	11:50:08	21.95	5.36	2.62	30.5	6022	58.4	CBL - 341I
3/22/2017	11:53:08	21.92	5.46	2.62	30.5	6028	3.3	CBL - 341I
3/22/2017	11:56:04	22.01	5.89	2.66	31.0	6051	-119.8	CBL - 341I
3/22/2017	11:59:04	21.97	5.51	2.66	31.0	6045	-40.0	CBL - 341I
3/22/2017	12:02:37	22.05	5.76	2.58	30.1	6052	-88.0	CBL - 341I
3/22/2017	12:05:32	22.24	5.69	2.53	29.7	6034	-72.9	CBL - 341I
3/22/2017	12:08:06	22.08	5.72	2.54	29.7	6014	-83.0	CBL - 341I

①

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Field Information Form

Sample Date: 3/21/17
Sample Time: 1001
Sample ID: CBL3410I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170321	0901	V= 3.2	9.7	8.5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	20.24 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.14 (ft)	Pump Placement	34 (ft)

6.49 (STD) PH 79000 uS/cm Specific Conductivity Sample Temp. 22.37 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226 + Radium 228	N

Sample Appearance: clear Odor: None Color: clear Turbidity: _____
Weather Conditions: Partly Cloudy South wind 5-10mph
Other: Purge water was clear no odor parameter stable @ Time of sample collection 70°

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes ✓ No _____
If No, Explain _____

Procedure: ELS SOP Ground water 5-7D

Date: 3/21/2017
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 3/21/17
Sample Time: 1138
Sample ID: CBL308I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170321	1056	V= 1.8	5.4	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	24.04 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	33 (ft)

PH: 6.27 (STD) Specific Conductivity: 9659 uS/cm Sample Temp. 22.6 (C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226 + 228	N

Sample Appearance: Clear Odor: none Color: Clear Turbidity: _____
Weather Conditions: Partly Cloudy South wind 5-10mph
Other: Purge water is clear with no odor. Collected samples when parameters are stable 75°

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-7P

Date: 3/21/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 3/21/17
Sample Time: 1304
Sample ID: CBL306I

(3)

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170321	1206	V= 1.4	4.3	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	5.92 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.80 (ft)	Pump Placement	12 (ft)

PH: 4.41 (STD) Specific Conductivity: 2176 uS/cm Sample Temp. 22.38 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226+228	N

Sample Appearance: Clear Odor: none Color: Clear Turbidity: _____
Weather Conditions: Clear South wind 5-10mph 80°
Other: Purge water is clear. Collected samples after parameter stabilized

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-7A

Date: 3/21/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 3/21/17
Sample Time: 1446
Sample ID: CBL302I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170321	1356	V= 3	9	

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	9.09 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	27.11 (ft)	Pump Placement	23 (ft)

PH: 5.40 (STD) Specific Conductivity: 7753 uS/cm Sample Temp. 21.79 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226+228	N

Sample Appearance: Clear Odor: none Color: clear Turbidity: _____
Weather Conditions: Clear South wind 5-10mph 85°
Other: Purge water is clear. Collected samples after Purge water stabilized

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-7A

Date: 3/21/17
Sampler: CP/JG
Employer: LCRA

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Field Information Form

Sample Date: 3/22/17
Sample Time: 938
Sample ID: CBL301I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170322	0850	V= 3	9	11

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated Y | N (N) Sampling Equipment ..... Dedicated Y | N (N)

Purging Device	A	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	A	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	36.19 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.10 (ft)	Pump Placement	50 (ft)

PH: 6.31 (STD) Specific Conductivity: 7495 uS/cm Sample Temp. 24.93 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	
P	500mL	ICE	Anions	
P	4L	ICE	Radium 226 + 228	
P	4L	ICE	Radium 226 + 228 Field Blank + Equipment Blank	
P	250mL	HNO_3	metals field Blank + Equipment Blank	
P	500mL	ICE	Anions field Blank + Equipment Blank	

Sample Appearance: Cloudy Odor: None Color: Milky Gray Turbidity: _____

Weather Conditions: Partly Cloudy South wind 0-5mph 75°

Other: ~~Purge~~ Purge water cleared after 2 gallons. Parameter stabilized before samples were collected

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS Ground water SOP 5-7D

Date: 3/22/17

Sampler: CP/JG

Employer: LCRA

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Field Information Form

Sample Date: 3/22/17
Sample Time: 1208
Sample ID: CBL3411I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170322	1023	V= 5	15	12

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	15.79 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	40 (ft)

PH: 5.72 (STD) Specific Conductivity: 6014 uS/cm Sample Temp. 22.08 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Radium 226+228	N
P	4L	ICE	CBL641I Dup Radium 226+228	
P	250mL	HNO_3	metals Dup CBL641I	
P	500mL	ICE	Anions Dup CBL641I	

Sample Appearance: Clear Odor: none Color: Clear Turbidity: _____

Weather Conditions: Partly Cloudy South wind 0-5mph 80°

Other: Purge water Clear. Collect Samples after field parameters stabilized

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS Ground water SOP 5-7P

Date: 3/22/17

Sampler: CP/JG

Employer: LCRA

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

April 19, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1712169

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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SAMPLE SUMMARY

Workorder: Q1712169

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1712169001	CBL - 301I	Aqueous	3/22/2017 09:38	3/22/2017 16:10
Q1712169002	CBL - 302I	Aqueous	3/22/2017 14:46	3/22/2017 16:10
Q1712169003	CBL - 306I	Aqueous	3/22/2017 13:04	3/22/2017 16:10
Q1712169004	CBL - 308I	Aqueous	3/22/2017 11:38	3/22/2017 16:10
Q1712169005	CBL - 340I	Aqueous	3/22/2017 10:01	3/22/2017 16:10
Q1712169006	CBL - 341I	Aqueous	3/22/2017 12:08	3/22/2017 16:10
Q1712169007	CBL - 641I	Aqueous	3/22/2017 12:10	3/22/2017 16:10
Q1712169008	FB # 1	Aqueous	3/22/2017 09:40	3/22/2017 16:10
Q1712169009	EQ Blank	Aqueous	3/22/2017 09:45	3/22/2017 16:10

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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PROJECT SUMMARY

Workorder: Q1712169

Workorder Comments

ANALYTICAL COMMENTS: All samples subcontracted with customer's approval. Data provided in full with the ELS final report.

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ANALYTICAL RESULTS

Workorder: Q1712169

Lab ID:	**Q1712169001**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	3/22/2017 09:38	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/19/17 12:30	JBW	04/19/17 12:30	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/19/17 12:30	JBW	04/19/17 12:30	JBW	

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ANALYTICAL RESULTS

Workorder: Q1712169

Lab ID:	**Q1712169002**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	3/22/2017 14:46	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/19/17 12:31	JBW	04/19/17 12:31	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/19/17 12:31	JBW	04/19/17 12:31	JBW	

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ANALYTICAL RESULTS

Workorder: Q1712169

Lab ID:	**Q1712169003**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	3/22/2017 13:04	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/19/17 12:31	JBW	04/19/17 12:31	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/19/17 12:31	JBW	04/19/17 12:31	JBW	

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ANALYTICAL RESULTS

Workorder: Q1712169

Lab ID:	**Q1712169004**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	3/22/2017 11:38	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/19/17 12:31	JBW	04/19/17 12:31	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/19/17 12:31	JBW	04/19/17 12:31	JBW	

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ANALYTICAL RESULTS

Workorder: Q1712169

Lab ID:	**Q1712169005**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	3/22/2017 10:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/19/17 12:31	JBW	04/19/17 12:31	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/19/17 12:31	JBW	04/19/17 12:31	JBW	

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3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

ANALYTICAL RESULTS

Workorder: Q1712169

Lab ID:	**Q1712169006**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	3/22/2017 12:08	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/19/17 12:32	JBW	04/19/17 12:32	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/19/17 12:32	JBW	04/19/17 12:32	JBW	

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ANALYTICAL RESULTS

Workorder: Q1712169

Lab ID:	**Q1712169007**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	3/22/2017 12:10	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226	Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	04/19/17 12:32	JBW	04/19/17 12:32	JBW	
Analysis Desc: E904.0, Radium 228	Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228										
Reference Lab Report	see attached.					1	04/19/17 12:32	JBW	04/19/17 12:32	JBW	

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ANALYTICAL RESULTS

Workorder: Q1712169

Lab ID:	**Q1712169008**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	3/22/2017 09:40	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226	Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226										
Reference Lab Report	see attached.	pCi/L				1	04/19/17 12:32	JBW	04/19/17 12:32	JBW	
Analysis Desc: E904.0, Radium 228	Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228										
Reference Lab Report	see attached.					1	04/19/17 12:32	JBW	04/19/17 12:32	JBW	

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ANALYTICAL RESULTS

Workorder: Q1712169

Lab ID:	**Q1712169009**	Date Received:	3/22/2017 16:10	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	3/22/2017 09:45	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	04/19/17 12:32	JBW	04/19/17 12:32	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	04/19/17 12:32	JBW	04/19/17 12:32	JBW	

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Summit Environmental Technologies, Inc.
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Website: http://www.settek.com

April 14, 2017

Jason Woods
LCRA Environmental Laboratory Services
P.O. Box 220 78767-02203505 Montopolis
Austin, TX 78744
TEL: 512-356-6022
FAX: 512-356-6021

RE: Q1712169

Dear Jason Woods:

Order No.: 17031763

Summit Environmental Technologies, Inc. received 9 sample(s) on 3/31/2017 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Holly Florea
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0108, Delaware, Florida NELAC E87688, Georgia E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 9957C

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Case Narrative

WO#: **17031763**
Date: **4/14/2017**

CLIENT: LCRA Environmental Laboratory Services
Project: Q1712169

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. State Certificates and Scopes of Accreditation are attached as applicable. Results provided in this report for any parameter not listed on the Scope of Accreditation should be considered “not certified.”

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

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Workorder Sample Summary

WO#: **17031763**

14-Apr-17

CLIENT: LCRA Environmental Laboratory Services
Project: Q1712169

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
17031763-001	Q1712169001		3/22/2017 9:38:00 AM	3/31/2017 1:00:00 PM	Aqueous
17031763-002	Q1712169002		3/22/2017 2:46:00 PM	3/31/2017 1:00:00 PM	Aqueous
17031763-003	Q1712169003		3/22/2017 1:04:00 PM	3/31/2017 1:00:00 PM	Aqueous
17031763-004	Q1712169004		3/22/2017 11:38:00 AM	3/31/2017 1:00:00 PM	Aqueous
17031763-005	Q1712169005		3/22/2017 10:01:00 AM	3/31/2017 1:00:00 PM	Aqueous
17031763-006	Q1712169006		3/22/2017 12:08:00 PM	3/31/2017 1:00:00 PM	Aqueous
17031763-007	Q1712169007		3/22/2017 12:10:00 PM	3/31/2017 1:00:00 PM	Aqueous
17031763-008	Q1712169008		3/22/2017 9:40:00 AM	3/31/2017 1:00:00 PM	Aqueous
17031763-009	Q1712169009		3/22/2017 9:45:00 AM	3/31/2017 1:00:00 PM	Aqueous

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Analytical Report

(consolidated)

WO#: **17031763**

Date Reported: **4/14/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 3/22/2017 9:38:00 AM

Project: Q1712169

Lab ID: 17031763-001 **Matrix:** AQUEOUS

Client Sample ID Q1712169001

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.11	1	4/14/2017 10:52:00 AM
Yield	0.999					1	4/14/2017 10:52:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.61	1	4/13/2017 5:07:00 PM
Yield	1.00					1	4/13/2017 5:07:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17031763**

Date Reported: **4/14/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 3/22/2017 2:46:00 PM

Project: Q1712169

Lab ID: 17031763-002 **Matrix:** AQUEOUS

Client Sample ID Q1712169002

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.11	1	4/14/2017 10:52:00 AM
Yield	0.916					1	4/14/2017 10:52:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.99	1	4/13/2017 5:07:00 PM
Yield	0.660					1	4/13/2017 5:07:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17031763**

Date Reported: **4/14/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 3/22/2017 1:04:00 PM

Project: Q1712169

Lab ID: 17031763-003 **Matrix:** AQUEOUS

Client Sample ID Q1712169003

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.14	1	4/14/2017 10:52:00 AM
Yield	0.760					1	4/14/2017 10:52:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.91	1	4/13/2017 5:07:00 PM
Yield	0.660					1	4/13/2017 5:07:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17031763**

Date Reported: **4/14/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 3/22/2017 11:38:00 AM

Project: Q1712169

Lab ID: 17031763-004 **Matrix:** AQUEOUS

Client Sample ID Q1712169004

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.11	1	4/14/2017 10:53:00 AM
Yield	0.983					1	4/14/2017 10:53:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	1.37	1.00		pCi/L	± 0.83	1	4/13/2017 5:07:00 PM
Yield	1.00					1	4/13/2017 5:07:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17031763**

Date Reported: **4/14/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 3/22/2017 10:01:00 AM

Project: Q1712169

Lab ID: 17031763-005 **Matrix:** AQUEOUS

Client Sample ID Q1712169005

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.18	1	4/14/2017 10:53:00 AM
Yield	1.00					1	4/14/2017 10:53:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	2.71	1.00		pCi/L	± 1	1	4/13/2017 5:07:00 PM
Yield	1.00					1	4/13/2017 5:07:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17031763**

Date Reported: **4/14/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 3/22/2017 12:08:00 PM

Project: Q1712169

Lab ID: 17031763-006 **Matrix:** AQUEOUS

Client Sample ID Q1712169006

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.21	1	4/14/2017 10:53:00 AM
Yield	1.00					1	4/14/2017 10:53:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	2.62	1.00		pCi/L	± 1.16	1	4/13/2017 5:07:00 PM
Yield	1.00					1	4/13/2017 5:07:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17031763**

Date Reported: **4/14/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 3/22/2017 12:10:00 PM

Project: Q1712169

Lab ID: 17031763-007 **Matrix:** AQUEOUS

Client Sample ID Q1712169007

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.15	1	4/14/2017 10:53:00 AM
Yield	0.964					1	4/14/2017 10:53:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	2.16	1.00		pCi/L	± 0.92	1	4/13/2017 5:07:00 PM
Yield	0.990					1	4/13/2017 5:07:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17031763**

Date Reported: **4/14/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 3/22/2017 9:40:00 AM

Project: Q1712169

Lab ID: 17031763-008 **Matrix:** AQUEOUS

Client Sample ID Q1712169008

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.09	1	4/14/2017 10:53:00 AM
Yield	1.00					1	4/14/2017 10:53:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.93	1	4/13/2017 5:07:00 PM
Yield	1.00					1	4/13/2017 5:07:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17031763**

Date Reported: **4/14/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 3/22/2017 9:45:00 AM

Project: Q1712169

Lab ID: 17031763-009 **Matrix:** AQUEOUS

Client Sample ID Q1712169009

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 903.0)					**E903.0**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.08	1	4/14/2017 11:32:00 AM
Yield	1.00					1	4/14/2017 11:32:00 AM
RADIUM-228 (EPA 904.0)					**E904.0**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.62	1	4/13/2017 5:08:00 PM
Yield	0.800					1	4/13/2017 5:08:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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QC SUMMARY REPORT

WO#: **17031763**

14-Apr-17

Client: LCRA Environmental Laboratory Services
Project: Q1712169 **BatchID:** **26353**

Sample ID **mb-26353** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **4/10/2017** RunNo: **68134**
Client ID: **PBW** Batch ID: **26353** TestNo: **E904.0** **E903-904** Analysis Date: **4/13/2017** SeqNo: **1124255**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	1.00			0	0						

Sample ID **lcs-26353** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **4/10/2017** RunNo: **68134**
Client ID: **LCSW** Batch ID: **26353** TestNo: **E904.0** **E903-904** Analysis Date: **4/13/2017** SeqNo: **1124256**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	5.46	1.00	5.000	0	109	70	130				
Yield	1.00			0	0						

Sample ID **17031560-001aMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **4/10/2017** RunNo: **68134**
Client ID: **BatchQC** Batch ID: **26353** TestNo: **E904.0** **E903-904** Analysis Date: **4/13/2017** SeqNo: **1124259**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	5.57	1.00	5.000	0.9846	91.7	70	130				
Yield	0.920			0.9300	0						

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **17031763**

14-Apr-17

Client: LCRA Environmental Laboratory Services
Project: Q1712169 **BatchID:** **26353**

Sample ID **mb-26353** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **4/10/2017** RunNo: **68140**
Client ID: **PBW** Batch ID: **26353** TestNo: **E903.0** **E903-904** Analysis Date: **4/14/2017** SeqNo: **1124401**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID **lcs-26353** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **4/10/2017** RunNo: **68140**
Client ID: **LCSW** Batch ID: **26353** TestNo: **E903.0** **E903-904** Analysis Date: **4/14/2017** SeqNo: **1124402**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	6.14	1.00	5.000	0	123	70	130				

Sample ID **lcsd-26353** SampType: **LCSD** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **4/10/2017** RunNo: **68140**
Client ID: **LCSS02** Batch ID: **26353** TestNo: **E903.0** **E903-904** Analysis Date: **4/14/2017** SeqNo: **1124403**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	5.08	1.00	5.000	0	102	70	130	6.140	18.9	20	

Sample ID **17031560-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **4/10/2017** RunNo: **68140**
Client ID: **BatchQC** Batch ID: **26353** TestNo: **E903.0** **E903-904** Analysis Date: **4/14/2017** SeqNo: **1124405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **17031763**

14-Apr-17

Client: LCRA Environmental Laboratory Services
Project: Q1712169 **BatchID:** **26353**

Sample ID **17031560-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **4/10/2017** RunNo: **68140**
Client ID: **BatchQC** Batch ID: **26353** TestNo: **E903.0** **E903-904** Analysis Date: **4/14/2017** SeqNo: **1124405**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.09	1.00	5.000	0	81.8	70	130				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected at the Reporting Limit	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Summit Environmental Technologies, In
3310 Win S
Cuyahoga Falls, Ohio 4422
TEL: (330) 253-8211 FAX: (330) 253-448
Website: http://www.settek.co

Qualifiers and Acronyms

WO#: **17031763**
Date: **4/14/2017**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45214034 - HBN 57354

PO #Q1712169

Results Requested By

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1712169001	3/22/2017 09:38		Aqueous	1						X	X											
2	Q1712169002	3/22/2017 14:46		Aqueous	1						X	X											
3	Q1712169003	3/22/2017 13:04		Aqueous	1						X	X											
4	Q1712169004	3/22/2017 11:38		Aqueous	1						X	X											
5	Q1712169005	3/22/2017 10:01		Aqueous	1						X	X											
6	Q1712169006	3/22/2017 12:08		Aqueous	1						X	X											
7	Q1712169007	3/22/2017 12:10		Aqueous	1						X	X											
8	Q1712169008	3/22/2017 09:40		Aqueous	1						X	X											
9	Q1712169009	3/22/2017 09:45		Aqueous	1						X	X											

17031763 -001- 009SL

2001.2.0.0

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45214034 - HBN 57354

PO #

Results Requested By

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228										LAB USE ONLY
10																						
11																						
12																						
13																						

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1712169 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative
COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	3/27/17 1530		
2				
3			Sru Campbell	3-31-17 1300
4				
5				

2001.2.0.0

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Initials of person inspecting cooler and samples: SC

Client: LCRA

Order Number: 17031763

Date Received: 3-31-17 Time Received: 1300 Date cooler(s) opened and samples inspected: 3-31-17

Number of Coolers/Boxes: 1 N/A

Shipper: FEDEX UPS DHL Airborne US Postal Walk-in Pickup Other:

Packaging: Peanuts Bubble Wrap Paper Foam None Other:

Tape on cooler/box:	Y	N	N/A
Custody Seals intact	Y	N	N/A
C-O-C in plastic	Y	N	N/A
Ice_____ Blue ice _____	present / absent / melted		N/A
Sample Temperature IR Gun #16020459 CF 0.0 °C	13.1 °C		N/A
Radiological Testing Instrument serial #35127 (see page 2 for scan results)	Y	N	N/A

Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.

C-O-C filled out properly	Y	N	N/A
Samples in separate bags	Y	N	N/A
Sample containers intact*	Y	N	N/A

*If no, list broken sample(s):

Sample label(s) complete (ID, date, etc.)	Y	N	N/A
Label(s) agree with C-O-C	Y	N	N/A
Correct containers used	Y	N	N/A
Sufficient sample received	Y	N	N/A
Samples received within holding time	Y	N	
Bubbles absent from 40 mL vials**	Y	N	N/A

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm.

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact:

Date/Time:

Logged in by:

Comments: NPW per client phone call

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# WC-03-1174 pH strip (2.8-4.6) SET#OES-01-0250
Total DPD packet SET#OES-02-0239 Free DPD packet SET#OES-01-0290
Disp. Pipette SET# WC-03-0510

Sample or OMEGA ID	Method	pH	Chlorine (±)	Comments
1	226/228	2		
2		2		
3		2		
4		2		
5		2		
6		2		
7		2		
8		2		
9	✓	2		

Radiological scan on sample

ID	scan	CPM
1	✓	21
2		22
3		31
4		29
5		27
6		17
7		24
8		25
9		19

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for Total chlorine
552.2 checked for Free chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0250)
524.2 = pH and Chlorine checked at bench and not log in department

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

in accordance with Texas Water Code Chapter 5, Subchapter R, Title 30 Texas Administrative Code Chapter 25, and the National Environmental Laboratory Accreditation Program.

The laboratory's scope of accreditation includes the fields of accreditation that accompany this certificate. Continued accreditation depends upon successful ongoing participation in the program. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current location(s) and accreditation status for particular methods and analyses (www.tceq.texas.gov/goto/lab). Accreditation does not imply that a product, process, system or person is approved by the Texas Commission on Environmental Quality.

Executive Director Texas Commission on Environmental Quality

Certificate Number: T104704466-16-11
Effective Date: 8/1/2016
Expiration Date: 7/31/2017

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate:	T104704466-16-11
Expiration Date:	7/31/2017
Issue Date:	8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10120204

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10013806
Antimony	FL	1005	10013806
Arsenic	FL	1010	10013806
Barium	FL	1015	10013806
Beryllium	FL	1020	10013806
Boron	FL	1025	10013806
Cadmium	FL	1030	10013806
Chromium	FL	1040	10013806
Copper	FL	1055	10013806
Iron	FL	1070	10013806
Lead	FL	1075	10013806
Magnesium	FL	1085	10013806
Manganese	FL	1090	10013806
Molybdenum	FL	1100	10013806
Nickel	FL	1105	10013806
Potassium	FL	1125	10013806
Selenium	FL	1140	10013806
Silica as SiO2	FL	1990	10013806
Silver	FL	1150	10013806
Sodium	FL	1155	10013806
Thallium	FL	1165	10013806
Vanadium	FL	1185	10013806
Zinc	FL	1190	10013806

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

	Certificate:	T104704466-16-11
Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2017
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2016

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Matrix: ***Drinking Water***

Antimony	FL	1005	10014605
Arsenic	FL	1010	10014605
Barium	FL	1015	10014605
Beryllium	FL	1020	10014605
Cadmium	FL	1030	10014605
Chromium	FL	1040	10014605
Copper	FL	1055	10014605
Lead	FL	1075	10014605
Manganese	FL	1090	10014605
Nickel	FL	1105	10014605
Selenium	FL	1140	10014605
Silver	FL	1150	10014605
Thallium	FL	1165	10014605
Uranium	FL	3035	10014605
Zinc	FL	1190	10014605

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10053006
Chloride	FL	1575	10053006
Fluoride	FL	1730	10053006
Nitrate as N	FL	1810	10053006
Nitrite as N	FL	1840	10053006
Sulfate	FL	2000	10053006

Method EPA 300.0 B

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10275408

Method EPA 300.1

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

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Matrix: ***Drinking Water***

Bromate	FL	1535	10053608
Bromide	FL	1540	10053608
Chlorate	FL	1570	10053608
Chlorite	FL	1595	10053608
Method EPA 314.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Perchlorate	FL	1895	10055400
Method EPA 900.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Gross-alpha	FL	2830	10112400
Gross-beta	FL	2840	10112400
Method EPA 903.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Radium-226	FL	2965	10113209
Method EPA 904.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Radium-228	FL	2970	10113607
Method EPA 908.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Uranium	FL	3035	10114202
Method SM 2510 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	FL	1610	20048004
Method SM 2540 C			
Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-filterable (TDS)	FL	1955	20049803
Method SM 4500-CN^- C,E			
Analyte	**AB**	**Analyte ID**	**Method ID**
Total Cyanide	FL	1635	20092404
Method SM 4500-CN^- G			
Analyte	**AB**	**Analyte ID**	**Method ID**

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3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2016

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Matrix: ***Drinking Water***

Amenable cyanide	FL	1510	20093203

Texas Commission on Environmental Quality

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Matrix: ***Non-Potable Water***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10116606

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	FL	1970	10010409

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10120204
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10120204
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10120204
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10120204
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10120204
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10120204
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10120204
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10120204
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10120204
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10120204
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10120204
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10120204
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10120204
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10120204
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10120204
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10120204
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10120204
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10120204
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10120204
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10120204
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10120204
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10120204
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10120204

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Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

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Matrix: ***Non-Potable Water***

Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10120204
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10120204

Method EPA 1631E

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10237204

Method EPA 1664

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10127807
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10127807

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10013806
Antimony	FL	1005	10013806
Arsenic	FL	1010	10013806
Barium	FL	1015	10013806
Beryllium	FL	1020	10013806
Boron	FL	1025	10013806
Cadmium	FL	1030	10013806
Calcium	FL	1035	10013806
Chromium	FL	1040	10013806
Cobalt	FL	1050	10013806
Copper	FL	1055	10013806
Iron	FL	1070	10013806
Lead	FL	1075	10013806
Magnesium	FL	1085	10013806
Manganese	FL	1090	10013806
Molybdenum	FL	1100	10013806
Nickel	FL	1105	10013806
Phosphorus	FL	1910	10013806
Potassium	FL	1125	10013806
Selenium	FL	1140	10013806

Texas Commission on Environmental Quality

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Issue Date:	8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
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Matrix: ***Non-Potable Water***

Silver	FL	1150	10013806
Sodium	FL	1155	10013806
Thallium	FL	1165	10013806
Tin	FL	1175	10013806
Titanium	FL	1180	10013806
Vanadium	FL	1185	10013806
Zinc	FL	1190	10013806

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10014605
Antimony	FL	1005	10014605
Arsenic	FL	1010	10014605
Barium	FL	1015	10014605
Beryllium	FL	1020	10014605
Cadmium	FL	1030	10014605
Chromium	FL	1040	10014605
Cobalt	FL	1050	10014605
Copper	FL	1055	10014605
Lead	FL	1075	10014605
Manganese	FL	1090	10014605
Molybdenum	FL	1100	10014605
Nickel	FL	1105	10014605
Selenium	FL	1140	10014605
Silver	FL	1150	10014605
Strontium	FL	1160	10014605
Thallium	FL	1165	10014605
Thorium	FL	1170	10014605
Uranium	FL	3035	10014605
Vanadium	FL	1185	10014605
Zinc	FL	1190	10014605

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Matrix: ***Non-Potable Water***

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10053006
Chloride	FL	1575	10053006
Fluoride	FL	1730	10053006
Nitrate as N	FL	1810	10053006
Nitrate-nitrite	FL	1820	10053006
Nitrite as N	FL	1840	10053006
Orthophosphate as P	FL	1870	10053006
Sulfate	FL	2000	10053006

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	FL	1905	10079400

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10155803
Antimony	FL	1005	10155803
Arsenic	FL	1010	10155803
Barium	FL	1015	10155803
Beryllium	FL	1020	10155803
Boron	FL	1025	10155803
Cadmium	FL	1030	10155803
Calcium	FL	1035	10155803
Chromium	FL	1040	10155803
Cobalt	FL	1050	10155803
Copper	FL	1055	10155803
Iron	FL	1070	10155803
Lead	FL	1075	10155803

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Matrix: ***Non-Potable Water***

Magnesium	FL	1085	10155803
Manganese	FL	1090	10155803
Molybdenum	FL	1100	10155803
Nickel	FL	1105	10155803
Phosphorus	FL	1910	10155803
Potassium	FL	1125	10155803
Selenium	FL	1140	10155803
Silver	FL	1150	10155803
Sodium	FL	1155	10155803
Thallium	FL	1165	10155803
Vanadium	FL	1185	10155803
Zinc	FL	1190	10155803

Method EPA 608

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10103603
4,4'-DDE	FL	7360	10103603
4,4'-DDT	FL	7365	10103603
Aldrin	FL	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10103603
Aroclor-1016 (PCB-1016)	FL	8880	10103603
Aroclor-1221 (PCB-1221)	FL	8885	10103603
Aroclor-1232 (PCB-1232)	FL	8890	10103603
Aroclor-1242 (PCB-1242)	FL	8895	10103603
Aroclor-1248 (PCB-1248)	FL	8900	10103603
Aroclor-1254 (PCB-1254)	FL	8905	10103603
Aroclor-1260 (PCB-1260)	FL	8910	10103603
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10103603
Chlordane (tech.)	FL	7250	10103603
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10103603
Dieldrin	FL	7470	10103603

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Matrix: ***Non-Potable Water***

Endosulfan I	FL	7510	10103603
Endosulfan II	FL	7515	10103603
Endosulfan sulfate	FL	7520	10103603
Endrin	FL	7540	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10103603
Heptachlor	FL	7685	10103603
Heptachlor epoxide	FL	7690	10103603
Toxaphene (Chlorinated camphene)	FL	8250	10103603

Method EPA 615

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10105609
2,4-D	FL	8545	10105609
2,4-DB	FL	8560	10105609
Dalapon	FL	8555	10105609
Dicamba	FL	8595	10105609
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10105609
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10105609
MCPA	FL	7775	10105609
MCPP	FL	7780	10105609
Silvex (2,4,5-TP)	FL	8650	10105609

Method EPA 624

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	FL	5160	10107207
1,1,2,2-Tetrachloroethane	FL	5110	10107207
1,1,2-Trichloroethane	FL	5165	10107207
1,1-Dichloroethane	FL	4630	10107207
1,1-Dichloroethylene	FL	4640	10107207
1,2-Dichlorobenzene	FL	4610	10107207
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10107207
1,2-Dichloropropane	FL	4655	10107207
1,3-Dichlorobenzene	FL	4615	10107207

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Matrix: ***Non-Potable Water***

1,4-Dichlorobenzene	FL	4620	10107207
2-Chloroethyl vinyl ether	FL	4500	10107207
Acrolein (Propenal)	FL	4325	10107207
Acrylonitrile	FL	4340	10107207
Benzene	FL	4375	10107207
Bromodichloromethane	FL	4395	10107207
Bromoform	FL	4400	10107207
Carbon tetrachloride	FL	4455	10107207
Chlorobenzene	FL	4475	10107207
Chlorodibromomethane	FL	4575	10107207
Chloroethane (Ethyl chloride)	FL	4485	10107207
Chloroform	FL	4505	10107207
cis-1,3-Dichloropropene	FL	4680	10107207
Ethylbenzene	FL	4765	10107207
Methyl bromide (Bromomethane)	FL	4950	10107207
Methyl chloride (Chloromethane)	FL	4960	10107207
Methylene chloride (Dichloromethane)	FL	4975	10107207
Tetrachloroethylene (Perchloroethylene)	FL	5115	10107207
Toluene	FL	5140	10107207
trans-1,2-Dichloroethylene	FL	4700	10107207
trans-1,3-Dichloropropylene	FL	4685	10107207
Trichloroethene (Trichloroethylene)	FL	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10107207
Vinyl chloride	FL	5235	10107207
Xylene (total)	FL	5260	10107207

Method EPA 625

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10107401
1,2,4-Trichlorobenzene	FL	5155	10107401
1,2-Dichlorobenzene	FL	4610	10107401

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Matrix: *Non-Potable Water*

1,3-Dichlorobenzene	FL	4615	10107401
1,4-Dichlorobenzene	FL	4620	10107401
2,4,6-Trichlorophenol	FL	6840	10107401
2,4-Dichlorophenol	FL	6000	10107401
2,4-Dimethylphenol	FL	6130	10107401
2,4-Dinitrophenol	FL	6175	10107401
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10107401
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10107401
2-Chloronaphthalene	FL	5795	10107401
2-Chlorophenol	FL	5800	10107401
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10107401
2-Nitrophenol	FL	6490	10107401
3,3'-Dichlorobenzidine	FL	5945	10107401
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10107401
4-Chloro-3-methylphenol	FL	5700	10107401
4-Chlorophenyl phenylether	FL	5825	10107401
4-Nitrophenol	FL	6500	10107401
Acenaphthene	FL	5500	10107401
Acenaphthylene	FL	5505	10107401
Anthracene	FL	5555	10107401
Benzidine	FL	5595	10107401
Benzo(a)anthracene	FL	5575	10107401
Benzo(a)pyrene	FL	5580	10107401
Benzo(b)fluoranthene	FL	5585	10107401
Benzo(g,h,i)perylene	FL	5590	10107401
Benzo(k)fluoranthene	FL	5600	10107401
bis(2-Chloroethoxy)methane	FL	5760	10107401
bis(2-Chloroethyl) ether	FL	5765	10107401
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10107401
Butyl benzyl phthalate	FL	5670	10107401

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Matrix: ***Non-Potable Water***

Chrysene	FL	5855	10107401
Dibenz(a,h) anthracene	FL	5895	10107401
Diethyl phthalate	FL	6070	10107401
Dimethyl phthalate	FL	6135	10107401
Di-n-butyl phthalate	FL	5925	10107401
Di-n-octyl phthalate	FL	6200	10107401
Fluoranthene	FL	6265	10107401
Fluorene	FL	6270	10107401
Hexachlorobenzene	FL	6275	10107401
Hexachlorobutadiene	FL	4835	10107401
Hexachlorocyclopentadiene	FL	6285	10107401
Hexachloroethane	FL	4840	10107401
Indeno(1,2,3-cd) pyrene	FL	6315	10107401
Isophorone	FL	6320	10107401
Naphthalene	FL	5005	10107401
Nitrobenzene	FL	5015	10107401
n-Nitrosodimethylamine	FL	6530	10107401
n-Nitrosodi-n-propylamine	FL	6545	10107401
n-Nitrosodiphenylamine	FL	6535	10107401
Pentachlorophenol	FL	6605	10107401
Phenanthrene	FL	6615	10107401
Phenol	FL	6625	10107401
Pyrene	FL	6665	10107401

Method EPA 7196

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	FL	1045	10162400

Method EPA 7470

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10165603

Method EPA 8015

Analyte	AB	Analyte ID	Method ID

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Matrix: ***Non-Potable Water***

Diesel range organics (DRO)	FL	9369	10305609
Ethylene glycol	FL	4785	10305609
Gasoline range organics (GRO)	FL	9408	10305609
Methanol	FL	4930	10305609

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10178800
4,4'-DDE	FL	7360	10178800
4,4'-DDT	FL	7365	10178800
Aldrin	FL	7025	10178800
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10178800
alpha-Chlordane	FL	7240	10178800
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10178800
Chlordane (tech.)	FL	7250	10178800
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10178800
Dieldrin	FL	7470	10178800
Endosulfan I	FL	7510	10178800
Endosulfan II	FL	7515	10178800
Endosulfan sulfate	FL	7520	10178800
Endrin	FL	7540	10178800
Endrin ketone	FL	7535	10178800
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10178800
gamma-Chlordane	FL	7245	10178800
Heptachlor	FL	7685	10178800
Heptachlor epoxide	FL	7690	10178800
Methoxychlor	FL	7810	10178800
Toxaphene (Chlorinated camphene)	FL	8250	10178800

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	FL	8880	10179201
Aroclor-1221 (PCB-1221)	FL	8885	10179201

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Matrix: ***Non-Potable Water***

Aroclor-1232 (PCB-1232)	FL	8890	10179201
Aroclor-1242 (PCB-1242)	FL	8895	10179201
Aroclor-1248 (PCB-1248)	FL	8900	10179201
Aroclor-1254 (PCB-1254)	FL	8905	10179201
Aroclor-1260 (PCB-1260)	FL	8910	10179201
PCBs (total)	FL	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10183207
2,4-D	FL	8545	10183207
2,4-DB	FL	8560	10183207
Dalapon	FL	8555	10183207
Dicamba	FL	8595	10183207
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10183207
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10183207
MCPA	FL	7775	10183207
MCPP	FL	7780	10183207
Silvex (2,4,5-TP)	FL	8650	10183207

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	FL	5105	10184802
1,1,1-Trichloroethane	FL	5160	10184802
1,1,2,2-Tetrachloroethane	FL	5110	10184802
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	FL	5195	10184802
1,1,2-Trichloroethane	FL	5165	10184802
1,1-Dichloroethane	FL	4630	10184802
1,1-Dichloroethylene	FL	4640	10184802
1,1-Dichloropropene	FL	4670	10184802
1,2,3-Trichlorobenzene	FL	5150	10184802
1,2,3-Trichloropropane	FL	5180	10184802
1,2,4-Trichlorobenzene	FL	5155	10184802

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Matrix: *Non-Potable Water*

1,2,4-Trimethylbenzene	FL	5210	10184802
1,2-Dibromo-3-chloropropane (DBCP)	FL	4570	10184802
1,2-Dibromoethane (EDB, Ethylene dibromide)	FL	4585	10184802
1,2-Dichlorobenzene	FL	4610	10184802
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10184802
1,2-Dichloropropane	FL	4655	10184802
1,3,5-Trimethylbenzene	FL	5215	10184802
1,3-Dichlorobenzene	FL	4615	10184802
1,3-Dichloropropane	FL	4660	10184802
1,4-Dichlorobenzene	FL	4620	10184802
2,2-Dichloropropane	FL	4665	10184802
2-Butanone (Methyl ethyl ketone, MEK)	FL	4410	10184802
2-Chloroethyl vinyl ether	FL	4500	10184802
2-Chlorotoluene	FL	4535	10184802
2-Hexanone (MBK)	FL	4860	10184802
2-Nitropropane	FL	5020	10184802
4-Chlorotoluene	FL	4540	10184802
4-Isopropyltoluene (p-Cymene)	FL	4915	10184802
4-Methyl-2-pentanone (MIBK)	FL	4995	10184802
Acetone (2-Propanone)	FL	4315	10184802
Acrolein (Propenal)	FL	4325	10184802
Acrylonitrile	FL	4340	10184802
Benzene	FL	4375	10184802
Bromobenzene	FL	4385	10184802
Bromochloromethane	FL	4390	10184802
Bromodichloromethane	FL	4395	10184802
Bromoform	FL	4400	10184802
Carbon disulfide	FL	4450	10184802
Carbon tetrachloride	FL	4455	10184802
Chlorobenzene	FL	4475	10184802

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Matrix: *Non-Potable Water*

Chlorodibromomethane	FL	4575	10184802
Chloroethane (Ethyl chloride)	FL	4485	10184802
Chloroform	FL	4505	10184802
cis-1,2-Dichloroethylene	FL	4645	10184802
cis-1,3-Dichloropropene	FL	4680	10184802
Dibromomethane (Methylene bromide)	FL	4595	10184802
Dichlorodifluoromethane (Freon-12)	FL	4625	10184802
Diethyl ether	FL	4725	10184802
Ethyl acetate	FL	4755	10184802
Ethyl methacrylate	FL	4810	10184802
Ethylbenzene	FL	4765	10184802
Hexachlorobutadiene	FL	4835	10184802
Hexachloroethane	FL	4840	10184802
Iodomethane (Methyl iodide)	FL	4870	10184802
Isopropylbenzene (Cumene)	FL	4900	10184802
m+p-xylene	FL	5240	10184802
Methyl acetate	FL	4940	10184802
Methyl bromide (Bromomethane)	FL	4950	10184802
Methyl chloride (Chloromethane)	FL	4960	10184802
Methyl methacrylate	FL	4990	10184802
Methyl tert-butyl ether (MTBE)	FL	5000	10184802
Methylene chloride (Dichloromethane)	FL	4975	10184802
Naphthalene	FL	5005	10184802
n-Butyl alcohol (1-Butanol, n-Butanol)	FL	4425	10184802
n-Butylbenzene	FL	4435	10184802
n-Propylbenzene	FL	5090	10184802
o-Xylene	FL	5250	10184802
sec-Butylbenzene	FL	4440	10184802
Styrene	FL	5100	10184802
tert-Butyl alcohol	FL	4420	10184802

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Matrix: ***Non-Potable Water***

tert-Butylbenzene	FL	4445	10184802
Tetrachloroethylene (Perchloroethylene)	FL	5115	10184802
Toluene	FL	5140	10184802
trans-1,2-Dichloroethylene	FL	4700	10184802
trans-1,3-Dichloropropylene	FL	4685	10184802
trans-1,4-Dichloro-2-butene	FL	4605	10184802
Trichloroethene (Trichloroethylene)	FL	5170	10184802
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10184802
Vinyl acetate	FL	5225	10184802
Vinyl chloride	FL	5235	10184802
Xylene (total)	FL	5260	10184802

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10186002
1,2,4-Trichlorobenzene	FL	5155	10186002
1,2-Dichlorobenzene	FL	4610	10186002
1,3-Dichlorobenzene	FL	4615	10186002
1,4-Dichlorobenzene	FL	4620	10186002
2,4,5-Trichlorophenol	FL	6835	10186002
2,4,6-Trichlorophenol	FL	6840	10186002
2,4-Dichlorophenol	FL	6000	10186002
2,4-Dimethylphenol	FL	6130	10186002
2,4-Dinitrophenol	FL	6175	10186002
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10186002
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10186002
2-Chloronaphthalene	FL	5795	10186002
2-Chlorophenol	FL	5800	10186002
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10186002
2-Methylphenol (o-Cresol)	FL	6400	10186002
2-Nitrophenol	FL	6490	10186002

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Matrix: *Non-Potable Water*

3,3'-Dichlorobenzidine	FL	5945	10186002
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10186002
4-Chloro-3-methylphenol	FL	5700	10186002
4-Chlorophenyl phenylether	FL	5825	10186002
4-Methylphenol (p-Cresol)	FL	6410	10186002
4-Nitrophenol	FL	6500	10186002
Acenaphthene	FL	5500	10186002
Acenaphthylene	FL	5505	10186002
Anthracene	FL	5555	10186002
Benzidine	FL	5595	10186002
Benzo(a)anthracene	FL	5575	10186002
Benzo(a)pyrene	FL	5580	10186002
Benzo(b)fluoranthene	FL	5585	10186002
Benzo(g,h,i)perylene	FL	5590	10186002
Benzo(k)fluoranthene	FL	5600	10186002
bis(2-Chloroethoxy)methane	FL	5760	10186002
bis(2-Chloroethyl) ether	FL	5765	10186002
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10186002
Butyl benzyl phthalate	FL	5670	10186002
Chrysene	FL	5855	10186002
Dibenz(a,h) anthracene	FL	5895	10186002
Diethyl phthalate	FL	6070	10186002
Dimethyl phthalate	FL	6135	10186002
Di-n-butyl phthalate	FL	5925	10186002
Di-n-octyl phthalate	FL	6200	10186002
Fluoranthene	FL	6265	10186002
Fluorene	FL	6270	10186002
Hexachlorobenzene	FL	6275	10186002
Hexachlorobutadiene	FL	4835	10186002
Hexachlorocyclopentadiene	FL	6285	10186002

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Matrix: ***Non-Potable Water***

Hexachloroethane	FL	4840	10186002
Indeno(1,2,3-cd) pyrene	FL	6315	10186002
Isophorone	FL	6320	10186002
Naphthalene	FL	5005	10186002
Nitrobenzene	FL	5015	10186002
n-Nitrosodimethylamine	FL	6530	10186002
n-Nitrosodi-n-propylamine	FL	6545	10186002
n-Nitrosodiphenylamine	FL	6535	10186002
Pentachlorophenol	FL	6605	10186002
Phenanthrene	FL	6615	10186002
Phenol	FL	6625	10186002
Pyrene	FL	6665	10186002
Pyridine	FL	5095	10186002

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10187403
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10187403
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10187403
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10187403
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10187403
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10187403
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10187403
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10187403
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10187403
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10187403
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10187403
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10187403
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10187403
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10187403
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10187403

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Matrix: ***Non-Potable Water***

2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10187403
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10187403
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10187403
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10187403
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10187403
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10187403
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10187403
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10187403
Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10187403
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10187403

Method EPA 8315

Analyte	**AB**	**Analyte ID**	**Method ID**
Formaldehyde	FL	4815	10188008

Method EPA 8321

Analyte	**AB**	**Analyte ID**	**Method ID**
2,4-D	FL	8545	10189001
Silvex (2,4,5-TP)	FL	8650	10189001

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	FL	1510	10193803
Total Cyanide	FL	1635	10193803

Method EPA 9020

Analyte	**AB**	**Analyte ID**	**Method ID**
Total organic halides (TOX)	FL	2045	10194000

Method EPA 9034

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfide	FL	2005	10196006

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	FL	1900	10197203

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Matrix: ***Non-Potable Water***

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	FL	1610	10198808

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10199607
Chloride	FL	1575	10199607
Fluoride	FL	1730	10199607
Nitrate as N	FL	1810	10199607
Nitrate-nitrite	FL	1820	10199607
Nitrite as N	FL	1840	10199607
Orthophosphate as P	FL	1870	10199607
Sulfate	FL	2000	10199607

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	FL	2040	10200201

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	FL	1905	10200405

Method EPA 9070

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10201000
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10201000

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
Ethane	FL	4747	10212905
Ethene	FL	4752	10212905
Methane	FL	4926	10212905
n-Butane	FL	5007	10212905
n-Propane	FL	5029	10212905

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Matrix: *Non-Potable Water*

Method SM 2510 B

Analyte	AB	Analyte ID	Method ID
Conductivity	FL	1610	20048004

Method SM 2540 B

Analyte	AB	Analyte ID	Method ID
Residue-total (total solids)	FL	1950	20004608

Method SM 2540 C

Analyte	AB	Analyte ID	Method ID
Residue-filterable (TDS)	FL	1955	20049803

Method SM 2540 D

Analyte	AB	Analyte ID	Method ID
Residue-nonfilterable (TSS)	FL	1960	20004802

Method SM 4500-CN^- E

Analyte	AB	Analyte ID	Method ID
Total Cyanide	FL	1635	20021209

Method SM 4500-CN^- G

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	FL	1510	20021607

Method SM 4500-H+ B

Analyte	AB	Analyte ID	Method ID
pH	FL	1900	20104603

Method SM 4500-NH3 D

Analyte	AB	Analyte ID	Method ID
Ammonia as N	FL	1515	20108809

Method SM 4500-P E

Analyte	AB	Analyte ID	Method ID
Phosphorus	FL	1910	20025803

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	FL	1530	20027401
Carbonaceous BOD, CBOD	FL	1555	20027401

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Matrix: *Non-Potable Water*

Method SM 5220 D

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	FL	1565	20027809

Method SM 5310 B

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	FL	2040	20137206

Method SM 5540 C

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	FL	2025	20144405

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Matrix: ***Solid & Chemical Materials***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10116606

Method EPA 1030

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10117201

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	FL	849	10118806

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10155803
Antimony	FL	1005	10155803
Arsenic	FL	1010	10155803
Barium	FL	1015	10155803
Beryllium	FL	1020	10155803
Cadmium	FL	1030	10155803
Calcium	FL	1035	10155803
Chromium	FL	1040	10155803
Cobalt	FL	1050	10155803
Copper	FL	1055	10155803
Iron	FL	1070	10155803
Lead	FL	1075	10155803
Magnesium	FL	1085	10155803
Manganese	FL	1090	10155803
Molybdenum	FL	1100	10155803
Nickel	FL	1105	10155803
Potassium	FL	1125	10155803
Selenium	FL	1140	10155803
Silver	FL	1150	10155803
Sodium	FL	1155	10155803

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Matrix: ***Solid & Chemical Materials***

Thallium	FL	1165	10155803
Tin	FL	1175	10155803
Titanium	FL	1180	10155803
Vanadium	FL	1185	10155803
Zinc	FL	1190	10155803

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Antimony	FL	1005	10156408
Arsenic	FL	1010	10156408
Barium	FL	1015	10156408
Beryllium	FL	1020	10156408
Cadmium	FL	1030	10156408
Chromium	FL	1040	10156408
Cobalt	FL	1050	10156408
Copper	FL	1055	10156408
Lead	FL	1075	10156408
Manganese	FL	1090	10156408
Molybdenum	FL	1100	10156408
Nickel	FL	1105	10156408
Selenium	FL	1140	10156408
Silver	FL	1150	10156408
Strontium	FL	1160	10156408
Thallium	FL	1165	10156408
Vanadium	FL	1185	10156408
Zinc	FL	1190	10156408

Method EPA 7196

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	FL	1045	10162400

Method EPA 7470

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10165807

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Matrix: ***Solid & Chemical Materials***

Method EPA 7471

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10166004

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	FL	9369	10305609
Ethylene glycol	FL	4785	10305609
Gasoline range organics (GRO)	FL	9408	10305609

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10178800
4,4'-DDE	FL	7360	10178800
4,4'-DDT	FL	7365	10178800
Aldrin	FL	7025	10178800
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10178800
alpha-Chlordane	FL	7240	10178800
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10178800
Chlordane (tech.)	FL	7250	10178800
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10178800
Dieldrin	FL	7470	10178800
Endosulfan I	FL	7510	10178800
Endosulfan II	FL	7515	10178800
Endosulfan sulfate	FL	7520	10178800
Endrin	FL	7540	10178800
Endrin aldehyde	FL	7530	10178800
Endrin ketone	FL	7535	10178800
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10178800
gamma-Chlordane	FL	7245	10178800
Heptachlor	FL	7685	10178800
Heptachlor epoxide	FL	7690	10178800
Methoxychlor	FL	7810	10178800

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Matrix: ***Solid & Chemical Materials***

Toxaphene (Chlorinated camphene)	FL	8250	10178800

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	FL	8880	10179201
Aroclor-1221 (PCB-1221)	FL	8885	10179201
Aroclor-1232 (PCB-1232)	FL	8890	10179201
Aroclor-1242 (PCB-1242)	FL	8895	10179201
Aroclor-1248 (PCB-1248)	FL	8900	10179201
Aroclor-1254 (PCB-1254)	FL	8905	10179201
Aroclor-1260 (PCB-1260)	FL	8910	10179201
PCBs (total)	FL	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10183207
2,4-D	FL	8545	10183207
2,4-DB	FL	8560	10183207
Dalapon	FL	8555	10183207
Dicamba	FL	8595	10183207
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10183207
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10183207
MCPA	FL	7775	10183207
MCPP	FL	7780	10183207
Silvex (2,4,5-TP)	FL	8650	10183207

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	FL	5105	10184802
1,1,1-Trichloroethane	FL	5160	10184802
1,1,2,2-Tetrachloroethane	FL	5110	10184802
1,1,2-Trichloroethane	FL	5165	10184802
1,1-Dichloroethane	FL	4630	10184802
1,1-Dichloroethylene	FL	4640	10184802

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Matrix: ***Solid & Chemical Materials***

1,1-Dichloropropene	FL	4670	10184802
1,2,3-Trichlorobenzene	FL	5150	10184802
1,2,3-Trichloropropane	FL	5180	10184802
1,2,4-Trichlorobenzene	FL	5155	10184802
1,2,4-Trimethylbenzene	FL	5210	10184802
1,2-Dibromo-3-chloropropane (DBCP)	FL	4570	10184802
1,2-Dibromoethane (EDB, Ethylene dibromide)	FL	4585	10184802
1,2-Dichlorobenzene	FL	4610	10184802
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10184802
1,2-Dichloropropane	FL	4655	10184802
1,3,5-Trimethylbenzene	FL	5215	10184802
1,3-Dichlorobenzene	FL	4615	10184802
1,3-Dichloropropane	FL	4660	10184802
1,4-Dichlorobenzene	FL	4620	10184802
2,2-Dichloropropane	FL	4665	10184802
2-Butanone (Methyl ethyl ketone, MEK)	FL	4410	10184802
2-Chloroethyl vinyl ether	FL	4500	10184802
2-Chlorotoluene	FL	4535	10184802
2-Hexanone (MBK)	FL	4860	10184802
2-Nitropropane	FL	5020	10184802
4-Chlorotoluene	FL	4540	10184802
4-Methyl-2-pentanone (MIBK)	FL	4995	10184802
Acetone (2-Propanone)	FL	4315	10184802
Acrolein (Propenal)	FL	4325	10184802
Acrylonitrile	FL	4340	10184802
Benzene	FL	4375	10184802
Bromobenzene	FL	4385	10184802
Bromochloromethane	FL	4390	10184802
Bromodichloromethane	FL	4395	10184802
Bromoform	FL	4400	10184802

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Matrix: ***Solid & Chemical Materials***

Carbon disulfide	FL	4450	10184802
Carbon tetrachloride	FL	4455	10184802
Chlorobenzene	FL	4475	10184802
Chlorodibromomethane	FL	4575	10184802
Chloroethane (Ethyl chloride)	FL	4485	10184802
Chloroform	FL	4505	10184802
cis-1,2-Dichloroethylene	FL	4645	10184802
cis-1,3-Dichloropropene	FL	4680	10184802
Dibromomethane (Methylene bromide)	FL	4595	10184802
Dichlorodifluoromethane (Freon-12)	FL	4625	10184802
Diethyl ether	FL	4725	10184802
Ethyl acetate	FL	4755	10184802
Ethylbenzene	FL	4765	10184802
Methyl bromide (Bromomethane)	FL	4950	10184802
Methyl chloride (Chloromethane)	FL	4960	10184802
Methyl tert-butyl ether (MTBE)	FL	5000	10184802
Methylene chloride (Dichloromethane)	FL	4975	10184802
Naphthalene	FL	5005	10184802
n-Butyl alcohol (1-Butanol, n-Butanol)	FL	4425	10184802
n-Butylbenzene	FL	4435	10184802
n-Propylbenzene	FL	5090	10184802
sec-Butylbenzene	FL	4440	10184802
Styrene	FL	5100	10184802
tert-Butylbenzene	FL	4445	10184802
Tetrachloroethylene (Perchloroethylene)	FL	5115	10184802
Toluene	FL	5140	10184802
trans-1,2-Dichloroethylene	FL	4700	10184802
trans-1,3-Dichloropropylene	FL	4685	10184802
Trichloroethene (Trichloroethylene)	FL	5170	10184802
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10184802

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Matrix: ***Solid & Chemical Materials***

Vinyl acetate	FL	5225	10184802
Vinyl chloride	FL	5235	10184802
Xylene (total)	FL	5260	10184802

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10186002
1,2,4-Trichlorobenzene	FL	5155	10186002
1,2-Dichlorobenzene	FL	4610	10186002
1,3-Dichlorobenzene	FL	4615	10186002
1,4-Dichlorobenzene	FL	4620	10186002
2,4,5-Trichlorophenol	FL	6835	10186002
2,4,6-Trichlorophenol	FL	6840	10186002
2,4-Dichlorophenol	FL	6000	10186002
2,4-Dimethylphenol	FL	6130	10186002
2,4-Dinitrophenol	FL	6175	10186002
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10186002
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10186002
2-Chloronaphthalene	FL	5795	10186002
2-Chlorophenol	FL	5800	10186002
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10186002
2-Methylphenol (o-Cresol)	FL	6400	10186002
2-Nitrophenol	FL	6490	10186002
3,3'-Dichlorobenzidine	FL	5945	10186002
3-Methylphenol (m-Cresol)	FL	6405	10186002
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10186002
4-Chloro-3-methylphenol	FL	5700	10186002
4-Chlorophenyl phenylether	FL	5825	10186002
4-Methylphenol (p-Cresol)	FL	6410	10186002
4-Nitrophenol	FL	6500	10186002
Acenaphthene	FL	5500	10186002

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate:	T104704466-16-11
Expiration Date:	7/31/2017
Issue Date:	8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Chemical Materials***

Acenaphthylene	FL	5505	10186002
Anthracene	FL	5555	10186002
Benzidine	FL	5595	10186002
Benzo(a)anthracene	FL	5575	10186002
Benzo(a)pyrene	FL	5580	10186002
Benzo(b)fluoranthene	FL	5585	10186002
Benzo(g,h,i)perylene	FL	5590	10186002
Benzo(k)fluoranthene	FL	5600	10186002
bis(2-Chloroethoxy)methane	FL	5760	10186002
bis(2-Chloroethyl) ether	FL	5765	10186002
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10186002
Butyl benzyl phthalate	FL	5670	10186002
Chrysene	FL	5855	10186002
Dibenz(a,h) anthracene	FL	5895	10186002
Diethyl phthalate	FL	6070	10186002
Dimethyl phthalate	FL	6135	10186002
Di-n-butyl phthalate	FL	5925	10186002
Di-n-octyl phthalate	FL	6200	10186002
Fluoranthene	FL	6265	10186002
Fluorene	FL	6270	10186002
Hexachlorobenzene	FL	6275	10186002
Hexachlorobutadiene	FL	4835	10186002
Hexachlorocyclopentadiene	FL	6285	10186002
Hexachloroethane	FL	4840	10186002
Indeno(1,2,3-cd) pyrene	FL	6315	10186002
Isophorone	FL	6320	10186002
Naphthalene	FL	5005	10186002
Nitrobenzene	FL	5015	10186002
n-Nitrosodimethylamine	FL	6530	10186002
n-Nitrosodi-n-propylamine	FL	6545	10186002

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

	Certificate:	T104704466-16-11
Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2017
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2016

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Matrix: ***Solid & Chemical Materials***

n-Nitrosodiphenylamine	FL	6535	10186002
Pentachlorophenol	FL	6605	10186002
Phenanthrene	FL	6615	10186002
Phenol	FL	6625	10186002
Pyrene	FL	6665	10186002
Pyridine	FL	5095	10186002

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10187403
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10187403
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10187403
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10187403
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10187403
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10187403
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10187403
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10187403
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10187403
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10187403
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10187403
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10187403
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10187403
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10187403
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10187403
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10187403
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10187403
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10187403
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10187403
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10187403
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10187403
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10187403

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate:	T104704466-16-11
Expiration Date:	7/31/2017
Issue Date:	8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

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Matrix: ***Solid & Chemical Materials***

Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10187403
Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10187403
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10187403

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	FL	1510	10193803
Total Cyanide	FL	1635	10193803

Method EPA 9023

Analyte	**AB**	**Analyte ID**	**Method ID**
Extractable organics halides (EOX)	FL	1720	10195003

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
Corrosivity	FL	1615	10197203
pH	FL	1900	10197203

Method EPA 9045

Analyte	**AB**	**Analyte ID**	**Method ID**
Corrosivity	FL	1615	10244607
pH	FL	1900	10244607

Method EPA 9056

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	FL	1540	10199607
Chloride	FL	1575	10199607
Fluoride	FL	1730	10199607
Nitrate as N	FL	1810	10199607
Nitrate-nitrite	FL	1820	10199607
Nitrite as N	FL	1840	10199607
Orthophosphate as P	FL	1870	10199607
Sulfate	FL	2000	10199607

Method EPA 9071

Analyte	**AB**	**Analyte ID**	**Method ID**
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10201806

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate:	T104704466-16-11
Expiration Date:	7/31/2017
Issue Date:	8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Chemical Materials***

Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10201806

Method EPA 9095

Analyte	AB	Analyte ID	Method ID
Paint Filter Liquids Test	FL	10312	10204203

Method EPA 9310

Analyte	AB	Analyte ID	Method ID
Gross-alpha	FL	2830	10208205
Gross-beta	FL	2840	10208205

Q1712169

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:
Client PO:

Project:	FPP - CCR Wells Sub - March 2017	Client:	LCRA
Collector:	Colt Petri / John Gallagher	Contact:	
Event#:	1356193 / 4241	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU	Requested Analysis * S-Rad228	S-Rad226
001	1	CBL - 301I	3/22/17	938	AQ	N	N	1	X	X
002	2	CBL - 302I	3/21/17	1446	AQ			1	X	X
003	3	CBL - 306I	3/21/17	1304	AQ			1	X	X
004	4	CBL - 308I	3/21/17	1138	AQ			1	X	X
005	5	CBL - 340I	3/21/17	1001	AQ			1	X	X
006	6	CBL - 341I	3/22/17	1208	AQ			1	X	X
007	7	CBL - 641I	3/22/17	1210	AQ			1	X	X
008	8	FB # 1	3/22/17	940	AQ			1	X	X
009	9	EQ Blank	3/22/17	945	AQ	—	—	1	X	X

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Colt Petri	3/22/17 1610	[illegible]	3/22/17 1610
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	27.71	27.72
2			

Client Special Instructions:

Lab Use Only:
Q1712169
254857

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Q1712169

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:
Client PO:

Project:	FPP - CCR Wells Sub - March 2017	Client:	LCRA
Collector:	Colt Petri / John Gallagher	Contact:	
Event#:	1356193 / 4241	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU	Requested Analysis * S-Rad228	S-Rad226
001	1	CBL - 301I	3/22/17	938	AQ	N	N	1	X	X
002	2	CBL - 302I	3/21/17	1446	AQ			1	X	X
003	3	CBL - 306I	3/21/17	1304	AQ			1	X	X
004	4	CBL - 308I	3/21/17	1138	AQ			1	X	X
005	5	CBL - 340I	3/21/17	1001	AQ			1	X	X
006	6	CBL - 341I	3/22/17	1208	AQ			1	X	X
007	7	CBL - 641I	3/22/17	1210	AQ			1	X	X
008	8	FB # 1	3/22/17	940	AQ			1	X	X
009	9	EQ Blank	3/22/17	945	AQ	—	—	1	X	X

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Colt Petri	3/22/17 1610	[illegible]	3/22/17 1610
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	27.7	27.7
2			

Client Special Instructions:

Lab Use Only:
Q1712169
254857

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45214034 - HBN 57354 **PO #**Q1712169 **Results Requested By**

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1712169001	3/22/2017 09:38		Aqueous	1						X	X											
2	Q1712169002	3/22/2017 14:46		Aqueous	1						X	X											
3	Q1712169003	3/22/2017 13:04		Aqueous	1						X	X											
4	Q1712169004	3/22/2017 11:38		Aqueous	1						X	X											
5	Q1712169005	3/22/2017 10:01		Aqueous	1						X	X											
6	Q1712169006	3/22/2017 12:08		Aqueous	1						X	X											
7	Q1712169007	3/22/2017 12:10		Aqueous	1						X	X											
8	Q1712169008	3/22/2017 09:40		Aqueous	1						X	X											
9	Q1712169009	3/22/2017 09:45		Aqueous	1						X	X											

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45214034 - HBN 57354 **PO #** **Results Requested By**

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
10																							
11																							
12																							
13																							

Report

- [ ] Standard (Results only)
- [ ] Standard with Batch QC
- [ ] CLP
- [ ] Other _____

Electronic Data Deliverables

- [ ] SEDD Stage 2A
- [ ] SEDD Stage 2B
- [ ] SEDD Stage 3
- [ ] Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1712169 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	3/27/17 1530		
2				
3				
4				
5				

2001.2.0.0

FedEx Shipment Receipt

Address Information

Ship to:	**Ship from:**
Sample Receiving- Summit Env	Sample Receiving
SUMMIT ENVIRONMENTAL TECHNOLOGIES	ENVIRONMENTAL LABORATORY SERVICES
3310 WIN ST	3505 MONTOPOLIS DRIVE LCRA-ENVIRONMENTAL LAB ONLY
CUYAHOGA FALLS, OH	AUSTIN, TX
442233790	78744
US	US
8002780140	5123566022

Shipment Information:
Tracking no.: 778751866620
Ship date: 03/27/2017
Estimated shipping charges: 0.00

Package Information
Pricing option: FedEx Standard Rate
Service type: FedEx Ground
Package type: Your Packaging
Number of packages: 2
Total weight: 96 LBS
Declared Value: 0.00 USD
Special Services:
Pickup/Drop-off: pickup confirmation number:CPU1603770861

Billing Information:
Bill transportation to: Third party
Your reference: 3533318
P.O. no.:
Invoice no.:
Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits; Consult the applicable FedEx Service Guide for details.
The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 5/18/17
Sample Time: 1105
Sample ID: CBL301I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170518		V= 3.1	9.2	3

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | | N | Sampling Equipment ..... Dedicated | Y | | N |

Purging Device	A	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	A	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	35.27 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.10 (ft)	Pump Placement	50 (ft)

PH: 5.95 (STD) Specific Conductivity: 7532 uS/cm Sample Temp. 25.92 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	metals	N
P	500mL	ICE	Anions	N
P	4-L	ICE	Radium 226 + 228	N
P	500mL	ICE	EQ Blank - @ 1115 on 5/18/17	N
P	250mL	HNO_3	EQ Blank	
P	4-L	ICE	EQ Blank	

Sample Appearance: Slightly Cloudy Odor: none Color: Clear Turbidity: 46.1 ntu
Weather Conditions: Cloudy, 10mph E wind, 80°
Other: Purge water is milky white, cleared up after 2 gallons. Cleared up and collected after Field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS-Groundwater SOP 5-70
Date: 5/18/17
Sampler: Jason Woods
Employer: LCRA

(4)

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 5/16/17
Sample Time: 1421
Sample ID: CBL302I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170516	1350	V= 3	9	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- ____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- ____ (Specify)

FIELD MEASUREMENTS

Well Elevation		(ft/msl)	Land Surface Elevation		(ft/msl)
Depth to water From top of well casing =D_w	9.78	(ft)	Depth to water From land surface		(ft)
Groundwater Elevation			Groundwater Elevation		(ft/msl)
Well Depth = D	27.11	(ft)	Pump Placement	25	(ft)

PH: 4.94 (STD)
Specific Conductivity: 7777 uS/cm
Sample Temp. 21.52 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Rad 226+228	N
P	250mL	HNO_3	Field Blank metals	N
P	500mL	ICE	Field Blank Anions	
P	4L	ICE	Field Blank Rad 226+228	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 0.69 ntu
Weather Conditions: Partly Cloudy South west wind 10-15mph 90°
Other: Purge water is clear with no odor. Samples Collected once paramater were stable

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: EQS Groundwater SOP 5.7P
Date: 5/16/17
Sampler: CP
Employer: LCRA

Rev. 1 (08/2009)

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 5/18/17
Sample Time: 1215
Sample ID: CBL306I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170518		V= 1.1	3.4	3

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) / N
Sampling Equipment ..... Dedicated (Y) / N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	7.80 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.80 (ft)	Pump Placement	14 (ft)

PH: 5.61 (STD)
Specific Conductivity: 2151 uS/cm
Sample Temp. 23.60 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	HNO_3	Radium 226 + Radium 228	N

Sample Appearance: Clear Odor: none Color: clear Turbidity: 1.52 ntu
Weather Conditions: Partly Cloudy 10 mph E wind, 85°
Other: Purge water is clear w/ no odor, collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS-Groundwater SOP 5-7D
Date: 5/18/17
Sampler: Jason Woods
Employer: LCRA

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Field Information Form

Sample Date: 5/16/17
Sample Time: 1120
Sample ID: CBL308I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170516	1050	V= 2	6	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- _____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	24.09 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	32 (ft)

PH: 5.54 (STD) Specific Conductivity: 9697 uS/cm Sample Temp. 23.10 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	~~Y~~ N
P	500mL	ICE	Anions	N
P	4L	ICE	Rad 226+228	N

Sample Appearance: Clear Odor: none Color: clear Turbidity: 0.37
Weather Conditions: Partly Cloud South West wind 10-15mph 78°
Other: Purge water clear with No odor. Collected samples once parameter were stable

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Ground water SOP 5.70
Date: 5/16/17
Sampler: CP
Employer: LCRA

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Field Information Form

Sample Date: 5/16/17
Sample Time: 1001
Sample ID: CBL340I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170516	0916	V= 3	9.6	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	20.44 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.14 (ft)	Pump Placement	34 (ft)

PH: 5.77 (STD) Specific Conductivity: 8286 uS/cm Sample Temp. 22.51 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Rad 226+228	N

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 0.51 ntu
Weather Conditions: Partly cloudy South west wind 10-15mph 75°
Other: Purge water is clear with No odor. Collected sample once water parameters ~~wer~~ stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-70
Date: 5/16/17
Sampler: CP
Employer: LCRA

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Field Information Form

Sample Date: 5/16/17
Sample Time: 1301
Sample ID: CBL341I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170516	1158	V= 5	15	9

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation		(ft/msl)	Land Surface Elevation		(ft/msl)
Depth to water From top of well casing =D_w	15.32	(ft)	Depth to water From land surface		(ft)
Groundwater Elevation			Groundwater Elevation		(ft/msl)
Well Depth = D	46.43	(ft)	Pump Placement	35	(ft)

PH: 5.54 (STD) Specific Conductivity: 6108 uS/cm Sample Temp. 22.18 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	250mL	ICE	Anions	N
P	4L	ICE	Rad 226+228	N
P	250mL	HNO_3	Metals Dup ~~641I~~ CB 5/16/17 CBL 641I	
P	500mL	ICE	Anions Dup CBL 641I	
P	4L	ICE	Rad 226+228 CBL 641I Dup	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 2.98

Weather Conditions: Partly Cloudy South west wind 10-15mph 83°.

Other: Purge water is clear with no odor. Collected Sample once parameter were stable

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS Ground water SOP 5-70

Date: 5/16/17

Sampler: CP

Employer: LCRA

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June 5, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1720361

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

T104704218

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SAMPLE SUMMARY

Workorder: Q1720361

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1720361001	CBL - 301I	Aqueous	5/18/2017 11:05	5/18/2017 16:05
Q1720361002	CBL - 302I	Aqueous	5/16/2017 14:21	5/18/2017 16:05
Q1720361003	CBL - 306I	Aqueous	5/18/2017 12:15	5/18/2017 16:05
Q1720361004	CBL - 308I	Aqueous	5/16/2017 11:20	5/18/2017 16:05
Q1720361005	CBL - 340I	Aqueous	5/16/2017 10:01	5/18/2017 16:05
Q1720361006	CBL - 341I	Aqueous	5/16/2017 13:01	5/18/2017 16:05
Q1720361007	CBL - 641I	Aqueous	5/16/2017 13:01	5/18/2017 16:05
Q1720361008	FB # 1	Aqueous	5/16/2017 14:25	5/18/2017 16:05
Q1720361009	EQ Blank	Aqueous	5/18/2017 11:15	5/18/2017 16:05

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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PROJECT SUMMARY

Workorder: Q1720361

Workorder Comments

Monitoring Well CBL - 641I is a duplicate sample for well CBL - 341I.

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361001**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	5/18/2017 11:05	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2420	mg/L	50.0	20.0		50	05/20/17 03:06	ML	05/20/17 03:06	ML	
Fluoride	<0.500	mg/L	0.500	0.200		50	05/20/17 03:06	ML	05/20/17 03:06	ML	
Sulfate	342	mg/L	50.0	20.0		50	05/20/17 03:06	ML	05/20/17 03:06	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/02/17 12:27	MM	06/05/17 14:22	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/26/17 14:16	MM	05/31/17 14:32	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/26/17 14:16	MM	05/31/17 14:32	SLW	
Chromium Total	0.0165	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:32	SLW	
Cobalt Total	0.00133	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:32	SLW	
Lead Total	0.00186	mg/L	0.00100	0.000400	0.015	1	05/26/17 14:16	MM	05/31/17 14:32	SLW	
Lithium Total	0.116	mg/L	0.00500	0.00200		5	05/26/17 14:16	MM	05/31/17 15:18	SLW	N
Molybdenum Total	0.00240	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:22	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/26/17 14:16	MM	05/31/17 14:32	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/26/17 14:16	MM	05/31/17 14:32	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	05/25/17 11:38	FO	05/26/17 13:59	FO	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6430	mg/L	250	250		100	05/24/17 09:13	CG	05/24/17 09:13	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0774	mg/L	0.0100	0.00400	2	1	05/30/17 08:43	MM	05/31/17 12:41	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361001**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	5/18/2017 11:05	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/30/17 08:43	MM	05/31/17 12:41	FO	
Boron Total	0.0707	mg/L	0.0500	0.0200		1	05/30/17 08:43	MM	05/31/17 12:41	FO	
Calcium Total	1060	mg/L	1.00	0.350		5	05/30/17 08:43	MM	05/31/17 14:00	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	25.92	C			1	05/18/17 11:05	JBW	05/18/17 11:05	JBW	N
pH	5.95	pH			1	05/18/17 11:05	JBW	05/18/17 11:05	JBW	N
Specific Conductance	7532	us/cm			1	05/18/17 11:05	JBW	05/18/17 11:05	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361002**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	5/16/2017 14:21	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2230	mg/L	50.0	20.0		50	05/20/17 03:22	ML	05/20/17 03:22	ML	
Fluoride	<0.500	mg/L	0.500	0.200		50	05/20/17 03:22	ML	05/20/17 03:22	ML	
Sulfate	1230	mg/L	50.0	20.0		50	05/20/17 03:22	ML	05/20/17 03:22	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/02/17 12:27	MM	06/05/17 14:08	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/26/17 14:16	MM	05/31/17 14:34	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/26/17 14:16	MM	05/31/17 14:34	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:34	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:34	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/26/17 14:16	MM	05/31/17 14:34	SLW	
Lithium Total	0.0611	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:34	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:08	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/26/17 14:16	MM	05/31/17 14:34	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/26/17 14:16	MM	05/31/17 14:34	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	05/25/17 11:38	FO	05/26/17 14:04	FO	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5860	mg/L	250	250		100	05/23/17 10:45	CG	05/23/17 10:45	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0275	mg/L	0.0100	0.00400	2	1	05/30/17 08:43	MM	05/31/17 12:21	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361002**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	5/16/2017 14:21	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/30/17 08:43	MM	05/31/17 12:21	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	05/30/17 08:43	MM	05/31/17 12:21	FO	
Calcium Total	1100	mg/L	1.00	0.350		5	05/30/17 08:43	MM	05/31/17 13:53	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1								
Temperature	21.52	C	1	05/16/17 14:21	CCP	05/16/17 14:21	CCP	N	
pH	4.94	pH	1	05/16/17 14:21	CCP	05/16/17 14:21	CCP	N	
Specific Conductance	7777	us/cm	1	05/16/17 14:21	CCP	05/16/17 14:21	CCP	N	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361003**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	5/18/2017 12:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	289	mg/L	25.0	10.0		25	05/20/17 03:39	ML	05/20/17 03:39	ML	
Fluoride	2.20	mg/L	0.250	0.100		25	05/20/17 03:39	ML	05/20/17 03:39	ML	
Sulfate	412	mg/L	25.0	10.0		25	05/20/17 03:39	ML	05/20/17 03:39	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/02/17 12:27	MM	06/05/17 14:10	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/26/17 14:16	MM	05/31/17 14:36	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/26/17 14:16	MM	05/31/17 14:36	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:36	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:36	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/26/17 14:16	MM	05/31/17 14:36	SLW	
Lithium Total	0.0325	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:36	SLW	N
Molybdenum Total	0.00195	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:10	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/26/17 14:16	MM	05/31/17 14:36	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/26/17 14:16	MM	05/31/17 14:36	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	05/25/17 11:38	FO	05/26/17 14:06	FO	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	1440	mg/L	125	125		50	05/24/17 09:13	CG	05/24/17 09:13	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0577	mg/L	0.0100	0.00400	2	1	05/30/17 08:43	MM	05/31/17 12:47	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361003**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	5/18/2017 12:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/30/17 08:43	MM	05/31/17 12:47	FO	
Boron Total	0.0832	mg/L	0.0500	0.0200		1	05/30/17 08:43	MM	05/31/17 12:47	FO	
Calcium Total	205	mg/L	0.200	0.0700		1	05/30/17 08:43	MM	05/31/17 12:47	FO	
Field Parameters											
Analysis Desc: TCEQ SOP V1			Preparation Method: TCEQ SOP V1								
			Analytical Method: TCEQ SOP V1								
Temperature	23.60	C				1	05/18/17 12:15	JBW	05/18/17 12:15	JBW	N
pH	5.61	pH				1	05/18/17 12:15	JBW	05/18/17 12:15	JBW	N
Specific Conductance	2151	us/cm				1	05/18/17 12:15	JBW	05/18/17 12:15	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361004**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	5/16/2017 11:20	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2740	mg/L	50.0	20.0		50	05/20/17 03:55	ML	05/20/17 03:55	ML	
Fluoride	1.70	mg/L	0.500	0.200		50	05/20/17 03:55	ML	05/20/17 03:55	ML	
Sulfate	1580	mg/L	50.0	20.0		50	05/20/17 03:55	ML	05/20/17 03:55	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/02/17 12:27	MM	06/05/17 14:11	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/26/17 14:16	MM	05/31/17 14:40	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/26/17 14:16	MM	05/31/17 14:40	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:40	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:40	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/26/17 14:16	MM	05/31/17 14:40	SLW	
Lithium Total	0.130	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:40	SLW	N
Molybdenum Total	0.00100	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:11	SLW	
Selenium Total	0.00779	mg/L	0.00500	0.00170	0.05	1	05/26/17 14:16	MM	05/31/17 14:40	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/26/17 14:16	MM	05/31/17 14:40	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	05/25/17 11:38	FO	05/26/17 14:08	FO	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	6590	mg/L	250	250		100	05/23/17 10:45	CG	05/23/17 10:45	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0494	mg/L	0.0100	0.00400	2	1	05/30/17 08:43	MM	05/31/17 12:54	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361004**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	5/16/2017 11:20	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/30/17 08:43	MM	05/31/17 12:54	FO	
Boron Total	0.109	mg/L	0.0500	0.0200		1	05/30/17 08:43	MM	05/31/17 12:54	FO	
Calcium Total	954	mg/L	1.00	0.350		5	05/30/17 08:43	MM	05/31/17 14:13	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	23.10	C				1	05/16/17 11:20	CCP	05/16/17 11:20	CCP	N
pH	5.54	pH				1	05/16/17 11:20	CCP	05/16/17 11:20	CCP	N
Specific Conductance	9697	us/cm				1	05/16/17 11:20	CCP	05/16/17 11:20	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361005**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	5/16/2017 10:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	2520	mg/L	50.0	20.0		50	05/20/17 04:12	ML	05/20/17 04:12	ML	
Fluoride	1.01	mg/L	0.500	0.200		50	05/20/17 04:12	ML	05/20/17 04:12	ML	
Sulfate	715	mg/L	50.0	20.0		50	05/20/17 04:12	ML	05/20/17 04:12	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/02/17 12:27	MM	06/05/17 14:12	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/26/17 14:16	MM	05/31/17 14:42	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/26/17 14:16	MM	05/31/17 14:42	SLW	
Chromium Total	0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:42	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:42	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/26/17 14:16	MM	05/31/17 14:42	SLW	
Lithium Total	0.101	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:42	SLW	N
Molybdenum Total	0.00248	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:12	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/26/17 14:16	MM	05/31/17 14:42	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/26/17 14:16	MM	05/31/17 14:42	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	05/25/17 11:38	FO	05/26/17 14:10	FO	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	5470	mg/L	250	250		100	05/23/17 10:45	CG	05/23/17 10:45	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0270	mg/L	0.0100	0.00400	2	1	05/30/17 08:43	MM	05/31/17 13:01	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361005**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	5/16/2017 10:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/30/17 08:43	MM	05/31/17 13:01	FO	
Boron Total	0.104	mg/L	0.0500	0.0200		1	05/30/17 08:43	MM	05/31/17 13:01	FO	
Calcium Total	584	mg/L	1.00	0.350		5	05/30/17 08:43	MM	05/31/17 14:20	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	22.51	C				1	05/16/17 10:01	JBW	05/16/17 10:01	JBW	N
pH	5.77	pH				1	05/16/17 10:01	JBW	05/16/17 10:01	JBW	N
Specific Conductance	8286	us/cm				1	05/16/17 10:01	JBW	05/16/17 10:01	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361006**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	5/16/2017 13:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1900	mg/L	50.0	20.0		50	05/20/17 04:29	ML	05/20/17 04:29	ML	
Fluoride	<0.500	mg/L	0.500	0.200		50	05/20/17 04:29	ML	05/20/17 04:29	ML	
Sulfate	369	mg/L	50.0	20.0		50	05/20/17 04:29	ML	05/20/17 04:29	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/02/17 12:27	MM	06/05/17 14:14	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/26/17 14:16	MM	05/31/17 14:44	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/26/17 14:16	MM	05/31/17 14:44	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:44	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:44	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/26/17 14:16	MM	05/31/17 14:44	SLW	
Lithium Total	0.0835	mg/L	0.00500	0.00200		5	05/26/17 14:16	MM	05/31/17 15:23	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:14	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/26/17 14:16	MM	05/31/17 14:44	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/26/17 14:16	MM	05/31/17 14:44	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	05/25/17 11:38	FO	05/26/17 14:12	FO	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4840	mg/L	250	250		100	05/23/17 10:45	CG	05/23/17 10:45	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0706	mg/L	0.0100	0.00400	2	1	05/30/17 08:43	MM	05/31/17 13:07	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361006**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	5/16/2017 13:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/30/17 08:43	MM	05/31/17 13:07	FO	
Boron Total	0.0896	mg/L	0.0500	0.0200		1	05/30/17 08:43	MM	05/31/17 13:07	FO	
Calcium Total	860	mg/L	1.00	0.350		5	05/30/17 08:43	MM	05/31/17 14:26	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	22.18	C				1	05/16/17 13:01	JBW	05/16/17 13:01	JBW	N
pH	5.54	pH				1	05/16/17 13:01	JBW	05/16/17 13:01	JBW	N
Specific Conductance	6108	us/cm				1	05/16/17 13:01	JBW	05/16/17 13:01	JBW	N

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361007**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	5/16/2017 13:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	1870	mg/L	50.0	20.0		50	05/20/17 04:45	ML	05/20/17 04:45	ML	
Fluoride	<0.500	mg/L	0.500	0.200		50	05/20/17 04:45	ML	05/20/17 04:45	ML	
Sulfate	360	mg/L	50.0	20.0		50	05/20/17 04:45	ML	05/20/17 04:45	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/02/17 12:27	MM	06/05/17 14:23	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/26/17 14:16	MM	05/31/17 14:45	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/26/17 14:16	MM	05/31/17 14:45	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:45	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:45	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/26/17 14:16	MM	05/31/17 14:45	SLW	
Lithium Total	0.0821	mg/L	0.00500	0.00200		5	05/26/17 14:16	MM	05/31/17 15:25	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:23	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/26/17 14:16	MM	05/31/17 14:45	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/26/17 14:16	MM	05/31/17 14:45	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	05/25/17 11:38	FO	05/26/17 14:14	FO	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4330	mg/L	250	250		100	05/23/17 10:45	CG	05/23/17 10:45	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	0.0685	mg/L	0.0100	0.00400	2	1	05/30/17 08:43	MM	05/31/17 13:15	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361007**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	5/16/2017 13:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/30/17 08:43	MM	05/31/17 13:15	FO	
Boron Total	0.0729	mg/L	0.0500	0.0200		1	05/30/17 08:43	MM	05/31/17 13:15	FO	
Calcium Total	821	mg/L	1.00	0.350		5	05/30/17 08:43	MM	05/31/17 14:32	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361008**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	5/16/2017 14:25	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	05/20/17 05:02	ML	05/20/17 05:02	ML	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	05/20/17 05:02	ML	05/20/17 05:02	ML	
Sulfate	<1.00	mg/L	1.00	0.400		1	05/20/17 05:02	ML	05/20/17 05:02	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/02/17 12:27	MM	06/05/17 14:02	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/26/17 14:16	MM	05/31/17 14:47	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/26/17 14:16	MM	05/31/17 14:47	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:47	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:47	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/26/17 14:16	MM	05/31/17 14:47	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:02	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:02	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/26/17 14:16	MM	05/31/17 14:47	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/26/17 14:16	MM	05/31/17 14:47	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	05/25/17 11:38	FO	05/26/17 14:15	FO	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<2500	mg/L	2500	2500		1000	05/23/17 10:45	CG	05/23/17 10:45	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	05/30/17 08:43	MM	05/31/17 13:28	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361008**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	5/16/2017 14:25	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/30/17 08:43	MM	05/31/17 13:28	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	05/30/17 08:43	MM	05/31/17 13:28	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	05/30/17 08:43	MM	05/31/17 13:28	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361009**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	5/18/2017 11:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions Analytical Method: E300.0, Anions										
Chloride	<1.00	mg/L	1.00	0.400		1	05/20/17 05:18	ML	05/20/17 05:18	ML	
Fluoride	<0.0100	mg/L	0.0100	0.00400		1	05/20/17 05:18	ML	05/20/17 05:18	ML	
Sulfate	<1.00	mg/L	1.00	0.400		1	05/20/17 05:18	ML	05/20/17 05:18	ML	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	06/02/17 12:27	MM	06/05/17 14:03	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	05/26/17 14:16	MM	05/31/17 14:49	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	05/26/17 14:16	MM	05/31/17 14:49	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:49	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	05/26/17 14:16	MM	05/31/17 14:49	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	05/26/17 14:16	MM	05/31/17 14:49	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:03	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	06/02/17 12:27	MM	06/05/17 14:03	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	05/26/17 14:16	MM	05/31/17 14:49	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	05/26/17 14:16	MM	05/31/17 14:49	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	05/25/17 11:38	FO	05/26/17 14:17	FO	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	<25.0	mg/L	25.0	25.0		10	05/24/17 09:13	CG	05/24/17 09:13	CG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	05/30/17 08:43	MM	05/31/17 13:34	FO	

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ANALYTICAL RESULTS

Workorder: Q1720361

Lab ID:	**Q1720361009**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	5/18/2017 11:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	05/30/17 08:43	MM	05/31/17 13:34	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	05/30/17 08:43	MM	05/31/17 13:34	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	05/30/17 08:43	MM	05/31/17 13:34	FO	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1720361

PARAMETER QUALIFIERS

Lab ID: Q1720361001

N Not Accredited

Lab ID: Q1720361002

N Not Accredited

Lab ID: Q1720361003

N Not Accredited

Lab ID: Q1720361004

N Not Accredited

Lab ID: Q1720361005

N Not Accredited

Lab ID: Q1720361006

N Not Accredited

Lab ID: Q1720361007

N Not Accredited

Lab ID: Q1720361008

N Not Accredited

Lab ID: Q1720361009

N Not Accredited

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QUALITY CONTROL DATA

Workorder: Q1720361

QC Batch: WET/14004 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1720361001, Q1720361002, Q1720361003, Q1720361004, Q1720361005, Q1720361006, Q1720361007, Q1720361008, Q1720361009

METHOD BLANK: 855805

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Fluoride	mg/L	<0.0100	0.0100	
Sulfate	mg/L	<1.00	1.00	

LABORATORY CONTROL SAMPLE: 855806

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	30.8	103	90 - 110	
Fluoride	mg/L	1	1.05	105	90 - 110	
Sulfate	mg/L	30	30.4	101	90 - 110	

MATRIX SPIKE: 855807 DUPLICATE: 855808 ORIGINAL: Q1720488003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	mg/L	64.9	100	171	171	106	106	80 - 120	0	20	
Fluoride	mg/L	5.67	5	10.7	10.7	101	101	80 - 120	0	20	
Sulfate	mg/L	89.2	100	195	195	106	106	80 - 120	0	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1720361

QC Batch: WET/14049 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1720361002, Q1720361004, Q1720361005, Q1720361006, Q1720361007, Q1720361008

METHOD BLANK: 856271

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 856272

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	400	369	373	92.2	93.2	80 - 120	1.08	20	

MATRIX SPIKE SAMPLE: 856483 ORIGINAL: Q1720162001

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	451	400	784	83.2	70 - 130	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1720361

QC Batch: WET/14062 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1720361001, Q1720361003, Q1720361009

METHOD BLANK: 857055

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 857056

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	400	361	385	90.2	96.2	80 - 120	6.43	20	

MATRIX SPIKE SAMPLE: 857091 ORIGINAL: Q1720586003

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	124	400	502	94.5	70 - 130	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1720361

QC Batch: MEP/7050 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1720361001, Q1720361002, Q1720361003, Q1720361004, Q1720361005, Q1720361006, Q1720361007, Q1720361008, Q1720361009

METHOD BLANK: 858722

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 858723

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	2.13	2.01	107	100	85 - 115	5.8	20	

MATRIX SPIKE: 858725 DUPLICATE: 858726 ORIGINAL: Q1720361002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	1.8	1.78	89.8	89.2	70 - 130	1.12	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1720361

QC Batch: MEP/7058 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1720361001, Q1720361002, Q1720361003, Q1720361004, Q1720361005, Q1720361006, Q1720361007, Q1720361008, Q1720361009

LABORATORY CONTROL SAMPLE: 860290

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Arsenic Total	mg/L	.05	.05	.05	96.8	98.9	85 - 115	2.25	20	
Cadmium Total	mg/L	.05	.05	.05	98.7	99.3	85 - 115	.607	20	
Chromium Total	mg/L	.05	.05	.05	99.7	99.6	85 - 115	.201	20	
Cobalt Total	mg/L	.05	.05	.05	99.1	101	85 - 115	1.8	20	
Lead Total	mg/L	.05	.05	.05	98.2	99.4	85 - 115	1.21	20	
Lithium Total	mg/L	.05	.05	.05	99.3	109	85 - 115	9.05	20	
Selenium Total	mg/L	.25	.24	.24	94.7	95.2	85 - 115	.421	20	
Thallium Total	mg/L	.05	.05	.05	95.3	97	85 - 115	1.66	20	

METHOD BLANK: 860292

Parameter	Units	Blank Result	Reporting Limit	Qual
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

MATRIX SPIKE: 860293 DUPLICATE: 860294 ORIGINAL: Q1720361003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Arsenic Total	mg/L	0	.05	.05	.05	95.5	100	70 - 130	4.9	20	
Cadmium Total	mg/L	0	.05	.05	.05	97.2	99.5	70 - 130	2.44	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1720361

MATRIX SPIKE: 860293 DUPLICATE: 860294 ORIGINAL: Q1720361003

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chromium Total	mg/L	0	.05	.05	.05	97.2	99.6	70 - 130	2.44	20	
Cobalt Total	mg/L	0	.05	.05	.05	94.7	99.5	70 - 130	4.94	20	
Lead Total	mg/L	0	.05	.05	.05	99	103	70 - 130	3.57	20	
Lithium Total	mg/L	.03	.05	.09	.09	109	107	70 - 130	1.16	20	
Selenium Total	mg/L	0	.25	.23	.24	90.3	94.2	70 - 130	3.9	20	
Thallium Total	mg/L	0	.05	.05	.05	97.2	100	70 - 130	3.04	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1720361

QC Batch: MEP/7059 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1720361001, Q1720361002, Q1720361003, Q1720361004, Q1720361005, Q1720361006, Q1720361007, Q1720361008, Q1720361009

LABORATORY CONTROL SAMPLE: 860295

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	.98	.99	97.8	98.5	80 - 120	.713	20	
Beryllium Total	mg/L	1	1.01	1.02	101	102	80 - 120	.985	20	
Boron Total	mg/L	1	.96	.97	96.3	96.8	80 - 120	.518	20	
Calcium Total	mg/L	10	10.5	10.6	105	106	80 - 120	.948	20	

METHOD BLANK: 860297

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	<0.0500	0.0500	
Calcium Total	mg/L	<0.200	0.200	

MATRIX SPIKE: 860298 DUPLICATE: 860299 ORIGINAL: Q1720361002

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.03	1	1.04	1.06	101	103	75 - 125	1.9	20	
Beryllium Total	mg/L	0	1	1.01	1.05	101	105	75 - 125	3.88	20	
Boron Total	mg/L	.02	1	.98	1.01	97.7	101	75 - 125	3.32	20	
Calcium Total	***mg/L***	***1100***	***10***	***1030***	***1050***	***-713***	***-440***	***75 - 125***	***1.92***	***20***	***S***

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1720361

QC Batch: MEP/7082 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1720361001, Q1720361002, Q1720361003, Q1720361004, Q1720361005, Q1720361006, Q1720361007, Q1720361008, Q1720361009

LABORATORY CONTROL SAMPLE: 863445

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.04	.05	87.2	98.8	85 - 115	12.5	20	
Lithium Total	mg/L	.05	.05	.05	90.1	110	85 - 115	19.8	20	
Molybdenum Total	mg/L	.05	.05	.05	92.6	105	85 - 115	12.9	20	

METHOD BLANK: 863447

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	

MATRIX SPIKE: 863533 DUPLICATE: 863534 ORIGINAL: Q1720361009

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Antimony Total	mg/L	0	.05	.05	.05	90.8	102	70 - 130	11.6	20	
Lithium Total	mg/L	0	.05	.05	.05	96.8	97.2	70 - 130	.412	20	
Molybdenum Total	mg/L	0	.05	.05	.05	95.5	107	70 - 130	11.1	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1720361

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1720361001	CBL - 301I			E300.0, Anions	WET/14004
Q1720361002	CBL - 302I			E300.0, Anions	WET/14004
Q1720361003	CBL - 306I			E300.0, Anions	WET/14004
Q1720361004	CBL - 308I			E300.0, Anions	WET/14004
Q1720361005	CBL - 340I			E300.0, Anions	WET/14004
Q1720361006	CBL - 341I			E300.0, Anions	WET/14004
Q1720361007	CBL - 641I			E300.0, Anions	WET/14004
Q1720361008	FB # 1			E300.0, Anions	WET/14004
Q1720361009	EQ Blank			E300.0, Anions	WET/14004
Q1720361002	CBL - 302I			SM2540C, TDS	WET/14049
Q1720361004	CBL - 308I			SM2540C, TDS	WET/14049
Q1720361005	CBL - 340I			SM2540C, TDS	WET/14049
Q1720361006	CBL - 341I			SM2540C, TDS	WET/14049
Q1720361007	CBL - 641I			SM2540C, TDS	WET/14049
Q1720361008	FB # 1			SM2540C, TDS	WET/14049
Q1720361001	CBL - 301I			SM2540C, TDS	WET/14062
Q1720361003	CBL - 306I			SM2540C, TDS	WET/14062
Q1720361009	EQ Blank			SM2540C, TDS	WET/14062
Q1720361001	CBL - 301I	SW7470A Hg in Liquid Waste	MEP/7050	SW7470A Hg in Liquid Waste	MET/5542
Q1720361002	CBL - 302I	SW7470A Hg in Liquid Waste	MEP/7050	SW7470A Hg in Liquid Waste	MET/5542
Q1720361003	CBL - 306I	SW7470A Hg in Liquid Waste	MEP/7050	SW7470A Hg in Liquid Waste	MET/5542
Q1720361004	CBL - 308I	SW7470A Hg in Liquid Waste	MEP/7050	SW7470A Hg in Liquid Waste	MET/5542
Q1720361005	CBL - 340I	SW7470A Hg in Liquid Waste	MEP/7050	SW7470A Hg in Liquid Waste	MET/5542
Q1720361006	CBL - 341I	SW7470A Hg in Liquid Waste	MEP/7050	SW7470A Hg in Liquid Waste	MET/5542
Q1720361007	CBL - 641I	SW7470A Hg in Liquid Waste	MEP/7050	SW7470A Hg in Liquid Waste	MET/5542
Q1720361008	FB # 1	SW7470A Hg in Liquid Waste	MEP/7050	SW7470A Hg in Liquid Waste	MET/5542
Q1720361009	EQ Blank	SW7470A Hg in Liquid Waste	MEP/7050	SW7470A Hg in Liquid Waste	MET/5542

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3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1720361

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1720361001	CBL - 301I	SW3010A, Metals Prep	MEP/7058	SW6020 ICP-MS	MET/5544
Q1720361002	CBL - 302I	SW3010A, Metals Prep	MEP/7058	SW6020 ICP-MS	MET/5544
Q1720361003	CBL - 306I	SW3010A, Metals Prep	MEP/7058	SW6020 ICP-MS	MET/5544
Q1720361004	CBL - 308I	SW3010A, Metals Prep	MEP/7058	SW6020 ICP-MS	MET/5544
Q1720361005	CBL - 340I	SW3010A, Metals Prep	MEP/7058	SW6020 ICP-MS	MET/5544
Q1720361006	CBL - 341I	SW3010A, Metals Prep	MEP/7058	SW6020 ICP-MS	MET/5544
Q1720361007	CBL - 641I	SW3010A, Metals Prep	MEP/7058	SW6020 ICP-MS	MET/5544
Q1720361008	FB # 1	SW3010A, Metals Prep	MEP/7058	SW6020 ICP-MS	MET/5544
Q1720361009	EQ Blank	SW3010A, Metals Prep	MEP/7058	SW6020 ICP-MS	MET/5544
Q1720361001	CBL - 301I	SW3010A, Metals Prep	MEP/7059	SW6010B ICP-AES	MET/5543
Q1720361002	CBL - 302I	SW3010A, Metals Prep	MEP/7059	SW6010B ICP-AES	MET/5543
Q1720361003	CBL - 306I	SW3010A, Metals Prep	MEP/7059	SW6010B ICP-AES	MET/5543
Q1720361004	CBL - 308I	SW3010A, Metals Prep	MEP/7059	SW6010B ICP-AES	MET/5543
Q1720361005	CBL - 340I	SW3010A, Metals Prep	MEP/7059	SW6010B ICP-AES	MET/5543
Q1720361006	CBL - 341I	SW3010A, Metals Prep	MEP/7059	SW6010B ICP-AES	MET/5543
Q1720361007	CBL - 641I	SW3010A, Metals Prep	MEP/7059	SW6010B ICP-AES	MET/5543
Q1720361008	FB # 1	SW3010A, Metals Prep	MEP/7059	SW6010B ICP-AES	MET/5543
Q1720361009	EQ Blank	SW3010A, Metals Prep	MEP/7059	SW6010B ICP-AES	MET/5543
Q1720361001	CBL - 301I	SW3010A, Metals Prep	MEP/7082	SW6020 ICP-MS	MET/5554
Q1720361002	CBL - 302I	SW3010A, Metals Prep	MEP/7082	SW6020 ICP-MS	MET/5554
Q1720361003	CBL - 306I	SW3010A, Metals Prep	MEP/7082	SW6020 ICP-MS	MET/5554
Q1720361004	CBL - 308I	SW3010A, Metals Prep	MEP/7082	SW6020 ICP-MS	MET/5554
Q1720361005	CBL - 340I	SW3010A, Metals Prep	MEP/7082	SW6020 ICP-MS	MET/5554
Q1720361006	CBL - 341I	SW3010A, Metals Prep	MEP/7082	SW6020 ICP-MS	MET/5554
Q1720361007	CBL - 641I	SW3010A, Metals Prep	MEP/7082	SW6020 ICP-MS	MET/5554
Q1720361008	FB # 1	SW3010A, Metals Prep	MEP/7082	SW6020 ICP-MS	MET/5554
Q1720361009	EQ Blank	SW3010A, Metals Prep	MEP/7082	SW6020 ICP-MS	MET/5554

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Q172 0361

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:
Client PO:

Project:	FPP - CCR Wells - May 2017	Client:	LCRA
Collector:	Colt Petrl / Jason Woods	Contact:	
Event#:	1362705 / 4496	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	500PU	250PHNO3							6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28						
						Container(s) Type/Preservative/Number *										Requested Analysis *											
001	1	CBL - 301I	5/16/17	1105	AQ	N	N	1	1							X	X	X	X	X	X						
002	2	CBL - 302I	5/16/17	1421	AQ			1	1							X	X	X	X	X	X						
003	3	CBL - 306I	5/18/17	1215	AQ			1	1							X	X	X	X	X	X						
004	4	CBL - 308I	5/16/17	1120	AQ			1	1							X	X	X	X	X	X						
005	5	CBL - 340I	5/16/17	1001	AQ			1	1							X	X	X	X	X	X						
006	6	CBL - 341I	5/16/17	1301	AQ			1	1							X	X	X	X	X	X						
007	7	CBL - 641I	5/16/17	1301	AQ			1	1							X	X	X	X	X	X						
008	8	FB # 1	5/16/17	1425	AQ			1	1							X	X	X	X	X	X						
009	9	EQ Blank	5/18/17	1115	AQ			1	1							X	X	X	X	X	X						

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Colt Petrl	5/16/17 1600	[illegible]	5/16/17 1600
2	[illegible]	5/18/17 1605	[illegible]	5/18/17 1605
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	22.2	22°C
2			

Client Special Instructions:

Lab Use Only:

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Q172036 263049

FPP - Groundwater Purge Data - CCR Wells - May 2017

Date M/D/Y	Time HH:MM:SS	Temp C	DO mg/L	DOsat %	pH	SpCond uS	Orp mV	Monitoring Well
5/16/2017	9:16:42	22.89	6.23	74.5	6.92	8382	238.7	CBL - 340I
5/16/2017	9:19:42	22.48	4.47	53.0	6.48	8555	266.7	CBL - 340I
5/16/2017	9:22:42	22.52	4.63	54.9	6.35	8555	292.8	CBL - 340I
5/16/2017	9:25:42	22.53	4.88	57.9	6.27	8565	313.3	CBL - 340I
5/16/2017	9:28:42	22.61	4.67	55.6	6.14	8549	346.4	CBL - 340I
5/16/2017	9:31:42	22.69	5.14	61.3	6.01	8535	374.5	CBL - 340I
5/16/2017	9:34:42	22.54	5.23	62.1	5.86	8524	406.6	CBL - 340I
5/16/2017	9:37:42	22.54	5.16	61.3	5.85	8490	422.8	CBL - 340I
5/16/2017	9:40:42	22.58	5.10	60.7	5.89	8465	426.1	CBL - 340I
5/16/2017	9:43:42	22.68	5.15	61.3	5.89	8420	433.0	CBL - 340I
5/16/2017	9:46:42	22.75	5.18	61.7	5.70	8400	447.1	CBL - 340I
5/16/2017	9:49:42	22.57	5.10	60.6	5.57	8383	466.5	CBL - 340I
5/16/2017	9:52:42	22.56	5.05	59.9	5.62	8357	472.1	CBL - 340I
5/16/2017	9:55:42	22.61	5.05	60.0	5.71	8330	470.9	CBL - 340I
5/16/2017	9:58:42	22.55	4.97	58.9	5.71	8282	475.6	CBL - 340I
5/16/2017	10:01:33	22.51	4.91	58.2	5.77	8286	477.1	CBL - 340I
5/16/2017	10:41:03	25.58	4.60	58.0	6.44	9886	348.4	CBL - 308I
5/16/2017	10:44:03	23.13	3.07	37.0	6.15	9755	372.8	CBL - 308I
5/16/2017	10:47:03	22.99	2.95	35.5	6.08	9741	389.8	CBL - 308I
5/16/2017	10:50:03	23.07	2.65	32.0	6.04	9726	400.2	CBL - 308I
5/16/2017	10:53:03	23.25	2.73	33.0	5.98	9730	409.2	CBL - 308I
5/16/2017	10:56:03	23.34	2.79	33.7	5.88	9722	427.2	CBL - 308I
5/16/2017	10:59:03	23.19	2.62	31.6	5.76	9702	449.1	CBL - 308I
5/16/2017	11:02:03	23.33	2.65	32.0	5.62	9691	456.7	CBL - 308I
5/16/2017	11:05:03	23.22	2.77	33.5	5.57	9706	466.3	CBL - 308I
5/16/2017	11:08:03	23.21	2.73	33.0	5.57	9679	474.3	CBL - 308I
5/16/2017	11:11:03	23.46	2.82	34.2	5.60	9666	471.2	CBL - 308I
5/16/2017	11:14:03	23.30	2.76	33.4	5.51	9702	478.5	CBL - 308I
5/16/2017	11:17:02	23.22	2.65	32.1	5.48	9686	486.4	CBL - 308I
5/16/2017	11:20:02	23.10	2.57	30.9	5.54	9697	490.4	CBL - 308I
5/16/2017	12:03:52	21.95	3.54	41.3	5.70	6054	423.1	CBL - 341I
5/16/2017	12:06:52	21.97	3.48	40.5	5.68	6055	440.7	CBL - 341I
5/16/2017	12:09:52	21.98	3.32	38.7	5.61	6081	456.5	CBL - 341I
5/16/2017	12:12:52	21.98	3.15	36.8	5.60	6097	470.2	CBL - 341I
5/16/2017	12:15:52	21.96	3.06	35.6	5.61	6097	478.0	CBL - 341I
5/16/2017	12:18:52	22.01	3.02	35.3	5.61	6103	479.5	CBL - 341I
5/16/2017	12:21:52	22.05	3.01	35.1	5.56	6107	484.7	CBL - 341I
5/16/2017	12:24:52	22.04	3.01	35.1	5.49	6109	493.7	CBL - 341I
5/16/2017	12:27:52	22.08	2.98	34.8	5.45	6094	502.1	CBL - 341I
5/16/2017	12:30:52	22.05	3.01	35.2	5.48	6102	506.9	CBL - 341I

5/16/2017	12:33:52	22.05	2.96	34.6	5.50	6101	512.1	CBL - 341I
5/16/2017	12:36:52	22.04	2.93	34.2	5.55	6101	512.2	CBL - 341I
5/16/2017	12:39:52	22.02	2.90	33.9	5.58	6102	511.8	CBL - 341I
5/16/2017	12:42:52	22.05	2.86	33.3	5.62	6102	509.9	CBL - 341I
5/16/2017	12:45:52	22.11	2.98	34.8	5.65	6091	507.9	CBL - 341I
5/16/2017	12:48:52	22.06	2.97	34.6	5.63	6099	510.1	CBL - 341I
5/16/2017	12:51:52	22.02	2.95	34.4	5.64	6103	513.6	CBL - 341I
5/16/2017	12:54:52	22.07	2.94	34.3	5.67	6095	513.4	CBL - 341I
5/16/2017	12:57:52	22.23	3.01	35.2	5.64	6099	509.8	CBL - 341I
5/16/2017	13:01:14	22.18	3.08	36.0	5.54	6108	516.7	CBL - 341I
5/16/2017	13:45:04	24.12	5.84	71.3	6.34	7930	360.9	CBL - 302I
5/16/2017	13:48:04	21.69	2.70	31.4	5.60	7827	408.1	CBL - 302I
5/16/2017	13:51:04	21.54	2.54	29.5	5.44	7800	435.9	CBL - 302I
5/16/2017	13:54:04	21.50	2.39	27.8	5.37	7796	444.2	CBL - 302I
5/16/2017	13:57:04	21.50	2.37	27.6	5.17	7797	449.6	CBL - 302I
5/16/2017	14:00:04	21.54	2.20	25.6	5.15	7788	447.2	CBL - 302I
5/16/2017	14:03:04	21.56	2.32	27.0	5.13	7790	446.4	CBL - 302I
5/16/2017	14:06:04	21.59	2.47	28.8	5.07	7790	432.2	CBL - 302I
5/16/2017	14:09:04	21.57	2.34	27.2	4.94	7788	421.7	CBL - 302I
5/16/2017	14:12:04	21.47	2.18	25.4	4.84	7788	445.0	CBL - 302I
5/16/2017	14:15:04	21.52	2.18	25.3	4.86	7779	458.5	CBL - 302I
5/16/2017	14:18:04	21.52	2.16	25.1	4.92	7782	462.7	CBL - 302I
5/16/2017	14:21:10	21.52	2.15	25.0	4.94	7777	457.8	CBL - 302I
5/18/2017	10:45:39	23.47	5.64	67.8	6.55	7301	244.6	CBL - 301I
5/18/2017	10:45:50	23.24	5.28	63.2	6.43	7457	235.9	CBL - 301I
5/18/2017	10:46:06	22.99	5.10	60.9	6.31	7562	221.0	CBL - 301I
5/18/2017	10:47:05	22.82	4.76	56.7	6.14	7598	190.7	CBL - 301I
5/18/2017	10:50:05	23.41	5.30	63.7	6.01	7527	152.1	CBL - 301I
5/18/2017	10:53:05	24.46	5.06	62.0	5.97	7516	141.5	CBL - 301I
5/18/2017	10:56:05	25.07	4.64	57.6	5.97	7527	142.7	CBL - 301I
5/18/2017	10:59:05	25.48	4.61	57.6	5.98	7517	147.9	CBL - 301I
5/18/2017	11:02:05	25.70	4.64	58.3	5.97	7510	154.8	CBL - 301I
5/18/2017	11:05:05	25.92	4.78	60.2	5.95	7532	160.2	CBL - 301I
5/18/2017	11:48:02	23.83	7.62	91.0	6.55	2924	154.7	CBL - 306I
5/18/2017	11:48:09	23.75	7.61	90.8	6.53	2899	156.6	CBL - 306I
5/18/2017	11:48:17	23.69	7.61	90.7	6.52	2880	158.3	CBL - 306I
5/18/2017	11:51:17	22.80	7.88	92.2	6.28	2607	214.3	CBL - 306I
5/18/2017	11:54:17	22.82	8.02	93.9	6.20	2520	269.7	CBL - 306I
5/18/2017	11:57:17	22.92	8.05	94.4	6.10	2429	325.1	CBL - 306I
5/18/2017	12:00:17	23.13	8.14	95.8	5.98	2352	378.3	CBL - 306I
5/18/2017	12:03:17	23.15	8.15	95.9	5.82	2299	428.7	CBL - 306I
5/18/2017	12:06:17	23.32	8.21	97.0	5.76	2295	460.8	CBL - 306I
5/18/2017	12:09:17	23.50	8.25	97.7	5.66	2211	486.4	CBL - 306I
5/18/2017	12:12:17	23.60	8.33	98.8	5.61	2151	504.5	CBL - 306I

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Field Information Form

Sample Date: 5/18/17
Sample Time: 1105
Sample ID: CBL301I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170518		V= 3.1	9.2	3

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated | Y | | N | Sampling Equipment ..... Dedicated | Y | | N |

Purging Device	A	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	A	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	E	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	E	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	E	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	E	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	35.27 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	54.10 (ft)	Pump Placement	50 (ft)

PH: 5.95 (STD) Specific Conductivity: 7532 uS/cm Sample Temp. 25.92 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	metals	N
P	500mL	ICE	Anions	N
P	4-L	ICE	Radium 226 + 228	N
P	500mL	ICE	EQ Blank - @ 1115 on 5/18/17	N
P	250mL	HNO_3	EQ Blank	
P	4-L	ICE	EQ Blank	

Sample Appearance: Slightly Cloudy Odor: none Color: Clear Turbidity: 46.1 ntu
Weather Conditions: Cloudy, 10mph E wind, 80°
Other: Purge water is milky white, cleared up after 2 gallons. Cleared up and collected after Field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS-Groundwater SOP 5-70
Date: 5/18/17
Sampler: Jason Woods
Employer: LCRA

(4)

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 5/16/17
Sample Time: 1421
Sample ID: CBL302I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170516	1350	V= 3	9	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) N
Sampling Equipment ..... Dedicated (Y) N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- ____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- ____ (Specify)

FIELD MEASUREMENTS

Well Elevation		(ft/msl)	Land Surface Elevation		(ft/msl)
Depth to water From top of well casing =D_w	9.78	(ft)	Depth to water From land surface		(ft)
Groundwater Elevation			Groundwater Elevation		(ft/msl)
Well Depth = D	27.11	(ft)	Pump Placement	25	(ft)

PH: 4.94 (STD)
Specific Conductivity: 7777 uS/cm
Sample Temp. 21.52 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Rad 226+228	N
P	250mL	HNO_3	Field Blank metals	N
P	500mL	ICE	Field Blank Anions	
P	4L	ICE	Field Blank Rad 226+228	

Sample Appearance: Clear Odor: None Color: Clear Turbidity: 0.69 ntu
Weather Conditions: Partly Cloudy South west wind 10-15mph 90°
Other: Purge water is clear with no odor. Samples Collected once paramater were stable

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: EQS Groundwater SOP 5.7P
Date: 5/16/17
Sampler: CP
Employer: LCRA

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Field Information Form

Sample Date: 5/18/17
Sample Time: 1215
Sample ID: CBL306I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170518		V= 1.1	3.4	3

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) / N
Sampling Equipment ..... Dedicated (Y) / N

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- ____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- NA. (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	7.80 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	14.80 (ft)	Pump Placement	14 (ft)

PH: 5.61 (STD)
Specific Conductivity: 2151 uS/cm
Sample Temp. 23.60 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	HNO_3	Radium 226 + Radium 228	N

Sample Appearance: Clear Odor: none Color: clear Turbidity: 1.52 ntu
Weather Conditions: Partly Cloudy 10 mph E wind, 85°
Other: Purge water is clear w/ no odor, collected samples after field parameters stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____
If No, Explain ____

Procedure: ELS-Groundwater SOP 5-7D
Date: 5/18/17
Sampler: Jason Woods
Employer: LCRA

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Field Information Form

Sample Date: 5/16/17
Sample Time: 1120
Sample ID: CBL308I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170516	1050	V= 2	6	5

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- _____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	24.09 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	35.25 (ft)	Pump Placement	32 (ft)

PH: 5.54 (STD) Specific Conductivity: 9697 uS/cm Sample Temp. 23.10 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	~~Y~~ N
P	500mL	ICE	Anions	N
P	4L	ICE	Rad 226+228	N

Sample Appearance: Clear Odor: none Color: clear Turbidity: 0.37
Weather Conditions: Partly Cloud South West wind 10-15mph 78°
Other: Purge water clear with No odor. Collected samples once parameter were stable

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Ground water SOP 5.70
Date: 5/16/17
Sampler: CP
Employer: LCRA

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Field Information Form

Sample Date: 5/16/17
Sample Time: 1001
Sample ID: CBL340I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170516	0916	V= 3	9.6	6

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing =D_w	20.44 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	40.14 (ft)	Pump Placement	34 (ft)

PH: 5.77 (STD) Specific Conductivity: 8286 uS/cm Sample Temp. 22.51 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	500mL	ICE	Anions	N
P	4L	ICE	Rad 226+228	N

Sample Appearance: Clear Odor: none Color: Clear Turbidity: 0.51 ntu
Weather Conditions: Partly cloudy South west wind 10-15mph 75°
Other: Purge water is clear with No odor. Collected sample once water parameters ~~wer~~ stabilized.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where
V= volume of standing water in well
D= depth to bottom of well below measuring point
D_w=depth to water below measuring point
A= cross sectional area
2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____
If No, Explain _____

Procedure: ELS Groundwater SOP 5-70
Date: 5/16/17
Sampler: CP
Employer: LCRA

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Field Information Form

Sample Date: 5/16/17
Sample Time: 1301
Sample ID: CBL341I

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170516	1158	V= 5	15	9

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- _____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	X- _____ Sampling Other (Specify)
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- _____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- _____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- _____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- _____ Sampling Other (Specify)

C-Rope X- _____ (Specify)

FIELD MEASUREMENTS

Well Elevation		(ft/msl)	Land Surface Elevation		(ft/msl)
Depth to water From top of well casing =D_w	15.32	(ft)	Depth to water From land surface		(ft)
Groundwater Elevation			Groundwater Elevation		(ft/msl)
Well Depth = D	46.43	(ft)	Pump Placement	35	(ft)

PH: 5.54 (STD) Specific Conductivity: 6108 uS/cm Sample Temp. 22.18 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	250mL	HNO_3	Metals	N
P	250mL	ICE	Anions	N
P	4L	ICE	Rad 226+228	N
P	250mL	HNO_3	Metals Dup ~~641I~~ CB 5/16/17 CBL 641I	
P	500mL	ICE	Anions Dup CBL 641I	
P	4L	ICE	Rad 226+228 CBL 641I Dup	

Sample Appearance: Clear Odor: none Color: clear Turbidity: 2.98

Weather Conditions: Partly Cloudy South west wind 10-15mph 83°.

Other: Purge water is clear with no odor. Collected Sample once parameter were stable

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No _____

If No, Explain _____

Procedure: ELS Ground water SOP 5-70

Date: 5/16/17

Sampler: CP

Employer: LCRA

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FPP - Groundwater Purge Data - CCR Wells - May 2017

Date M/D/Y	Time HH:MM:SS	Temp C	DO mg/L	DOsat %	pH	SpCond uS	Orp mV	Monitoring Well
5/16/2017	9:16:42	22.89	6.23	74.5	6.92	8382	238.7	CBL - 340I
5/16/2017	9:19:42	22.48	4.47	53.0	6.48	8555	266.7	CBL - 340I
5/16/2017	9:22:42	22.52	4.63	54.9	6.35	8555	292.8	CBL - 340I
5/16/2017	9:25:42	22.53	4.88	57.9	6.27	8565	313.3	CBL - 340I
5/16/2017	9:28:42	22.61	4.67	55.6	6.14	8549	346.4	CBL - 340I
5/16/2017	9:31:42	22.69	5.14	61.3	6.01	8535	374.5	CBL - 340I
5/16/2017	9:34:42	22.54	5.23	62.1	5.86	8524	406.6	CBL - 340I
5/16/2017	9:37:42	22.54	5.16	61.3	5.85	8490	422.8	CBL - 340I
5/16/2017	9:40:42	22.58	5.10	60.7	5.89	8465	426.1	CBL - 340I
5/16/2017	9:43:42	22.68	5.15	61.3	5.89	8420	433.0	CBL - 340I
5/16/2017	9:46:42	22.75	5.18	61.7	5.70	8400	447.1	CBL - 340I
5/16/2017	9:49:42	22.57	5.10	60.6	5.57	8383	466.5	CBL - 340I
5/16/2017	9:52:42	22.56	5.05	59.9	5.62	8357	472.1	CBL - 340I
5/16/2017	9:55:42	22.61	5.05	60.0	5.71	8330	470.9	CBL - 340I
5/16/2017	9:58:42	22.55	4.97	58.9	5.71	8282	475.6	CBL - 340I
5/16/2017	10:01:33	22.51	4.91	58.2	5.77	8286	477.1	CBL - 340I
5/16/2017	10:41:03	25.58	4.60	58.0	6.44	9886	348.4	CBL - 308I
5/16/2017	10:44:03	23.13	3.07	37.0	6.15	9755	372.8	CBL - 308I
5/16/2017	10:47:03	22.99	2.95	35.5	6.08	9741	389.8	CBL - 308I
5/16/2017	10:50:03	23.07	2.65	32.0	6.04	9726	400.2	CBL - 308I
5/16/2017	10:53:03	23.25	2.73	33.0	5.98	9730	409.2	CBL - 308I
5/16/2017	10:56:03	23.34	2.79	33.7	5.88	9722	427.2	CBL - 308I
5/16/2017	10:59:03	23.19	2.62	31.6	5.76	9702	449.1	CBL - 308I
5/16/2017	11:02:03	23.33	2.65	32.0	5.62	9691	456.7	CBL - 308I
5/16/2017	11:05:03	23.22	2.77	33.5	5.57	9706	466.3	CBL - 308I
5/16/2017	11:08:03	23.21	2.73	33.0	5.57	9679	474.3	CBL - 308I
5/16/2017	11:11:03	23.46	2.82	34.2	5.60	9666	471.2	CBL - 308I
5/16/2017	11:14:03	23.30	2.76	33.4	5.51	9702	478.5	CBL - 308I
5/16/2017	11:17:02	23.22	2.65	32.1	5.48	9686	486.4	CBL - 308I
5/16/2017	11:20:02	23.10	2.57	30.9	5.54	9697	490.4	CBL - 308I
5/16/2017	12:03:52	21.95	3.54	41.3	5.70	6054	423.1	CBL - 341I
5/16/2017	12:06:52	21.97	3.48	40.5	5.68	6055	440.7	CBL - 341I
5/16/2017	12:09:52	21.98	3.32	38.7	5.61	6081	456.5	CBL - 341I
5/16/2017	12:12:52	21.98	3.15	36.8	5.60	6097	470.2	CBL - 341I
5/16/2017	12:15:52	21.96	3.06	35.6	5.61	6097	478.0	CBL - 341I
5/16/2017	12:18:52	22.01	3.02	35.3	5.61	6103	479.5	CBL - 341I
5/16/2017	12:21:52	22.05	3.01	35.1	5.56	6107	484.7	CBL - 341I
5/16/2017	12:24:52	22.04	3.01	35.1	5.49	6109	493.7	CBL - 341I
5/16/2017	12:27:52	22.08	2.98	34.8	5.45	6094	502.1	CBL - 341I
5/16/2017	12:30:52	22.05	3.01	35.2	5.48	6102	506.9	CBL - 341I

5/16/2017	12:33:52	22.05	2.96	34.6	5.50	6101	512.1	CBL - 341I
5/16/2017	12:36:52	22.04	2.93	34.2	5.55	6101	512.2	CBL - 341I
5/16/2017	12:39:52	22.02	2.90	33.9	5.58	6102	511.8	CBL - 341I
5/16/2017	12:42:52	22.05	2.86	33.3	5.62	6102	509.9	CBL - 341I
5/16/2017	12:45:52	22.11	2.98	34.8	5.65	6091	507.9	CBL - 341I
5/16/2017	12:48:52	22.06	2.97	34.6	5.63	6099	510.1	CBL - 341I
5/16/2017	12:51:52	22.02	2.95	34.4	5.64	6103	513.6	CBL - 341I
5/16/2017	12:54:52	22.07	2.94	34.3	5.67	6095	513.4	CBL - 341I
5/16/2017	12:57:52	22.23	3.01	35.2	5.64	6099	509.8	CBL - 341I
5/16/2017	13:01:14	22.18	3.08	36.0	5.54	6108	516.7	CBL - 341I
5/16/2017	13:45:04	24.12	5.84	71.3	6.34	7930	360.9	CBL - 302I
5/16/2017	13:48:04	21.69	2.70	31.4	5.60	7827	408.1	CBL - 302I
5/16/2017	13:51:04	21.54	2.54	29.5	5.44	7800	435.9	CBL - 302I
5/16/2017	13:54:04	21.50	2.39	27.8	5.37	7796	444.2	CBL - 302I
5/16/2017	13:57:04	21.50	2.37	27.6	5.17	7797	449.6	CBL - 302I
5/16/2017	14:00:04	21.54	2.20	25.6	5.15	7788	447.2	CBL - 302I
5/16/2017	14:03:04	21.56	2.32	27.0	5.13	7790	446.4	CBL - 302I
5/16/2017	14:06:04	21.59	2.47	28.8	5.07	7790	432.2	CBL - 302I
5/16/2017	14:09:04	21.57	2.34	27.2	4.94	7788	421.7	CBL - 302I
5/16/2017	14:12:04	21.47	2.18	25.4	4.84	7788	445.0	CBL - 302I
5/16/2017	14:15:04	21.52	2.18	25.3	4.86	7779	458.5	CBL - 302I
5/16/2017	14:18:04	21.52	2.16	25.1	4.92	7782	462.7	CBL - 302I
5/16/2017	14:21:10	21.52	2.15	25.0	4.94	7777	457.8	CBL - 302I
5/18/2017	10:45:39	23.47	5.64	67.8	6.55	7301	244.6	CBL - 301I
5/18/2017	10:45:50	23.24	5.28	63.2	6.43	7457	235.9	CBL - 301I
5/18/2017	10:46:06	22.99	5.10	60.9	6.31	7562	221.0	CBL - 301I
5/18/2017	10:47:05	22.82	4.76	56.7	6.14	7598	190.7	CBL - 301I
5/18/2017	10:50:05	23.41	5.30	63.7	6.01	7527	152.1	CBL - 301I
5/18/2017	10:53:05	24.46	5.06	62.0	5.97	7516	141.5	CBL - 301I
5/18/2017	10:56:05	25.07	4.64	57.6	5.97	7527	142.7	CBL - 301I
5/18/2017	10:59:05	25.48	4.61	57.6	5.98	7517	147.9	CBL - 301I
5/18/2017	11:02:05	25.70	4.64	58.3	5.97	7510	154.8	CBL - 301I
5/18/2017	11:05:05	25.92	4.78	60.2	5.95	7532	160.2	CBL - 301I
5/18/2017	11:48:02	23.83	7.62	91.0	6.55	2924	154.7	CBL - 306I
5/18/2017	11:48:09	23.75	7.61	90.8	6.53	2899	156.6	CBL - 306I
5/18/2017	11:48:17	23.69	7.61	90.7	6.52	2880	158.3	CBL - 306I
5/18/2017	11:51:17	22.80	7.88	92.2	6.28	2607	214.3	CBL - 306I
5/18/2017	11:54:17	22.82	8.02	93.9	6.20	2520	269.7	CBL - 306I
5/18/2017	11:57:17	22.92	8.05	94.4	6.10	2429	325.1	CBL - 306I
5/18/2017	12:00:17	23.13	8.14	95.8	5.98	2352	378.3	CBL - 306I
5/18/2017	12:03:17	23.15	8.15	95.9	5.82	2299	428.7	CBL - 306I
5/18/2017	12:06:17	23.32	8.21	97.0	5.76	2295	460.8	CBL - 306I
5/18/2017	12:09:17	23.50	8.25	97.7	5.66	2211	486.4	CBL - 306I
5/18/2017	12:12:17	23.60	8.33	98.8	5.61	2151	504.5	CBL - 306I

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July 11, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1720363

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

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LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

SAMPLE SUMMARY

Workorder: Q1720363

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1720363001	CBL - 301I	Aqueous	5/18/2017 11:05	5/18/2017 16:05
Q1720363002	CBL - 302I	Aqueous	5/16/2017 14:21	5/18/2017 16:05
Q1720363003	CBL - 306I	Aqueous	5/18/2017 12:15	5/18/2017 16:05
Q1720363004	CBL - 308I	Aqueous	5/16/2017 11:20	5/18/2017 16:05
Q1720363005	CBL - 340I	Aqueous	5/16/2017 10:01	5/18/2017 16:05
Q1720363006	CBL - 341I	Aqueous	5/16/2017 13:01	5/18/2017 16:05
Q1720363007	CBL - 641I	Aqueous	5/16/2017 13:01	5/18/2017 16:05
Q1720363008	FB # 1	Aqueous	5/16/2017 14:25	5/18/2017 16:05
Q1720363009	EQ Blank	Aqueous	5/18/2017 11:15	5/18/2017 16:05

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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ANALYTICAL RESULTS

Workorder: Q1720363

Lab ID:	**Q1720363001**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 301I**	Date Collected:	5/18/2017 11:05	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	07/11/17 08:47	JBW	07/11/17 08:47	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	07/11/17 08:47	JBW	07/11/17 08:47	JBW	

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ANALYTICAL RESULTS

Workorder: Q1720363

Lab ID:	**Q1720363002**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 302I**	Date Collected:	5/16/2017 14:21	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	07/11/17 08:47	JBW	07/11/17 08:47	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	07/11/17 08:47	JBW	07/11/17 08:47	JBW	

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ANALYTICAL RESULTS

Workorder: Q1720363

Lab ID:	**Q1720363003**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 306I**	Date Collected:	5/18/2017 12:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	07/11/17 08:47	JBW	07/11/17 08:47	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	07/11/17 08:47	JBW	07/11/17 08:47	JBW	

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ANALYTICAL RESULTS

Workorder: Q1720363

Lab ID:	**Q1720363004**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 308I**	Date Collected:	5/16/2017 11:20	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	07/11/17 08:48	JBW	07/11/17 08:48	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	07/11/17 08:48	JBW	07/11/17 08:48	JBW	

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ANALYTICAL RESULTS

Workorder: Q1720363

Lab ID:	**Q1720363005**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 340I**	Date Collected:	5/16/2017 10:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	07/11/17 08:48	JBW	07/11/17 08:48	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	07/11/17 08:48	JBW	07/11/17 08:48	JBW	

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ANALYTICAL RESULTS

Workorder: Q1720363

Lab ID:	**Q1720363006**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	5/16/2017 13:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	07/11/17 08:48	JBW	07/11/17 08:48	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	07/11/17 08:48	JBW	07/11/17 08:48	JBW	

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ANALYTICAL RESULTS

Workorder: Q1720363

Lab ID:	**Q1720363007**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	5/16/2017 13:01	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	07/11/17 08:48	JBW	07/11/17 08:48	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	07/11/17 08:48	JBW	07/11/17 08:48	JBW	

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ANALYTICAL RESULTS

Workorder: Q1720363

Lab ID:	**Q1720363008**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**FB # 1**	Date Collected:	5/16/2017 14:25	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	07/11/17 08:49	JBW	07/11/17 08:49	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	07/11/17 08:49	JBW	07/11/17 08:49	JBW	

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ANALYTICAL RESULTS

Workorder: Q1720363

Lab ID:	**Q1720363009**	Date Received:	5/18/2017 16:05	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	5/18/2017 11:15	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Subcontracted											
Analysis Desc: E903.0, Radium 226		Preparation Method: E903.0, Radium 226 Analytical Method: E903.0, Radium 226									
Reference Lab Report	see attached.	pCi/L				1	07/11/17 08:49	JBW	07/11/17 08:49	JBW	
Analysis Desc: E904.0, Radium 228		Preparation Method: E904.0, Radium 228 Analytical Method: E904.0, Radium 228									
Reference Lab Report	see attached.					1	07/11/17 08:49	JBW	07/11/17 08:49	JBW	

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Website: http://www.settek.com

June 16, 2017

Jason Woods
LCRA Environmental Laboratory Services
P.O. Box 220 78767-02203505 Montopolis
Austin, TX 78744
TEL: 512-356-6022
FAX: 512-356-6021

RE: Q1720363

Dear Jason Woods:

Order No.: 17051589

Summit Environmental Technologies, Inc. received 9 sample(s) on 5/25/2017 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Holly Florea
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

Alabama 41600, Arkansas 88-0735, California 07256CA, Colorado, Connecticut PH-0108, Delaware, Florida NELAC E87688, Georgia E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Louisiana 04061, Maryland 339, Massachusetts M-OPH923, Minnesota 409711, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio Drinking Water 4170, Ohio VAP CL0052, Oklahoma 9940, Oregon OH200001, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-11-5, Region 8 8TMS-L, USDA/APHIS P330-11-00244, Utah OH009232011-1, Vermont VT-87688, Virginia 00440 and 1581, Washington C891, West Virginia 9957C

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Case Narrative

WO#: **17051589**
Date: **6/16/2017**

CLIENT: LCRA Environmental Laboratory Services
Project: Q1720363

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. State Certificates and Scopes of Accreditation are attached as applicable. Results provided in this report for any parameter not listed on the Scope of Accreditation should be considered “not certified.”

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Workorder Sample Summary

WO#: **17051589**

16-Jun-17

CLIENT: LCRA Environmental Laboratory Services
Project: Q1720363

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
17051589-001	Q1720363001		5/18/2017 11:05:00 AM	5/25/2017 1:30:00 PM	Water
17051589-002	Q1720363002		5/16/2017 2:21:00 PM	5/25/2017 1:30:00 PM	Water
17051589-003	Q1720363003		5/18/2017 12:15:00 PM	5/25/2017 1:30:00 PM	Water
17051589-004	Q1720363004		5/16/2017 11:20:00 AM	5/25/2017 1:30:00 PM	Water
17051589-005	Q1720363005		5/16/2017 10:01:00 AM	5/25/2017 1:30:00 PM	Water
17051589-006	Q1720363006		5/16/2017 1:01:00 PM	5/25/2017 1:30:00 PM	Water
17051589-007	Q1720363007		5/16/2017 1:01:00 PM	5/25/2017 1:30:00 PM	Water
17051589-008	Q1720363008		5/16/2017 2:25:00 PM	5/25/2017 1:30:00 PM	Water
17051589-009	Q1720363009		5/18/2017 11:15:00 AM	5/25/2017 1:30:00 PM	Water

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Analytical Report

(consolidated)

WO#: **17051589**

Date Reported: **6/16/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/18/2017 11:05:00 AM

Project: Q1720363

Lab ID: 17051589-001 **Matrix:** WATER

Client Sample ID Q1720363001

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.17	1	6/16/2017 11:33:00 AM
Yield	1.00					1	6/16/2017 11:33:00 AM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.58	1	6/15/2017 3:48:00 PM
Yield	1.00					1	6/15/2017 3:48:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17051589**

Date Reported: **6/16/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/16/2017 2:21:00 PM

Project: Q1720363

Lab ID: 17051589-002 **Matrix:** WATER

Client Sample ID Q1720363002

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.2	1	6/16/2017 11:33:00 AM
Yield	1.00					1	6/16/2017 11:33:00 AM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	1.08	1.00		pCi/L	± 0.6	1	6/15/2017 3:49:00 PM
Yield	1.00					1	6/15/2017 3:49:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17051589**

Date Reported: **6/16/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/18/2017 12:15:00 PM

Project: Q1720363

Lab ID: 17051589-003 **Matrix:** WATER

Client Sample ID Q1720363003

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.19	1	6/16/2017 11:33:00 AM
Yield	1.00					1	6/16/2017 11:33:00 AM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.76	1	6/15/2017 3:52:00 PM
Yield	1.00					1	6/15/2017 3:52:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

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WO#: **17051589**

Date Reported: **6/16/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/16/2017 11:20:00 AM

Project: Q1720363

Lab ID: 17051589-004 **Matrix:** WATER

Client Sample ID Q1720363004

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.22	1	6/16/2017 11:33:00 AM
Yield	1.00					1	6/16/2017 11:33:00 AM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	1.15	1.00		pCi/L	± 0.62	1	6/15/2017 3:52:00 PM
Yield	1.00					1	6/15/2017 3:52:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17051589**

Date Reported: **6/16/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/16/2017 10:01:00 AM

Project: Q1720363

Lab ID: 17051589-005 **Matrix:** WATER

Client Sample ID Q1720363005

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.29	1	6/16/2017 11:33:00 AM
Yield	1.00					1	6/16/2017 11:33:00 AM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.87	1	6/15/2017 3:52:00 PM
Yield	1.00					1	6/15/2017 3:52:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

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Analytical Report

(consolidated)

WO#: **17051589**

Date Reported: **6/16/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/16/2017 1:01:00 PM

Project: Q1720363

Lab ID: 17051589-006 **Matrix:** WATER

Client Sample ID Q1720363006

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.38	1	6/16/2017 11:33:00 AM
Yield	1.00					1	6/16/2017 11:33:00 AM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	1.29	1.00		pCi/L	± 0.66	1	6/15/2017 3:52:00 PM
Yield	1.00					1	6/15/2017 3:52:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17051589**

Date Reported: **6/16/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/16/2017 1:01:00 PM

Project: Q1720363

Lab ID: 17051589-007 **Matrix:** WATER

Client Sample ID Q1720363007

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.31	1	6/16/2017 11:34:00 AM
Yield	1.00					1	6/16/2017 11:34:00 AM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	2.66	1.00		pCi/L	± 0.96	1	6/15/2017 3:54:00 PM
Yield	1.00					1	6/15/2017 3:54:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
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Cuyahoga Falls, Ohio 44223
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Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17051589**

Date Reported: **6/16/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/16/2017 2:25:00 PM

Project: Q1720363

Lab ID: 17051589-008 **Matrix:** WATER

Client Sample ID Q1720363008

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.2	1	6/16/2017 11:34:00 AM
Yield	1.00					1	6/16/2017 11:34:00 AM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.46	1	6/15/2017 3:54:00 PM
Yield	1.00					1	6/15/2017 3:54:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **17051589**

Date Reported: **6/16/2017**

CLIENT: LCRA Environmental Laboratory Services **Collection Date:** 5/18/2017 11:15:00 AM

Project: Q1720363

Lab ID: 17051589-009 **Matrix:** WATER

Client Sample ID Q1720363009

Analyses	Result	PQL	Qual	Units	Uncertainty	DF	Date Analyzed
RADIUM-226 (EPA 9315)					**SW9315**	**E903-904**	Analyst: **BRD**
Radium-226	ND	1.00		pCi/L	± 0.19	1	6/16/2017 11:34:00 AM
Yield	1.00					1	6/16/2017 11:34:00 AM
RADIUM-228 (EPA 9320)					**SW9320**	**E903-904**	Analyst: **BRD**
Radium-228	ND	1.00		pCi/L	± 0.61	1	6/15/2017 3:53:00 PM
Yield	1.00					1	6/15/2017 3:53:00 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **17051589**

16-Jun-17

Client: LCRA Environmental Laboratory Services
Project: Q1720363 **BatchID:** 27352

Sample ID **mb-27352** SampType: **MBLK** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/6/2017** RunNo: **70908**
Client ID: **PBW** Batch ID: **27352** TestNo: **SW9320** **E903-904** Analysis Date: **6/15/2017** SeqNo: **1172478**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	ND	1.00		0	0						
Yield	1.00			0	0						

Sample ID **LCS-27352** SampType: **LCS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/6/2017** RunNo: **70908**
Client ID: **LCSW** Batch ID: **27352** TestNo: **SW9320** **E903-904** Analysis Date: **6/15/2017** SeqNo: **1172480**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	4.38	1.00	5.000	0	87.5	70	130				
Yield	1.00			0	0						

Sample ID **17051494-001aMS** SampType: **MS** TestCode: **Radium-228_** Units: **pCi/L** Prep Date: **6/6/2017** RunNo: **70908**
Client ID: **BatchQC** Batch ID: **27352** TestNo: **SW9320** **E903-904** Analysis Date: **6/15/2017** SeqNo: **1172482**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-228	9.48	1.00	10.00	0	94.8	70	130				
Yield	1.00			1.000	0						

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **17051589**

16-Jun-17

Client: LCRA Environmental Laboratory Services
Project: Q1720363 **BatchID:** 27352

Sample ID **mb-27352** SampType: **MBLK** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/6/2017** RunNo: **70916**
Client ID: **PBW** Batch ID: **27352** TestNo: **SW9315** **E903-904** Analysis Date: **6/16/2017** SeqNo: **1172724**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	ND	1.00									
Yield	1.00										

Sample ID **lcs-27352** SampType: **LCS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/6/2017** RunNo: **70916**
Client ID: **LCSW** Batch ID: **27352** TestNo: **SW9315** **E903-904** Analysis Date: **6/16/2017** SeqNo: **1172725**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	3.57	1.00	5.000	0	71.4	70	130				

Sample ID **17051494-001aMS** SampType: **MS** TestCode: **Radium-226_** Units: **pCi/L** Prep Date: **6/6/2017** RunNo: **70916**
Client ID: **BatchQC** Batch ID: **27352** TestNo: **SW9315** **E903-904** Analysis Date: **6/16/2017** SeqNo: **1172728**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Radium-226	4.73	1.00	5.000	0	94.6	70	130				

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	M	Manual Integration used to determine
MC	Value is below Minimum Compound Limit.	ND	Not Detected	O	RSD is greater than RSDlimit
P	Second column confirmation exceeds	PL	Permit Limit	R	RPD outside accepted recovery limits

Summit Environmental Technologies, In
3310 Win S
Cuyahoga Falls, Ohio 4422
TEL: (330) 253-8211 FAX: (330) 253-448
Website: http://www.settek.co

Qualifiers and Acronyms

WO#: **17051589**
Date: **6/16/2017**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

Chain of Custody

17051589-001 009

CL

Environmental Laboratory Services
The Solution Lab

Document 45220942 - HBN 59588

PO #Q1720363

Results Requested By

Report To

Jason Woods
LCRA Environmental Laboratory Services
3505 Montopolis Drive
Austin, TX 78744
Phone (512)356-6022
Fax (512)356-6021
Email envlab@lcra.org

Subcontract To

Summit Environmental Lab Technologies, Inc.
3310 Win Street
Cuyahoga Falls, OH 44223
Phone (800)278-0140
Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1720363001	5/18/2017 11:05		Aqueous	1						X	X											
2	Q1720363002	5/16/2017 14:21		Aqueous	1						X	X											
3	Q1720363003	5/18/2017 12:15		Aqueous	1						X	X											
4	Q1720363004	5/16/2017 11:20		Aqueous	1						X	X											
5	Q1720363005	5/16/2017 10:01		Aqueous	1						X	X											
6	Q1720363006	5/16/2017 13:01		Aqueous	1						X	X											
7	Q1720363007	5/16/2017 13:01		Aqueous	1						X	X											
8	Q1720363008	5/16/2017 14:25		Aqueous	1						X	X											
9	Q1720363009	5/18/2017 11:15		Aqueous	1						X	X											

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45220942 - HBN 59588 **PO #** **Results Requested By**

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228										LAB USE ONLY
10																						
11																						
12																						
13																						

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1720363 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative

COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	5/19/17 1500	[illegible]	5/19/17 1330
2				
3				
4				
5				

DC-7
Rev. 16

Effective Date. 07/14/16

Summit Environmental Technologies, Inc.
Cooler Receipt Form

Initials of person inspecting cooler and samples: CSL

Client: LCRA

Order Number: 17051589

Date Received: 5-25 Time Received: 1930 Date cooler(s) opened and samples inspected: 5-25

Number of Coolers/Boxes: N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other:

Packaging: Peanuts Bubble Wrap Paper Foam None Other:

Tape on cooler/box:	Y	N	N/A
Custody Seals intact	Y	N	N/A
C-O-C in plastic	Y	N	N/A
Ice_____ Blue ice _____	present / absent / melted		N/A
Sample Temperature IR Gun #16020459 CF 0.0 °C	16.2 °C		N/A
Radiological Testing Instrument serial #35127 (see page 2 for scan results)	Y	N	N/A

****Use 1 sheet per sample for Radiological Testing. If sample is HOT, the Radiological Safety Officer must be notified immediately.**

C-O-C filled out properly	Y	N	N/A
Samples in separate bags	Y	N	N/A
Sample containers intact*	Y	N	N/A

*If no, list broken sample(s):

Sample label(s) complete (ID, date, etc.)	Y	N	N/A
Label(s) agree with C-O-C	Y	N	N/A
Correct containers used	Y	N	N/A
Sufficient sample received	Y	N	N/A
Samples received within holding time	Y	N	
Bubbles absent from 40 mL vials**	Y	N	N/A

** Samples with bubbles <6mm are acceptable. Indicate bubble size if >6mm.

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact:

Date/Time:

Logged in by:

Comments:

DC-7
Rev. 16

Effective Date: 07/14/16

Summit Environmental Technologies, Inc.
Sample Receipt

pH and Chlorine test on samples

pH strip SET (0-14)# WC-03-1174 pH strip (2.8-4.6) SET#OES-01-0250
Total DPD packet SET#OES-02-0239 Free DPD packet SET#OES-01-0290
Disp. Pipette SET# WC-03-0510

Sample or OMEGA ID	Method	pH	Chlorine (±)	Comments
1	✓	2		
2		2		
3		2		
4		2		
5		2		
6		2		
7		2		
8		2		
9		2		

Radiological scan on sample

ID	scan	CPM
1	✓	12
2		17
3		19
4		8
5		10
6		14
7		7
8		9
9		11

P = Permanganate interference
504.1, 508, 515.1, 525.2, 547, 548.1, 549.1, 531.2, 1613 methods checked for **Total** chlorine
552.2 checked for **Free** chlorine
531.2 pH is checked for ~3.8 (SET# OES-01-0250)
524.2 = pH and Chlorine checked at bench and not log in department

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

in accordance with Texas Water Code Chapter 5, Subchapter R, Title 30 Texas Administrative Code Chapter 25, and the National Environmental Laboratory Accreditation Program.

The laboratory's scope of accreditation includes the fields of accreditation that accompany this certificate. Continued accreditation depends upon successful ongoing participation in the program. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current location(s) and accreditation status for particular methods and analyses (www.tceq.texas.gov/goto/lab). Accreditation does not imply that a product, process, system or person is approved by the Texas Commission on Environmental Quality.

Executive Director Texas Commission on Environmental Quality

Certificate Number: T104704466-16-11
Effective Date: 8/1/2016
Expiration Date: 7/31/2017

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate:	T104704466-16-11
Expiration Date:	7/31/2017
Issue Date:	8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10120204

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10013806
Antimony	FL	1005	10013806
Arsenic	FL	1010	10013806
Barium	FL	1015	10013806
Beryllium	FL	1020	10013806
Boron	FL	1025	10013806
Cadmium	FL	1030	10013806
Chromium	FL	1040	10013806
Copper	FL	1055	10013806
Iron	FL	1070	10013806
Lead	FL	1075	10013806
Magnesium	FL	1085	10013806
Manganese	FL	1090	10013806
Molybdenum	FL	1100	10013806
Nickel	FL	1105	10013806
Potassium	FL	1125	10013806
Selenium	FL	1140	10013806
Silica as SiO2	FL	1990	10013806
Silver	FL	1150	10013806
Sodium	FL	1155	10013806
Thallium	FL	1165	10013806
Vanadium	FL	1185	10013806
Zinc	FL	1190	10013806

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10014605

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

	Certificate:	T104704466-16-11
Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2017
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2016

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Antimony	FL	1005	10014605
Arsenic	FL	1010	10014605
Barium	FL	1015	10014605
Beryllium	FL	1020	10014605
Cadmium	FL	1030	10014605
Chromium	FL	1040	10014605
Copper	FL	1055	10014605
Lead	FL	1075	10014605
Manganese	FL	1090	10014605
Nickel	FL	1105	10014605
Selenium	FL	1140	10014605
Silver	FL	1150	10014605
Thallium	FL	1165	10014605
Uranium	FL	3035	10014605
Zinc	FL	1190	10014605

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10053006
Chloride	FL	1575	10053006
Fluoride	FL	1730	10053006
Nitrate as N	FL	1810	10053006
Nitrite as N	FL	1840	10053006
Sulfate	FL	2000	10053006

Method EPA 300.0 B

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10275408

Method EPA 300.1

Analyte	AB	Analyte ID	Method ID

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

	Certificate:	T104704466-16-11
Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2017
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2016

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Bromate	FL	1535	10053608
Bromide	FL	1540	10053608
Chlorate	FL	1570	10053608
Chlorite	FL	1595	10053608
Method EPA 314.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Perchlorate	FL	1895	10055400
Method EPA 900.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Gross-alpha	FL	2830	10112400
Gross-beta	FL	2840	10112400
Method EPA 903.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Radium-226	FL	2965	10113209
Method EPA 904.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Radium-228	FL	2970	10113607
Method EPA 908.0			
Analyte	**AB**	**Analyte ID**	**Method ID**
Uranium	FL	3035	10114202
Method SM 2510 B			
Analyte	**AB**	**Analyte ID**	**Method ID**
Conductivity	FL	1610	20048004
Method SM 2540 C			
Analyte	**AB**	**Analyte ID**	**Method ID**
Residue-filterable (TDS)	FL	1955	20049803
Method SM 4500-CN^- C,E			
Analyte	**AB**	**Analyte ID**	**Method ID**
Total Cyanide	FL	1635	20092404
Method SM 4500-CN^- G			
Analyte	**AB**	**Analyte ID**	**Method ID**

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

	Certificate:	T104704466-16-11
Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2017
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2016

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Drinking Water***

Amenable cyanide	FL	1510	20093203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate:	T104704466-16-11
Expiration Date:	7/31/2017
Issue Date:	8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non-Potable Water***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10116606

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	FL	1970	10010409

Method EPA 1613

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10120204
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10120204
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10120204
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10120204
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10120204
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10120204
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10120204
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10120204
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10120204
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10120204
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10120204
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10120204
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10120204
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10120204
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10120204
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10120204
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10120204
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10120204
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10120204
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10120204
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10120204
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10120204
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10120204

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Matrix: ***Non-Potable Water***

Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10120204
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10120204

Method EPA 1631E

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10237204

Method EPA 1664

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10127807
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10127807

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10013806
Antimony	FL	1005	10013806
Arsenic	FL	1010	10013806
Barium	FL	1015	10013806
Beryllium	FL	1020	10013806
Boron	FL	1025	10013806
Cadmium	FL	1030	10013806
Calcium	FL	1035	10013806
Chromium	FL	1040	10013806
Cobalt	FL	1050	10013806
Copper	FL	1055	10013806
Iron	FL	1070	10013806
Lead	FL	1075	10013806
Magnesium	FL	1085	10013806
Manganese	FL	1090	10013806
Molybdenum	FL	1100	10013806
Nickel	FL	1105	10013806
Phosphorus	FL	1910	10013806
Potassium	FL	1125	10013806
Selenium	FL	1140	10013806

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Matrix: ***Non-Potable Water***

Silver	FL	1150	10013806
Sodium	FL	1155	10013806
Thallium	FL	1165	10013806
Tin	FL	1175	10013806
Titanium	FL	1180	10013806
Vanadium	FL	1185	10013806
Zinc	FL	1190	10013806

Method EPA 200.8

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10014605
Antimony	FL	1005	10014605
Arsenic	FL	1010	10014605
Barium	FL	1015	10014605
Beryllium	FL	1020	10014605
Cadmium	FL	1030	10014605
Chromium	FL	1040	10014605
Cobalt	FL	1050	10014605
Copper	FL	1055	10014605
Lead	FL	1075	10014605
Manganese	FL	1090	10014605
Molybdenum	FL	1100	10014605
Nickel	FL	1105	10014605
Selenium	FL	1140	10014605
Silver	FL	1150	10014605
Strontium	FL	1160	10014605
Thallium	FL	1165	10014605
Thorium	FL	1170	10014605
Uranium	FL	3035	10014605
Vanadium	FL	1185	10014605
Zinc	FL	1190	10014605

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Matrix: ***Non-Potable Water***

Method EPA 245.1

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10036609

Method EPA 300.0

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10053006
Chloride	FL	1575	10053006
Fluoride	FL	1730	10053006
Nitrate as N	FL	1810	10053006
Nitrate-nitrite	FL	1820	10053006
Nitrite as N	FL	1840	10053006
Orthophosphate as P	FL	1870	10053006
Sulfate	FL	2000	10053006

Method EPA 420.1

Analyte	AB	Analyte ID	Method ID
Total phenolics	FL	1905	10079400

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10155803
Antimony	FL	1005	10155803
Arsenic	FL	1010	10155803
Barium	FL	1015	10155803
Beryllium	FL	1020	10155803
Boron	FL	1025	10155803
Cadmium	FL	1030	10155803
Calcium	FL	1035	10155803
Chromium	FL	1040	10155803
Cobalt	FL	1050	10155803
Copper	FL	1055	10155803
Iron	FL	1070	10155803
Lead	FL	1075	10155803

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Matrix: ***Non-Potable Water***

Magnesium	FL	1085	10155803
Manganese	FL	1090	10155803
Molybdenum	FL	1100	10155803
Nickel	FL	1105	10155803
Phosphorus	FL	1910	10155803
Potassium	FL	1125	10155803
Selenium	FL	1140	10155803
Silver	FL	1150	10155803
Sodium	FL	1155	10155803
Thallium	FL	1165	10155803
Vanadium	FL	1185	10155803
Zinc	FL	1190	10155803

Method EPA 608

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10103603
4,4'-DDE	FL	7360	10103603
4,4'-DDT	FL	7365	10103603
Aldrin	FL	7025	10103603
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10103603
Aroclor-1016 (PCB-1016)	FL	8880	10103603
Aroclor-1221 (PCB-1221)	FL	8885	10103603
Aroclor-1232 (PCB-1232)	FL	8890	10103603
Aroclor-1242 (PCB-1242)	FL	8895	10103603
Aroclor-1248 (PCB-1248)	FL	8900	10103603
Aroclor-1254 (PCB-1254)	FL	8905	10103603
Aroclor-1260 (PCB-1260)	FL	8910	10103603
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10103603
Chlordane (tech.)	FL	7250	10103603
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10103603
Dieldrin	FL	7470	10103603

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Matrix: ***Non-Potable Water***

Endosulfan I	FL	7510	10103603
Endosulfan II	FL	7515	10103603
Endosulfan sulfate	FL	7520	10103603
Endrin	FL	7540	10103603
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10103603
Heptachlor	FL	7685	10103603
Heptachlor epoxide	FL	7690	10103603
Toxaphene (Chlorinated camphene)	FL	8250	10103603

Method EPA 615

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10105609
2,4-D	FL	8545	10105609
2,4-DB	FL	8560	10105609
Dalapon	FL	8555	10105609
Dicamba	FL	8595	10105609
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10105609
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10105609
MCPA	FL	7775	10105609
MCPP	FL	7780	10105609
Silvex (2,4,5-TP)	FL	8650	10105609

Method EPA 624

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	FL	5160	10107207
1,1,2,2-Tetrachloroethane	FL	5110	10107207
1,1,2-Trichloroethane	FL	5165	10107207
1,1-Dichloroethane	FL	4630	10107207
1,1-Dichloroethylene	FL	4640	10107207
1,2-Dichlorobenzene	FL	4610	10107207
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10107207
1,2-Dichloropropane	FL	4655	10107207
1,3-Dichlorobenzene	FL	4615	10107207

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Matrix: ***Non-Potable Water***

1,4-Dichlorobenzene	FL	4620	10107207
2-Chloroethyl vinyl ether	FL	4500	10107207
Acrolein (Propenal)	FL	4325	10107207
Acrylonitrile	FL	4340	10107207
Benzene	FL	4375	10107207
Bromodichloromethane	FL	4395	10107207
Bromoform	FL	4400	10107207
Carbon tetrachloride	FL	4455	10107207
Chlorobenzene	FL	4475	10107207
Chlorodibromomethane	FL	4575	10107207
Chloroethane (Ethyl chloride)	FL	4485	10107207
Chloroform	FL	4505	10107207
cis-1,3-Dichloropropene	FL	4680	10107207
Ethylbenzene	FL	4765	10107207
Methyl bromide (Bromomethane)	FL	4950	10107207
Methyl chloride (Chloromethane)	FL	4960	10107207
Methylene chloride (Dichloromethane)	FL	4975	10107207
Tetrachloroethylene (Perchloroethylene)	FL	5115	10107207
Toluene	FL	5140	10107207
trans-1,2-Dichloroethylene	FL	4700	10107207
trans-1,3-Dichloropropylene	FL	4685	10107207
Trichloroethene (Trichloroethylene)	FL	5170	10107207
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10107207
Vinyl chloride	FL	5235	10107207
Xylene (total)	FL	5260	10107207

Method EPA 625

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10107401
1,2,4-Trichlorobenzene	FL	5155	10107401
1,2-Dichlorobenzene	FL	4610	10107401

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Matrix: *Non-Potable Water*

1,3-Dichlorobenzene	FL	4615	10107401
1,4-Dichlorobenzene	FL	4620	10107401
2,4,6-Trichlorophenol	FL	6840	10107401
2,4-Dichlorophenol	FL	6000	10107401
2,4-Dimethylphenol	FL	6130	10107401
2,4-Dinitrophenol	FL	6175	10107401
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10107401
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10107401
2-Chloronaphthalene	FL	5795	10107401
2-Chlorophenol	FL	5800	10107401
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10107401
2-Nitrophenol	FL	6490	10107401
3,3'-Dichlorobenzidine	FL	5945	10107401
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10107401
4-Chloro-3-methylphenol	FL	5700	10107401
4-Chlorophenyl phenylether	FL	5825	10107401
4-Nitrophenol	FL	6500	10107401
Acenaphthene	FL	5500	10107401
Acenaphthylene	FL	5505	10107401
Anthracene	FL	5555	10107401
Benzidine	FL	5595	10107401
Benzo(a)anthracene	FL	5575	10107401
Benzo(a)pyrene	FL	5580	10107401
Benzo(b)fluoranthene	FL	5585	10107401
Benzo(g,h,i)perylene	FL	5590	10107401
Benzo(k)fluoranthene	FL	5600	10107401
bis(2-Chloroethoxy)methane	FL	5760	10107401
bis(2-Chloroethyl) ether	FL	5765	10107401
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10107401
Butyl benzyl phthalate	FL	5670	10107401

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Matrix: ***Non-Potable Water***

Chrysene	FL	5855	10107401
Dibenz(a,h) anthracene	FL	5895	10107401
Diethyl phthalate	FL	6070	10107401
Dimethyl phthalate	FL	6135	10107401
Di-n-butyl phthalate	FL	5925	10107401
Di-n-octyl phthalate	FL	6200	10107401
Fluoranthene	FL	6265	10107401
Fluorene	FL	6270	10107401
Hexachlorobenzene	FL	6275	10107401
Hexachlorobutadiene	FL	4835	10107401
Hexachlorocyclopentadiene	FL	6285	10107401
Hexachloroethane	FL	4840	10107401
Indeno(1,2,3-cd) pyrene	FL	6315	10107401
Isophorone	FL	6320	10107401
Naphthalene	FL	5005	10107401
Nitrobenzene	FL	5015	10107401
n-Nitrosodimethylamine	FL	6530	10107401
n-Nitrosodi-n-propylamine	FL	6545	10107401
n-Nitrosodiphenylamine	FL	6535	10107401
Pentachlorophenol	FL	6605	10107401
Phenanthrene	FL	6615	10107401
Phenol	FL	6625	10107401
Pyrene	FL	6665	10107401

Method EPA 7196

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	FL	1045	10162400

Method EPA 7470

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10165603

Method EPA 8015

Analyte	AB	Analyte ID	Method ID

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Matrix: ***Non-Potable Water***

Diesel range organics (DRO)	FL	9369	10305609
Ethylene glycol	FL	4785	10305609
Gasoline range organics (GRO)	FL	9408	10305609
Methanol	FL	4930	10305609

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10178800
4,4'-DDE	FL	7360	10178800
4,4'-DDT	FL	7365	10178800
Aldrin	FL	7025	10178800
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10178800
alpha-Chlordane	FL	7240	10178800
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10178800
Chlordane (tech.)	FL	7250	10178800
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10178800
Dieldrin	FL	7470	10178800
Endosulfan I	FL	7510	10178800
Endosulfan II	FL	7515	10178800
Endosulfan sulfate	FL	7520	10178800
Endrin	FL	7540	10178800
Endrin ketone	FL	7535	10178800
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10178800
gamma-Chlordane	FL	7245	10178800
Heptachlor	FL	7685	10178800
Heptachlor epoxide	FL	7690	10178800
Methoxychlor	FL	7810	10178800
Toxaphene (Chlorinated camphene)	FL	8250	10178800

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	FL	8880	10179201
Aroclor-1221 (PCB-1221)	FL	8885	10179201

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Matrix: ***Non-Potable Water***

Aroclor-1232 (PCB-1232)	FL	8890	10179201
Aroclor-1242 (PCB-1242)	FL	8895	10179201
Aroclor-1248 (PCB-1248)	FL	8900	10179201
Aroclor-1254 (PCB-1254)	FL	8905	10179201
Aroclor-1260 (PCB-1260)	FL	8910	10179201
PCBs (total)	FL	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10183207
2,4-D	FL	8545	10183207
2,4-DB	FL	8560	10183207
Dalapon	FL	8555	10183207
Dicamba	FL	8595	10183207
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10183207
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10183207
MCPA	FL	7775	10183207
MCPP	FL	7780	10183207
Silvex (2,4,5-TP)	FL	8650	10183207

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	FL	5105	10184802
1,1,1-Trichloroethane	FL	5160	10184802
1,1,2,2-Tetrachloroethane	FL	5110	10184802
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	FL	5195	10184802
1,1,2-Trichloroethane	FL	5165	10184802
1,1-Dichloroethane	FL	4630	10184802
1,1-Dichloroethylene	FL	4640	10184802
1,1-Dichloropropene	FL	4670	10184802
1,2,3-Trichlorobenzene	FL	5150	10184802
1,2,3-Trichloropropane	FL	5180	10184802
1,2,4-Trichlorobenzene	FL	5155	10184802

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Matrix: *Non-Potable Water*

1,2,4-Trimethylbenzene	FL	5210	10184802
1,2-Dibromo-3-chloropropane (DBCP)	FL	4570	10184802
1,2-Dibromoethane (EDB, Ethylene dibromide)	FL	4585	10184802
1,2-Dichlorobenzene	FL	4610	10184802
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10184802
1,2-Dichloropropane	FL	4655	10184802
1,3,5-Trimethylbenzene	FL	5215	10184802
1,3-Dichlorobenzene	FL	4615	10184802
1,3-Dichloropropane	FL	4660	10184802
1,4-Dichlorobenzene	FL	4620	10184802
2,2-Dichloropropane	FL	4665	10184802
2-Butanone (Methyl ethyl ketone, MEK)	FL	4410	10184802
2-Chloroethyl vinyl ether	FL	4500	10184802
2-Chlorotoluene	FL	4535	10184802
2-Hexanone (MBK)	FL	4860	10184802
2-Nitropropane	FL	5020	10184802
4-Chlorotoluene	FL	4540	10184802
4-Isopropyltoluene (p-Cymene)	FL	4915	10184802
4-Methyl-2-pentanone (MIBK)	FL	4995	10184802
Acetone (2-Propanone)	FL	4315	10184802
Acrolein (Propenal)	FL	4325	10184802
Acrylonitrile	FL	4340	10184802
Benzene	FL	4375	10184802
Bromobenzene	FL	4385	10184802
Bromochloromethane	FL	4390	10184802
Bromodichloromethane	FL	4395	10184802
Bromoform	FL	4400	10184802
Carbon disulfide	FL	4450	10184802
Carbon tetrachloride	FL	4455	10184802
Chlorobenzene	FL	4475	10184802

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Matrix: *Non-Potable Water*

Chlorodibromomethane	FL	4575	10184802
Chloroethane (Ethyl chloride)	FL	4485	10184802
Chloroform	FL	4505	10184802
cis-1,2-Dichloroethylene	FL	4645	10184802
cis-1,3-Dichloropropene	FL	4680	10184802
Dibromomethane (Methylene bromide)	FL	4595	10184802
Dichlorodifluoromethane (Freon-12)	FL	4625	10184802
Diethyl ether	FL	4725	10184802
Ethyl acetate	FL	4755	10184802
Ethyl methacrylate	FL	4810	10184802
Ethylbenzene	FL	4765	10184802
Hexachlorobutadiene	FL	4835	10184802
Hexachloroethane	FL	4840	10184802
Iodomethane (Methyl iodide)	FL	4870	10184802
Isopropylbenzene (Cumene)	FL	4900	10184802
m+p-xylene	FL	5240	10184802
Methyl acetate	FL	4940	10184802
Methyl bromide (Bromomethane)	FL	4950	10184802
Methyl chloride (Chloromethane)	FL	4960	10184802
Methyl methacrylate	FL	4990	10184802
Methyl tert-butyl ether (MTBE)	FL	5000	10184802
Methylene chloride (Dichloromethane)	FL	4975	10184802
Naphthalene	FL	5005	10184802
n-Butyl alcohol (1-Butanol, n-Butanol)	FL	4425	10184802
n-Butylbenzene	FL	4435	10184802
n-Propylbenzene	FL	5090	10184802
o-Xylene	FL	5250	10184802
sec-Butylbenzene	FL	4440	10184802
Styrene	FL	5100	10184802
tert-Butyl alcohol	FL	4420	10184802

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Matrix: ***Non-Potable Water***

tert-Butylbenzene	FL	4445	10184802
Tetrachloroethylene (Perchloroethylene)	FL	5115	10184802
Toluene	FL	5140	10184802
trans-1,2-Dichloroethylene	FL	4700	10184802
trans-1,3-Dichloropropylene	FL	4685	10184802
trans-1,4-Dichloro-2-butene	FL	4605	10184802
Trichloroethene (Trichloroethylene)	FL	5170	10184802
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10184802
Vinyl acetate	FL	5225	10184802
Vinyl chloride	FL	5235	10184802
Xylene (total)	FL	5260	10184802

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10186002
1,2,4-Trichlorobenzene	FL	5155	10186002
1,2-Dichlorobenzene	FL	4610	10186002
1,3-Dichlorobenzene	FL	4615	10186002
1,4-Dichlorobenzene	FL	4620	10186002
2,4,5-Trichlorophenol	FL	6835	10186002
2,4,6-Trichlorophenol	FL	6840	10186002
2,4-Dichlorophenol	FL	6000	10186002
2,4-Dimethylphenol	FL	6130	10186002
2,4-Dinitrophenol	FL	6175	10186002
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10186002
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10186002
2-Chloronaphthalene	FL	5795	10186002
2-Chlorophenol	FL	5800	10186002
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10186002
2-Methylphenol (o-Cresol)	FL	6400	10186002
2-Nitrophenol	FL	6490	10186002

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Matrix: *Non-Potable Water*

3,3'-Dichlorobenzidine	FL	5945	10186002
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10186002
4-Chloro-3-methylphenol	FL	5700	10186002
4-Chlorophenyl phenylether	FL	5825	10186002
4-Methylphenol (p-Cresol)	FL	6410	10186002
4-Nitrophenol	FL	6500	10186002
Acenaphthene	FL	5500	10186002
Acenaphthylene	FL	5505	10186002
Anthracene	FL	5555	10186002
Benzidine	FL	5595	10186002
Benzo(a)anthracene	FL	5575	10186002
Benzo(a)pyrene	FL	5580	10186002
Benzo(b)fluoranthene	FL	5585	10186002
Benzo(g,h,i)perylene	FL	5590	10186002
Benzo(k)fluoranthene	FL	5600	10186002
bis(2-Chloroethoxy)methane	FL	5760	10186002
bis(2-Chloroethyl) ether	FL	5765	10186002
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10186002
Butyl benzyl phthalate	FL	5670	10186002
Chrysene	FL	5855	10186002
Dibenz(a,h) anthracene	FL	5895	10186002
Diethyl phthalate	FL	6070	10186002
Dimethyl phthalate	FL	6135	10186002
Di-n-butyl phthalate	FL	5925	10186002
Di-n-octyl phthalate	FL	6200	10186002
Fluoranthene	FL	6265	10186002
Fluorene	FL	6270	10186002
Hexachlorobenzene	FL	6275	10186002
Hexachlorobutadiene	FL	4835	10186002
Hexachlorocyclopentadiene	FL	6285	10186002

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Matrix: ***Non-Potable Water***

Hexachloroethane	FL	4840	10186002
Indeno(1,2,3-cd) pyrene	FL	6315	10186002
Isophorone	FL	6320	10186002
Naphthalene	FL	5005	10186002
Nitrobenzene	FL	5015	10186002
n-Nitrosodimethylamine	FL	6530	10186002
n-Nitrosodi-n-propylamine	FL	6545	10186002
n-Nitrosodiphenylamine	FL	6535	10186002
Pentachlorophenol	FL	6605	10186002
Phenanthrene	FL	6615	10186002
Phenol	FL	6625	10186002
Pyrene	FL	6665	10186002
Pyridine	FL	5095	10186002

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10187403
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10187403
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10187403
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10187403
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10187403
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10187403
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10187403
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10187403
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10187403
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10187403
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10187403
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10187403
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10187403
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10187403
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10187403

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Matrix: ***Non-Potable Water***

2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10187403
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10187403
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10187403
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10187403
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10187403
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10187403
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10187403
Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10187403
Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10187403
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10187403

Method EPA 8315

Analyte	**AB**	**Analyte ID**	**Method ID**
Formaldehyde	FL	4815	10188008

Method EPA 8321

Analyte	**AB**	**Analyte ID**	**Method ID**
2,4-D	FL	8545	10189001
Silvex (2,4,5-TP)	FL	8650	10189001

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	FL	1510	10193803
Total Cyanide	FL	1635	10193803

Method EPA 9020

Analyte	**AB**	**Analyte ID**	**Method ID**
Total organic halides (TOX)	FL	2045	10194000

Method EPA 9034

Analyte	**AB**	**Analyte ID**	**Method ID**
Sulfide	FL	2005	10196006

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	FL	1900	10197203

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Matrix: ***Non-Potable Water***

Method EPA 9050

Analyte	AB	Analyte ID	Method ID
Conductivity	FL	1610	10198808

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	FL	1540	10199607
Chloride	FL	1575	10199607
Fluoride	FL	1730	10199607
Nitrate as N	FL	1810	10199607
Nitrate-nitrite	FL	1820	10199607
Nitrite as N	FL	1840	10199607
Orthophosphate as P	FL	1870	10199607
Sulfate	FL	2000	10199607

Method EPA 9060

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	FL	2040	10200201

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	FL	1905	10200405

Method EPA 9070

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10201000
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10201000

Method EPA RSK 175

Analyte	AB	Analyte ID	Method ID
Ethane	FL	4747	10212905
Ethene	FL	4752	10212905
Methane	FL	4926	10212905
n-Butane	FL	5007	10212905
n-Propane	FL	5029	10212905

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Matrix: *Non-Potable Water*

Method SM 2510 B

Analyte	AB	Analyte ID	Method ID
Conductivity	FL	1610	20048004

Method SM 2540 B

Analyte	AB	Analyte ID	Method ID
Residue-total (total solids)	FL	1950	20004608

Method SM 2540 C

Analyte	AB	Analyte ID	Method ID
Residue-filterable (TDS)	FL	1955	20049803

Method SM 2540 D

Analyte	AB	Analyte ID	Method ID
Residue-nonfilterable (TSS)	FL	1960	20004802

Method SM 4500-CN^- E

Analyte	AB	Analyte ID	Method ID
Total Cyanide	FL	1635	20021209

Method SM 4500-CN^- G

Analyte	AB	Analyte ID	Method ID
Amenable cyanide	FL	1510	20021607

Method SM 4500-H+ B

Analyte	AB	Analyte ID	Method ID
pH	FL	1900	20104603

Method SM 4500-NH3 D

Analyte	AB	Analyte ID	Method ID
Ammonia as N	FL	1515	20108809

Method SM 4500-P E

Analyte	AB	Analyte ID	Method ID
Phosphorus	FL	1910	20025803

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	FL	1530	20027401
Carbonaceous BOD, CBOD	FL	1555	20027401

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Matrix: *Non-Potable Water*

Method SM 5220 D

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	FL	1565	20027809

Method SM 5310 B

Analyte	AB	Analyte ID	Method ID
Total Organic Carbon (TOC)	FL	2040	20137206

Method SM 5540 C

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	FL	2025	20144405

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Matrix: ***Solid & Chemical Materials***

Method EPA 1010

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10116606

Method EPA 1030

Analyte	AB	Analyte ID	Method ID
Ignitability	FL	1780	10117201

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	FL	849	10118806

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	FL	1000	10155803
Antimony	FL	1005	10155803
Arsenic	FL	1010	10155803
Barium	FL	1015	10155803
Beryllium	FL	1020	10155803
Cadmium	FL	1030	10155803
Calcium	FL	1035	10155803
Chromium	FL	1040	10155803
Cobalt	FL	1050	10155803
Copper	FL	1055	10155803
Iron	FL	1070	10155803
Lead	FL	1075	10155803
Magnesium	FL	1085	10155803
Manganese	FL	1090	10155803
Molybdenum	FL	1100	10155803
Nickel	FL	1105	10155803
Potassium	FL	1125	10155803
Selenium	FL	1140	10155803
Silver	FL	1150	10155803
Sodium	FL	1155	10155803

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Matrix: ***Solid & Chemical Materials***

Thallium	FL	1165	10155803
Tin	FL	1175	10155803
Titanium	FL	1180	10155803
Vanadium	FL	1185	10155803
Zinc	FL	1190	10155803

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Antimony	FL	1005	10156408
Arsenic	FL	1010	10156408
Barium	FL	1015	10156408
Beryllium	FL	1020	10156408
Cadmium	FL	1030	10156408
Chromium	FL	1040	10156408
Cobalt	FL	1050	10156408
Copper	FL	1055	10156408
Lead	FL	1075	10156408
Manganese	FL	1090	10156408
Molybdenum	FL	1100	10156408
Nickel	FL	1105	10156408
Selenium	FL	1140	10156408
Silver	FL	1150	10156408
Strontium	FL	1160	10156408
Thallium	FL	1165	10156408
Vanadium	FL	1185	10156408
Zinc	FL	1190	10156408

Method EPA 7196

Analyte	AB	Analyte ID	Method ID
Chromium (VI)	FL	1045	10162400

Method EPA 7470

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10165807

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Matrix: ***Solid & Chemical Materials***

Method EPA 7471

Analyte	AB	Analyte ID	Method ID
Mercury	FL	1095	10166004

Method EPA 8015

Analyte	AB	Analyte ID	Method ID
Diesel range organics (DRO)	FL	9369	10305609
Ethylene glycol	FL	4785	10305609
Gasoline range organics (GRO)	FL	9408	10305609

Method EPA 8081

Analyte	AB	Analyte ID	Method ID
4,4'-DDD	FL	7355	10178800
4,4'-DDE	FL	7360	10178800
4,4'-DDT	FL	7365	10178800
Aldrin	FL	7025	10178800
alpha-BHC (alpha-Hexachlorocyclohexane)	FL	7110	10178800
alpha-Chlordane	FL	7240	10178800
beta-BHC (beta-Hexachlorocyclohexane)	FL	7115	10178800
Chlordane (tech.)	FL	7250	10178800
delta-BHC (delta-Hexachlorocyclohexane)	FL	7105	10178800
Dieldrin	FL	7470	10178800
Endosulfan I	FL	7510	10178800
Endosulfan II	FL	7515	10178800
Endosulfan sulfate	FL	7520	10178800
Endrin	FL	7540	10178800
Endrin aldehyde	FL	7530	10178800
Endrin ketone	FL	7535	10178800
gamma-BHC (Lindane, gamma-Hexachlorocyclohexane)	FL	7120	10178800
gamma-Chlordane	FL	7245	10178800
Heptachlor	FL	7685	10178800
Heptachlor epoxide	FL	7690	10178800
Methoxychlor	FL	7810	10178800

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Matrix: ***Solid & Chemical Materials***

Toxaphene (Chlorinated camphene)	FL	8250	10178800

Method EPA 8082

Analyte	AB	Analyte ID	Method ID
Aroclor-1016 (PCB-1016)	FL	8880	10179201
Aroclor-1221 (PCB-1221)	FL	8885	10179201
Aroclor-1232 (PCB-1232)	FL	8890	10179201
Aroclor-1242 (PCB-1242)	FL	8895	10179201
Aroclor-1248 (PCB-1248)	FL	8900	10179201
Aroclor-1254 (PCB-1254)	FL	8905	10179201
Aroclor-1260 (PCB-1260)	FL	8910	10179201
PCBs (total)	FL	8870	10179201

Method EPA 8151

Analyte	AB	Analyte ID	Method ID
2,4,5-T	FL	8655	10183207
2,4-D	FL	8545	10183207
2,4-DB	FL	8560	10183207
Dalapon	FL	8555	10183207
Dicamba	FL	8595	10183207
Dichloroprop (Dichlorprop, Weedone)	FL	8605	10183207
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	FL	8620	10183207
MCPA	FL	7775	10183207
MCPP	FL	7780	10183207
Silvex (2,4,5-TP)	FL	8650	10183207

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	FL	5105	10184802
1,1,1-Trichloroethane	FL	5160	10184802
1,1,2,2-Tetrachloroethane	FL	5110	10184802
1,1,2-Trichloroethane	FL	5165	10184802
1,1-Dichloroethane	FL	4630	10184802
1,1-Dichloroethylene	FL	4640	10184802

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Matrix: ***Solid & Chemical Materials***

1,1-Dichloropropene	FL	4670	10184802
1,2,3-Trichlorobenzene	FL	5150	10184802
1,2,3-Trichloropropane	FL	5180	10184802
1,2,4-Trichlorobenzene	FL	5155	10184802
1,2,4-Trimethylbenzene	FL	5210	10184802
1,2-Dibromo-3-chloropropane (DBCP)	FL	4570	10184802
1,2-Dibromoethane (EDB, Ethylene dibromide)	FL	4585	10184802
1,2-Dichlorobenzene	FL	4610	10184802
1,2-Dichloroethane (Ethylene dichloride)	FL	4635	10184802
1,2-Dichloropropane	FL	4655	10184802
1,3,5-Trimethylbenzene	FL	5215	10184802
1,3-Dichlorobenzene	FL	4615	10184802
1,3-Dichloropropane	FL	4660	10184802
1,4-Dichlorobenzene	FL	4620	10184802
2,2-Dichloropropane	FL	4665	10184802
2-Butanone (Methyl ethyl ketone, MEK)	FL	4410	10184802
2-Chloroethyl vinyl ether	FL	4500	10184802
2-Chlorotoluene	FL	4535	10184802
2-Hexanone (MBK)	FL	4860	10184802
2-Nitropropane	FL	5020	10184802
4-Chlorotoluene	FL	4540	10184802
4-Methyl-2-pentanone (MIBK)	FL	4995	10184802
Acetone (2-Propanone)	FL	4315	10184802
Acrolein (Propenal)	FL	4325	10184802
Acrylonitrile	FL	4340	10184802
Benzene	FL	4375	10184802
Bromobenzene	FL	4385	10184802
Bromochloromethane	FL	4390	10184802
Bromodichloromethane	FL	4395	10184802
Bromoform	FL	4400	10184802

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704466-16-11
Expiration Date: 7/31/2017
Issue Date: 8/1/2016

Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Solid & Chemical Materials***

Carbon disulfide	FL	4450	10184802
Carbon tetrachloride	FL	4455	10184802
Chlorobenzene	FL	4475	10184802
Chlorodibromomethane	FL	4575	10184802
Chloroethane (Ethyl chloride)	FL	4485	10184802
Chloroform	FL	4505	10184802
cis-1,2-Dichloroethylene	FL	4645	10184802
cis-1,3-Dichloropropene	FL	4680	10184802
Dibromomethane (Methylene bromide)	FL	4595	10184802
Dichlorodifluoromethane (Freon-12)	FL	4625	10184802
Diethyl ether	FL	4725	10184802
Ethyl acetate	FL	4755	10184802
Ethylbenzene	FL	4765	10184802
Methyl bromide (Bromomethane)	FL	4950	10184802
Methyl chloride (Chloromethane)	FL	4960	10184802
Methyl tert-butyl ether (MTBE)	FL	5000	10184802
Methylene chloride (Dichloromethane)	FL	4975	10184802
Naphthalene	FL	5005	10184802
n-Butyl alcohol (1-Butanol, n-Butanol)	FL	4425	10184802
n-Butylbenzene	FL	4435	10184802
n-Propylbenzene	FL	5090	10184802
sec-Butylbenzene	FL	4440	10184802
Styrene	FL	5100	10184802
tert-Butylbenzene	FL	4445	10184802
Tetrachloroethylene (Perchloroethylene)	FL	5115	10184802
Toluene	FL	5140	10184802
trans-1,2-Dichloroethylene	FL	4700	10184802
trans-1,3-Dichloropropylene	FL	4685	10184802
Trichloroethene (Trichloroethylene)	FL	5170	10184802
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	FL	5175	10184802

Texas Commission on Environmental Quality

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Matrix: ***Solid & Chemical Materials***

Vinyl acetate	FL	5225	10184802
Vinyl chloride	FL	5235	10184802
Xylene (total)	FL	5260	10184802

Method EPA 8270

Analyte	AB	Analyte ID	Method ID
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	FL	4659	10186002
1,2,4-Trichlorobenzene	FL	5155	10186002
1,2-Dichlorobenzene	FL	4610	10186002
1,3-Dichlorobenzene	FL	4615	10186002
1,4-Dichlorobenzene	FL	4620	10186002
2,4,5-Trichlorophenol	FL	6835	10186002
2,4,6-Trichlorophenol	FL	6840	10186002
2,4-Dichlorophenol	FL	6000	10186002
2,4-Dimethylphenol	FL	6130	10186002
2,4-Dinitrophenol	FL	6175	10186002
2,4-Dinitrotoluene (2,4-DNT)	FL	6185	10186002
2,6-Dinitrotoluene (2,6-DNT)	FL	6190	10186002
2-Chloronaphthalene	FL	5795	10186002
2-Chlorophenol	FL	5800	10186002
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	FL	6360	10186002
2-Methylphenol (o-Cresol)	FL	6400	10186002
2-Nitrophenol	FL	6490	10186002
3,3'-Dichlorobenzidine	FL	5945	10186002
3-Methylphenol (m-Cresol)	FL	6405	10186002
4-Bromophenyl phenyl ether (BDE-3)	FL	5660	10186002
4-Chloro-3-methylphenol	FL	5700	10186002
4-Chlorophenyl phenylether	FL	5825	10186002
4-Methylphenol (p-Cresol)	FL	6410	10186002
4-Nitrophenol	FL	6500	10186002
Acenaphthene	FL	5500	10186002

Texas Commission on Environmental Quality

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Summit Environmental Technologies, Inc.

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Matrix: ***Solid & Chemical Materials***

Acenaphthylene	FL	5505	10186002
Anthracene	FL	5555	10186002
Benzidine	FL	5595	10186002
Benzo(a)anthracene	FL	5575	10186002
Benzo(a)pyrene	FL	5580	10186002
Benzo(b)fluoranthene	FL	5585	10186002
Benzo(g,h,i)perylene	FL	5590	10186002
Benzo(k)fluoranthene	FL	5600	10186002
bis(2-Chloroethoxy)methane	FL	5760	10186002
bis(2-Chloroethyl) ether	FL	5765	10186002
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	FL	6065	10186002
Butyl benzyl phthalate	FL	5670	10186002
Chrysene	FL	5855	10186002
Dibenz(a,h) anthracene	FL	5895	10186002
Diethyl phthalate	FL	6070	10186002
Dimethyl phthalate	FL	6135	10186002
Di-n-butyl phthalate	FL	5925	10186002
Di-n-octyl phthalate	FL	6200	10186002
Fluoranthene	FL	6265	10186002
Fluorene	FL	6270	10186002
Hexachlorobenzene	FL	6275	10186002
Hexachlorobutadiene	FL	4835	10186002
Hexachlorocyclopentadiene	FL	6285	10186002
Hexachloroethane	FL	4840	10186002
Indeno(1,2,3-cd) pyrene	FL	6315	10186002
Isophorone	FL	6320	10186002
Naphthalene	FL	5005	10186002
Nitrobenzene	FL	5015	10186002
n-Nitrosodimethylamine	FL	6530	10186002
n-Nitrosodi-n-propylamine	FL	6545	10186002

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

	Certificate:	T104704466-16-11
Summit Environmental Technologies, Inc.	Expiration Date:	7/31/2017
3310 Win Street Cuyahoga Falls, OH 44223-3790	Issue Date:	8/1/2016

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Matrix: ***Solid & Chemical Materials***

n-Nitrosodiphenylamine	FL	6535	10186002
Pentachlorophenol	FL	6605	10186002
Phenanthrene	FL	6615	10186002
Phenol	FL	6625	10186002
Pyrene	FL	6665	10186002
Pyridine	FL	5095	10186002

Method EPA 8290

Analyte	AB	Analyte ID	Method ID
1,2,3,4,6,7,8,9-Octachlorodibenzofuran (OCDF)	FL	9516	10187403
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin (OCDD)	FL	9519	10187403
1,2,3,4,6,7,8-Heptachlorodibenzofuran (1,2,3,4,6,7,8-HpCDF)	FL	9420	10187403
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin (1,2,3,4,6,7,8-HpCDD)	FL	9426	10187403
1,2,3,4,7,8,9-Heptachlorodibenzofuran (1,2,3,4,7,8,9-HpCDF)	FL	9423	10187403
1,2,3,4,7,8-Hexachlorodibenzofuran (1,2,3,4,7,8-HxCDF)	FL	9471	10187403
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin (1,2,3,4,7,8-HxCDD)	FL	9453	10187403
1,2,3,6,7,8-Hexachlorodibenzofuran (1,2,3,6,7,8-HxCDF)	FL	9474	10187403
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin(1,2,3,6,7,8-HxCDD)	FL	9456	10187403
1,2,3,7,8,9-Hexachlorodibenzofuran (1,2,3,7,8,9-HxCDF)	FL	9477	10187403
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin (1,2,3,7,8,9-HxCDD)	FL	9459	10187403
1,2,3,7,8-Pentachlorodibenzofuran (1,2,3,7,8-PeCDF)	FL	9543	10187403
1,2,3,7,8-Pentachlorodibenzo-p-dioxin (1,2,3,7,8-PeCDD)	FL	9540	10187403
2,3,4,6,7,8-Hexachlorodibenzofuran (2,3,4,6,7,8-HxCDF)	FL	9480	10187403
2,3,4,7,8-Pentachlorodibenzofuran (2,3,4,7,8-PeCDF	FL	9549	10187403
2,3,7,8-Tetrachlorodibenzofuran (2,3,7,8-TCDF)	FL	9612	10187403
2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD)	FL	9618	10187403
Total Heptachlorodibenzofuran (Total HpCDF)	FL	9444	10187403
Total Heptachlorodibenzo-p-dioxin (Total HpCDD)	FL	9438	10187403
Total Hexachlorodibenzofuran (Total HxCDF)	FL	9483	10187403
Total Hexachlorodibenzo-p-dioxin (Total HxCDD)	FL	9468	10187403
Total Pentachlorodibenzofuran (Total PeCDF)	FL	9552	10187403

Texas Commission on Environmental Quality

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Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

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Matrix: ***Solid & Chemical Materials***

Total Pentachlorodibenzo-p-dioxin (Total PeCDD)	FL	9555	10187403
Total Tetrachlorodibenzofuran (Total TCDF)	FL	9615	10187403
Total Tetrachlorodibenzo-p-dioxin (Total TCDD)	FL	9609	10187403

Method EPA 9014

Analyte	**AB**	**Analyte ID**	**Method ID**
Amenable cyanide	FL	1510	10193803
Total Cyanide	FL	1635	10193803

Method EPA 9023

Analyte	**AB**	**Analyte ID**	**Method ID**
Extractable organics halides (EOX)	FL	1720	10195003

Method EPA 9040

Analyte	**AB**	**Analyte ID**	**Method ID**
Corrosivity	FL	1615	10197203
pH	FL	1900	10197203

Method EPA 9045

Analyte	**AB**	**Analyte ID**	**Method ID**
Corrosivity	FL	1615	10244607
pH	FL	1900	10244607

Method EPA 9056

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	FL	1540	10199607
Chloride	FL	1575	10199607
Fluoride	FL	1730	10199607
Nitrate as N	FL	1810	10199607
Nitrate-nitrite	FL	1820	10199607
Nitrite as N	FL	1840	10199607
Orthophosphate as P	FL	1870	10199607
Sulfate	FL	2000	10199607

Method EPA 9071

Analyte	**AB**	**Analyte ID**	**Method ID**
n-Hexane Extractable Material (HEM) (O&G)	FL	1803	10201806

Texas Commission on Environmental Quality

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Summit Environmental Technologies, Inc.

3310 Win Street
Cuyahoga Falls, OH 44223-3790

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Matrix: ***Solid & Chemical Materials***

Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	FL	10220	10201806

Method EPA 9095

Analyte	AB	Analyte ID	Method ID
Paint Filter Liquids Test	FL	10312	10204203

Method EPA 9310

Analyte	AB	Analyte ID	Method ID
Gross-alpha	FL	2830	10208205
Gross-beta	FL	2840	10208205

Q1720363

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#:
Client PO:

Project:	FPP - CCR Wells Sub - May 2017	Client:	LCRA
Collector:	Colt Petri / Jason Woods	Contact:	
Event#:	1362704 / 4495	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU	Requested Analysis * S-Rad228	S-Rad226
001	1	CBL - 301I	5/18/17	1105	AQ	N	N	1	X	X
002	2	CBL - 302I	5/16/17	1421	AQ			1	X	X
003	3	CBL - 306I	5/18/17	1215	AQ			1	X	X
004	4	CBL - 308I	5/16/17	1120	AQ			1	X	X
005	5	CBL - 340I	5/16/17	1001	AQ			1	X	X
006	6	CBL - 341I	5/16/17	1301	AQ			1	X	X
007	7	CBL - 641I	5/16/17	1301	AQ			1	X	X
008	8	FB # 1	5/16/17	1425	AQ			1	X	X
009	9	EQ Blank	5/18/17	1115	AQ			1	X	X

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Colt Petri	5/16/17 1600	[illegible]	5/16/17 1600
2	[illegible]	5/18/17 1605	D-2	5/18/17 1605
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	20.92	20.92
2			

Client Special Instructions:

Lab Use Only:

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Q1720363
263051

Q1720363

Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
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Lab ID#:
Client PO:

Project:	FPP - CCR Wells Sub - May 2017	Client:	LCRA
Collector:	Colt Petri / Jason Woods	Contact:	
Event#:	1362704 / 4495	Phone:	

Report To: BECKIE LOEVE
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6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

	LAB USE ONLY	Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	Container(s) Type/Preservative/Number * COMPOSITE Y/N	FILTERED Y/N	4LCBU								Requested Analysis * S-Rad228	S-Rad226										
001	1	CBL - 301I	5/18/17	1105	AQ	N	N	1								X	X										
002	2	CBL - 302I	5/16/17	1421	AQ			1								X	X										
003	3	CBL - 306I	5/18/17	1215	AQ			1								X	X										
004	4	CBL - 308I	5/16/17	1120	AQ			1								X	X										
005	5	CBL - 340I	5/16/17	1001	AQ			1								X	X										
006	6	CBL - 341I	5/16/17	1301	AQ			1								X	X										
007	7	CBL - 641I	5/16/17	1301	AQ			1								X	X										
008	8	FB # 1	5/16/17	1425	AQ			1								X	X										
009	9	EQ Blank	5/18/17	1115	AQ			1								X	X										

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Colt Petri	5/16/17 1600	[illegible]	5/16/17 1600
2	[illegible]	5/18/17 1605	[illegible]	5/18/17 1605
3				

Cooler Temp:

#	T#	Obs.	Corr.
1	6	20.92	20.92
2			

Client Special Instructions:

Lab Use Only:

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

Q1720363
263051

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45220942 - HBN 59588 **PO #Q1720363** **Results Requested By**

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
1	Q1720363001	5/18/2017 11:05		Aqueous	1						X	X											
2	Q1720363002	5/16/2017 14:21		Aqueous	1						X	X											
3	Q1720363003	5/18/2017 12:15		Aqueous	1						X	X											
4	Q1720363004	5/16/2017 11:20		Aqueous	1						X	X											
5	Q1720363005	5/16/2017 10:01		Aqueous	1						X	X											
6	Q1720363006	5/16/2017 13:01		Aqueous	1						X	X											
7	Q1720363007	5/16/2017 13:01		Aqueous	1						X	X											
8	Q1720363008	5/16/2017 14:25		Aqueous	1						X	X											
9	Q1720363009	5/18/2017 11:15		Aqueous	1						X	X											

2001.2.0.0

Chain of Custody

Environmental Laboratory Services
The Solution Lab

Document 45220942 - HBN 59588 | PO # | Results Requested By

Report To	Subcontract To
Jason Woods LCRA Environmental Laboratory Services 3505 Montopolis Drive Austin, TX 78744 Phone (512)356-6022 Fax (512)356-6021 Email envlab@lcra.org	Summit Environmental Lab Technologies, Inc. 3310 Win Street Cuyahoga Falls, OH 44223 Phone (800)278-0140 Fax

Item	Sample ID	Collect Date/Time	Lab ID	Matrix	Preserved Containers: COOL						Requested Analysis: E903.0, Radium 226	E904.0, Radium 228											LAB USE ONLY
10																							
11																							
12																							
13																							

Report	Electronic Data Deliverables
☐ Standard (Results only)	☐ SEDD Stage 2A
☐ Standard with Batch QC	☐ SEDD Stage 2B
☐ CLP	☐ SEDD Stage 3
☐ Other _____	☐ Other _____

Comments

PLEASE CONFIRM RECEIPT OF THE SAMPLES AND REFERENCE PO# Q1720363 ON INVOICE.

THE SUBCONTRACTOR NOTED ON THIS COC IS THE ONLY LAB AUTHORIZED TO ANALYZE THE SUBMITTED SAMPLES. ANY DEVIATION FROM THIS PROTOCOL REQUIRES WRITTEN AUTHORIZATION FROM ELS MANAGEMENT.

Preservative
COOL = Cool

Transfers	Released By	Date/Time	Received By	Date/Time
1	[illegible]	5/19/17 1500		
2				
3				
4				
5				

FedEx Shipment Receipt

Address Information

Ship to:	**Ship from:**
Sample Receiving- Summit Env	Sample Receiving
SUMMIT ENVIRONMENTAL TECHNOLOGIES	ENVIRONMENTAL LABORATORY SERVICES
3310 WIN ST	3505 MONTOPOLIS DRIVE LCRA-ENVIRONMENTAL LAB ONLY
CUYAHOGA FALLS, OH	AUSTIN, TX
442233790	78744
US	US
8002780140	5123566022

Shipment Information:
Tracking no.: 779187917968
Ship date: 05/19/2017
Estimated shipping charges: 0.00

Package Information
Pricing option: FedEx Standard Rate
Service type: FedEx Ground
Package type: Your Packaging
Number of packages: 3
Total weight: 144 LBS
Declared Value: 0.00 USD
Special Services:
Pickup/Drop-off: pickup confirmation number:CPU1173071391

Billing Information:
Bill transportation to: Third party
Your reference: 3533318
P.O. no.:
Invoice no.:
Department no.:

Thank you for shipping online with FedEx ShipManager at fedex.com.

Please Note

FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery, or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is $1000, e.g., jewelry, precious metals, negotiable instruments and other items listed in our Service Guide. Written claims must be filed within strict time limits; Consult the applicable FedEx Service Guide for details.
The estimated shipping charge may be different than the actual charges for your shipment. Differences may occur based on actual weight, dimensions, and other factors. Consult the applicable FedEx Service Guide or the FedEx Rate Sheets for details on how shipping charges are calculated.

LCRA
ENERGY • WATER • COMMUNITY SERVICES

Field Information Form

Sample Date: 9/11/17
Sample Time: 1156
Sample ID: CBL341T

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170911	1103	V= 4.9	14.7	9

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- ____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- ____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	16.47 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	36 (ft)

6.10 (STD) PH 6102 uS/cm Specific Conductivity Sample Temp. 22.70 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	4L	ICE	Radium 226+228	N
P	250mL	HNO_3	Metals	N
P	500mL	~~Anio~~ ICE (CP 9/11/17)	Anions	N
P	4L	ICE	Radium 226+228 Dup 641	N
P	4L	ICE	Radium 226+228 Equipment Blank	P 250mL HNO_3 Dup Metals 641I
P	4L	ICE	Radium 226+228 Field Blank	P 250mL HNO_3 Equipment Blank
				P 250mL HNO_3 metals Field Blank

Sample Appearance: Clear Odor: none Color: none Turbidity: 0.79

Weather Conditions: Clear, Sunny. Slight wind from North at 0-5mp 82°

Other: Purge water is clear with no odor.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____

If No, Explain ____

Procedure: ELS Groundwater SOP 5-70

Date: 9/11/17

Sampler: CP/JC

Employer: LCRA

Rev. 1 (08/2009)

FPP Groundwater - CCR Wells - Purge Data - September 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
9/11/2017	11:03:39	24.64	7.04	6.47	79.2	6126	294.6	CBL - 341I
9/11/2017	11:03:52	24.40	6.98	5.77	70.3	6140	295.2	CBL - 341I
9/11/2017	11:06:52	22.61	6.43	4.27	50.4	6131	305.0	CBL - 341I
9/11/2017	11:09:52	22.53	6.30	3.79	44.7	6090	306.3	CBL - 341I
9/11/2017	11:12:52	22.53	6.24	3.53	41.6	6087	309.7	CBL - 341I
9/11/2017	11:15:52	22.56	6.19	3.40	40.0	6082	312.9	CBL - 341I
9/11/2017	11:18:52	22.55	6.16	4.16	49.0	6072	316.1	CBL - 341I
9/11/2017	11:21:52	22.59	6.14	3.87	45.7	6073	320.0	CBL - 341I
9/11/2017	11:24:52	22.63	6.12	6.22	73.3	6080	322.9	CBL - 341I
9/11/2017	11:27:52	22.65	6.11	6.63	78.2	6087	324.8	CBL - 341I
9/11/2017	11:30:52	22.67	6.11	5.56	65.6	6091	325.5	CBL - 341I
9/11/2017	11:33:52	22.68	6.10	4.83	57.0	6098	325.0	CBL - 341I
9/11/2017	11:36:52	22.69	6.10	6.38	75.3	6100	324.7	CBL - 341I
9/11/2017	11:44:45	22.60	6.10	4.02	47.4	6111	322.2	CBL - 341I
9/11/2017	11:47:45	22.71	6.11	4.76	56.3	6105	320.2	CBL - 341I
9/11/2017	11:50:45	22.78	6.11	5.51	65.2	6103	318.3	CBL - 341I
9/11/2017	11:53:45	22.81	6.10	4.42	52.3	6104	318.3	CBL - 341I
9/11/2017	11:56:45	22.70	6.10	4.52	53.5	6102	319.9	CBL - 341I

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September 27, 2017

BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

RE: Final Analytical Report
ELS Workorder Q1742293

Attn: BECKIE LOEVE

Enclosed are the analytical results for sample(s) received by LCRA Environmental Laboratory Services. Results reported herein conform to the most current NELAP standards, where applicable, unless otherwise narrated in the body of the report. This final report provides results related only to the sample(s) as received for the above referenced work order.

Thank you for selecting ELS for your analytical needs. If you have any questions regarding this report, please contact us at (512) 356-6022. We look forward to assisting you again.

Authorized for release by:

Jason Woods
Project Manager
jason.woods@lcra.org

Enclosures

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SAMPLE SUMMARY

Workorder: Q1742293

Lab ID	Sample ID	Matrix	Date Collected	Date Received
Q1742293001	CBL - 341I	Aqueous	9/11/2017 11:56	9/11/2017 14:38
Q1742293002	CBL - 641I	Aqueous	9/11/2017 11:56	9/11/2017 14:38
Q1742293003	Field Blank	Aqueous	9/11/2017 12:00	9/11/2017 14:38
Q1742293004	EQ Blank	Aqueous	9/11/2017 12:05	9/11/2017 14:38

Report Definitions

LOD	Limit of Detection
LOQ	Limit of Quantitation
ML	Maximum Limit - Client Specified
DF	Dilution Factor
Qual	Qualifiers

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ANALYTICAL RESULTS

Workorder: Q1742293

Lab ID:	**Q1742293001**	Date Received:	9/11/2017 14:38	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	9/11/2017 11:56	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	1710	mg/L	50.0	20.0		50	09/12/17 21:36	BC	09/12/17 21:36	BC	
Fluoride	0.367	mg/L	0.100	0.0400		10	09/13/17 16:23	ML	09/13/17 16:23	ML	
Sulfate	354	mg/L	50.0	20.0		50	09/12/17 21:36	BC	09/12/17 21:36	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	09/19/17 09:11	MM	09/19/17 16:51	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	09/19/17 09:11	MM	09/19/17 16:51	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	09/19/17 09:11	MM	09/19/17 16:51	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:51	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:51	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	09/19/17 09:11	MM	09/19/17 16:51	SLW	
Lithium Total	0.0851	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:51	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:51	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	09/19/17 09:11	MM	09/19/17 16:51	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	09/19/17 09:11	MM	09/19/17 16:51	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	09/14/17 12:05	FM	09/18/17 09:09	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4860	mg/L	250	250		100	09/15/17 10:46	ADG	09/15/17 10:46	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0662	mg/L	0.0100	0.00400	2	1	09/19/17 09:12	MM	09/19/17 20:50	FO	

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ANALYTICAL RESULTS

Workorder: Q1742293

Lab ID:	**Q1742293001**	Date Received:	9/11/2017 14:38	Matrix:	Aqueous
Sample ID:	**CBL - 341I**	Date Collected:	9/11/2017 11:56	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	09/19/17 09:12	MM	09/19/17 20:50	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	09/19/17 09:12	MM	09/19/17 20:50	FO	
Calcium Total	848	mg/L	2.00	0.700		10	09/19/17 09:12	MM	09/19/17 23:00	FO	

Field Parameters

Analysis Desc: TCEQ SOP V1	Preparation Method: TCEQ SOP V1 Analytical Method: TCEQ SOP V1									
Temperature	22.70	C				1	09/11/17 11:56	CCP	09/11/17 11:56	CCP	N
pH	6.10	pH				1	09/11/17 11:56	CCP	09/11/17 11:56	CCP	N
Specific Conductance	6102	us/cm				1	09/11/17 11:56	CCP	09/11/17 11:56	CCP	N

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ANALYTICAL RESULTS

Workorder: Q1742293

Lab ID:	**Q1742293002**	Date Received:	9/11/2017 14:38	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	9/11/2017 11:56	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: E300.0, Anions	Preparation Method: E300.0, Anions										
	Analytical Method: E300.0, Anions										
Chloride	1990	mg/L	50.0	20.0		50	09/12/17 21:55	BC	09/12/17 21:55	BC	
Fluoride	0.128	mg/L	0.100	0.0400		10	09/13/17 16:42	ML	09/13/17 16:42	ML	
Sulfate	403	mg/L	50.0	20.0		50	09/12/17 21:55	BC	09/12/17 21:55	BC	
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	09/19/17 09:11	MM	09/19/17 16:57	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	09/19/17 09:11	MM	09/19/17 16:57	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	09/19/17 09:11	MM	09/19/17 16:57	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:57	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:57	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	09/19/17 09:11	MM	09/19/17 16:57	SLW	
Lithium Total	0.0854	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:57	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:57	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	09/19/17 09:11	MM	09/19/17 16:57	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	09/19/17 09:11	MM	09/19/17 16:57	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	09/14/17 12:05	FM	09/18/17 09:11	FM	
TOTAL DISSOLVED SOLIDS											
Analysis Desc: SM2540C, TDS	Preparation Method: SM2540C, TDS										
	Analytical Method: SM2540C, TDS										
Total Dissolved Solids(TDS)	4370	mg/L	250	250		100	09/15/17 10:39	ADG	09/15/17 10:39	ADG	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	0.0662	mg/L	0.0100	0.00400	2	1	09/19/17 09:12	MM	09/19/17 20:57	FO	

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ANALYTICAL RESULTS

Workorder: Q1742293

Lab ID:	**Q1742293002**	Date Received:	9/11/2017 14:38	Matrix:	Aqueous
Sample ID:	**CBL - 641I**	Date Collected:	9/11/2017 11:56	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	09/19/17 09:12	MM	09/19/17 20:57	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	09/19/17 09:12	MM	09/19/17 20:57	FO	
Calcium Total	863	mg/L	2.00	0.700		10	09/19/17 09:12	MM	09/19/17 23:06	FO	

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ANALYTICAL RESULTS

Workorder: Q1742293

Lab ID:	**Q1742293003**	Date Received:	9/11/2017 14:38	Matrix:	Aqueous
Sample ID:	**Field Blank**	Date Collected:	9/11/2017 12:00	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	09/19/17 09:11	MM	09/19/17 16:59	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	09/19/17 09:11	MM	09/19/17 16:59	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	09/19/17 09:11	MM	09/19/17 16:59	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:59	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:59	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	09/19/17 09:11	MM	09/19/17 16:59	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:59	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 16:59	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	09/19/17 09:11	MM	09/19/17 16:59	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	09/19/17 09:11	MM	09/19/17 16:59	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	09/14/17 12:05	FM	09/18/17 09:13	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	09/19/17 09:12	MM	09/19/17 21:05	FO	
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	09/19/17 09:12	MM	09/19/17 21:05	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	09/19/17 09:12	MM	09/19/17 21:05	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	09/19/17 09:12	MM	09/19/17 21:05	FO	

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ANALYTICAL RESULTS

Workorder: Q1742293

Lab ID:	**Q1742293004**	Date Received:	9/11/2017 14:38	Matrix:	Aqueous
Sample ID:	**EQ Blank**	Date Collected:	9/11/2017 12:05	Sample Type:	SAMPLE
Project ID:	**FPP GWMP CCR**				

Parameters	Results	Units	LOQ	LOD	ML	DF	Prepared	By	Analyzed	By	Qual
INORGANICS											
Analysis Desc: SW6020 ICP-MS	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6020 ICP-MS										
Antimony Total	<0.00100	mg/L	0.00100	0.000400	0.006	1	09/19/17 09:11	MM	09/19/17 17:01	SLW	
Arsenic Total	<0.00200	mg/L	0.00200	0.000700	0.01	1	09/19/17 09:11	MM	09/19/17 17:01	SLW	
Cadmium Total	<0.00100	mg/L	0.00100	0.000400	0.005	1	09/19/17 09:11	MM	09/19/17 17:01	SLW	
Chromium Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 17:01	SLW	
Cobalt Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 17:01	SLW	
Lead Total	<0.00100	mg/L	0.00100	0.000400	0.015	1	09/19/17 09:11	MM	09/19/17 17:01	SLW	
Lithium Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 17:01	SLW	N
Molybdenum Total	<0.00100	mg/L	0.00100	0.000400		1	09/19/17 09:11	MM	09/19/17 17:01	SLW	
Selenium Total	<0.00500	mg/L	0.00500	0.00170	0.05	1	09/19/17 09:11	MM	09/19/17 17:01	SLW	
Thallium Total	<0.00100	mg/L	0.00100	0.000400	0.002	1	09/19/17 09:11	MM	09/19/17 17:01	SLW	
HEAVY METALS											
Analysis Desc: SW7470A Hg in Liquid Waste	Preparation Method: SW7470A Hg in Liquid Waste										
	Analytical Method: SW7470A Hg in Liquid Waste										
Mercury Total	<0.200	ug/L	0.200	0.0700	2	1	09/14/17 12:05	FM	09/18/17 09:15	FM	
INORGANICS											
Analysis Desc: SW6010B ICP-AES	Preparation Method: SW3010A, Metals Prep										
	Analytical Method: SW6010B ICP-AES										
Barium Total	<0.0100	mg/L	0.0100	0.00400	2	1	09/19/17 09:12	MM	09/19/17 21:12	FO	
Beryllium Total	<0.00400	mg/L	0.00400	0.00100	0.004	1	09/19/17 09:12	MM	09/19/17 21:12	FO	
Boron Total	<0.0500	mg/L	0.0500	0.0200		1	09/19/17 09:12	MM	09/19/17 21:12	FO	
Calcium Total	<0.200	mg/L	0.200	0.0700		1	09/19/17 09:12	MM	09/19/17 21:12	FO	

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ANALYTICAL RESULTS QUALIFIERS

Workorder: Q1742293

PARAMETER QUALIFIERS

Lab ID: Q1742293001

N Not Accredited

Lab ID: Q1742293002

N Not Accredited

Lab ID: Q1742293003

N Not Accredited

Lab ID: Q1742293004

N Not Accredited

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QUALITY CONTROL DATA

Workorder: Q1742293

QC Batch: WET/15191 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1742293001, Q1742293002

METHOD BLANK: 933024

Parameter	Units	Blank Result	Reporting Limit	Qual
Chloride	mg/L	<1.00	1.00	
Sulfate	mg/L	<1.00	1.00	

LABORATORY CONTROL SAMPLE: 933025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Chloride	mg/L	30	28.6	95.5	90 - 110	
Sulfate	mg/L	30	30.1	100	90 - 110	

MATRIX SPIKE: 933026 DUPLICATE: 933027 ORIGINAL: Q1742494001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Chloride	mg/L	27.4	20	46.9	47	97.7	98.1	80 - 120	.213	20	
Sulfate	mg/L	65.1	20	82.1	82.1	85.3	84.9	80 - 120	0	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

R - RPD Outside Recovery Limits

B - Analyte Detected in Method Blank

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Austin, TX 78744
Phone: (512)356-6022
Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1742293

QC Batch: WET/15219 **Analysis Method:** E300.0, Anions

QC Batch Method: E300.0, Anions

Associated Lab Samples: Q1742293001, Q1742293002

METHOD BLANK: 934595

Parameter	Units	Blank Result	Reporting Limit	Qual
Fluoride	mg/L	<0.0100	0.0100	

LABORATORY CONTROL SAMPLE: 934598

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Fluoride	mg/L	1	1.03	103	90 - 110	

MATRIX SPIKE: 934600 DUPLICATE: 934601 ORIGINAL: Q1742675001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Fluoride	mg/L	.45	1	1.37	1.36	91.7	90.4	80 - 120	.733	20	

Qualifiers

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QUALITY CONTROL DATA

Workorder: Q1742293

QC Batch: MEP/7520 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: SW7470A Hg in Liquid Waste

Associated Lab Samples: Q1742293001, Q1742293002, Q1742293003, Q1742293004

METHOD BLANK: 935958

Parameter	Units	Blank Result	Reporting Limit	Qual
Mercury Total	ug/L	<0.200	0.200	

LABORATORY CONTROL SAMPLE: 935959

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	2	2.02	2	101	100	85 - 115	.995	20	

MATRIX SPIKE: 935961 DUPLICATE: 935962 ORIGINAL: Q1742293004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Mercury Total	ug/L	0	2	2.11	2.07	106	104	70 - 130	1.91	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

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QUALITY CONTROL DATA

Workorder: Q1742293

QC Batch: TCLP/1724 **Analysis Method:** SW7470A Hg in Liquid Waste

QC Batch Method: EPA 1311

Associated Lab Samples:

SAMPLE DUPLICATE: 936363 ORIGINAL: Q1742232005

Parameter	Units	Original Result	DUP Result	% Rec	% Rec Limit	RPD	Max	Qual
Mercury Total	ug/L	0	0			0	20	

Qualifiers

S - Spike Recovery Outside Recovery Limits

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B - Analyte Detected in Method Blank

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QUALITY CONTROL DATA

Workorder: Q1742293

QC Batch: WET/15249 **Analysis Method:** SM2540C, TDS

QC Batch Method: SM2540C, TDS

Associated Lab Samples: Q1742293001, Q1742293002

METHOD BLANK: 936873

Parameter	Units	Blank Result	Reporting Limit	Qual
Total Dissolved Solids(TDS)	mg/L	<25.0	25.0	

LABORATORY CONTROL SAMPLE: 936874

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	400	406	102	80 - 120	

SAMPLE DUPLICATE: 936875 ORIGINAL: Q1742722005

Parameter	Units	Original Result	DUP Result	% Rec	% Rec Limit	RPD	Max	Qual
Total Dissolved Solids(TDS)	mg/L	245	251			2.42	20	

MATRIX SPIKE SAMPLE: 936876 ORIGINAL: Q1742722005

Parameter	Units	Original Result	Spike Conc.	MS Result	MS % Rec	% Rec Limit	Qual
Total Dissolved Solids(TDS)	mg/L	245	400	644	99.8	70 - 130	

Qualifiers

S - Spike Recovery Outside Recovery Limits

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QUALITY CONTROL DATA

Workorder: Q1742293

QC Batch: MEP/7539 **Analysis Method:** SW6020 ICP-MS

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1742293001, Q1742293002, Q1742293003, Q1742293004

LABORATORY CONTROL SAMPLE: 938689

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Antimony Total	mg/L	.05	.05	.05	95.1	93.5	85 - 115	1.69	20	
Arsenic Total	mg/L	.05	.05	.05	94.2	91.7	85 - 115	2.8	20	
Cadmium Total	mg/L	.05	.05	.05	93.1	90.8	85 - 115	2.61	20	
Chromium Total	mg/L	.05	.05	.04	90.5	88.7	85 - 115	2.01	20	
Cobalt Total	mg/L	.05	.05	.05	93.7	91.1	85 - 115	2.81	20	
Lead Total	mg/L	.05	.05	.05	93	91	85 - 115	2.17	20	
Lithium Total	mg/L	.05	.04	.04	88.2	86.9	85 - 115	1.6	20	
Molybdenum Total	mg/L	.05	.05	.05	96.4	94.4	85 - 115	2.1	20	
Selenium Total	mg/L	.25	.23	.23	93.2	90.8	85 - 115	2.61	20	
Thallium Total	mg/L	.05	.05	.05	94.9	93.2	85 - 115	1.7	20	

METHOD BLANK: 938691

Parameter	Units	Blank Result	Reporting Limit	Qual
Antimony Total	mg/L	<0.00100	0.00100	
Arsenic Total	mg/L	<0.00200	0.00200	
Cadmium Total	mg/L	<0.00100	0.00100	
Chromium Total	mg/L	<0.00100	0.00100	
Cobalt Total	mg/L	<0.00100	0.00100	
Lead Total	mg/L	<0.00100	0.00100	
Lithium Total	mg/L	<0.00100	0.00100	
Molybdenum Total	mg/L	<0.00100	0.00100	
Selenium Total	mg/L	<0.00500	0.00500	
Thallium Total	mg/L	<0.00100	0.00100	

Qualifiers

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Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1742293

MATRIX SPIKE: 938692 DUPLICATE: 938693 ORIGINAL: Q1742293001

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Antimony Total	mg/L	0	.05	.05	.05	91.5	90	70 - 130	1.76	20	
Arsenic Total	mg/L	0	.05	.04	.04	88	86.6	70 - 130	1.6	20	
Cadmium Total	mg/L	0	.05	.04	.04	86.8	85.2	70 - 130	1.86	20	
Chromium Total	mg/L	0	.05	.04	.04	83.4	82.7	70 - 130	.722	20	
Cobalt Total	mg/L	0	.05	.04	.04	84.6	83.6	70 - 130	1.19	20	
Lead Total	mg/L	0	.05	.05	.04	90	89.5	70 - 130	.669	20	
Lithium Total	mg/L	.09	.05	.12	.12	76.9	72.5	70 - 130	2.45	20	
Molybdenum Total	mg/L	0	.05	.05	.05	97.3	95.6	70 - 130	1.87	20	
Selenium Total	mg/L	0	.25	.22	.22	88.9	86.2	70 - 130	2.74	20	
Thallium Total	mg/L	0	.05	.05	.05	92.9	92.4	70 - 130	.647	20	

Qualifiers

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Fax: (512)356-6021

QUALITY CONTROL DATA

Workorder: Q1742293

QC Batch: MEP/7540 **Analysis Method:** SW6010B ICP-AES

QC Batch Method: SW3010A, Metals Prep

Associated Lab Samples: Q1742293001, Q1742293002, Q1742293003, Q1742293004

LABORATORY CONTROL SAMPLE: 938694

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max	Qual
Barium Total	mg/L	1	.94	.95	94.1	94.6	80 - 120	.53	20	
Beryllium Total	mg/L	1	.93	.94	92.8	93.9	80 - 120	1.18	20	
Boron Total	mg/L	1	.91	.91	91.3	91.3	80 - 120	0	20	
Calcium Total	mg/L	10	9.92	10.1	99.2	101	80 - 120	1.8	20	

METHOD BLANK: 938696

Parameter	Units	Blank Result	Reporting Limit	Qual
Barium Total	mg/L	<0.0100	0.0100	
Beryllium Total	mg/L	<0.00400	0.00400	
Boron Total	mg/L	<0.0500	0.0500	
Calcium Total	mg/L	<0.200	0.200	

MATRIX SPIKE: 938700 DUPLICATE: 938701 ORIGINAL: Q1742232005

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qual
Barium Total	mg/L	.36	1	1.37	1.35	101	98.7	75 - 125	1.47	20	
Beryllium Total	mg/L	0	1	.99	.97	98.5	97.1	75 - 125	1.43	20	
Boron Total	***mg/L***	***.41***	***1***	***1.42***	***1.5***	***142***	***150***	***75 - 125***	***5.48***	***20***	***S***
Calcium Total	***mg/L***	***765***	***10***	***815***	***820***	***498***	***551***	***75 - 125***	***.612***	***20***	***S***

Qualifiers

S - Spike Recovery Outside Recovery Limits

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: Q1742293

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
Q1742293001	CBL - 341I			E300.0, Anions	WET/15191
Q1742293002	CBL - 641I			E300.0, Anions	WET/15191
Q1742293001	CBL - 341I			E300.0, Anions	WET/15219
Q1742293002	CBL - 641I			E300.0, Anions	WET/15219
Q1742293001	CBL - 341I	SW7470A Hg in Liquid Waste	MEP/7520	SW7470A Hg in Liquid Waste	MET/5839
Q1742293002	CBL - 641I	SW7470A Hg in Liquid Waste	MEP/7520	SW7470A Hg in Liquid Waste	MET/5839
Q1742293003	Field Blank	SW7470A Hg in Liquid Waste	MEP/7520	SW7470A Hg in Liquid Waste	MET/5839
Q1742293004	EQ Blank	SW7470A Hg in Liquid Waste	MEP/7520	SW7470A Hg in Liquid Waste	MET/5839
Q1742293001	CBL - 341I			SM2540C, TDS	WET/15249
Q1742293002	CBL - 641I			SM2540C, TDS	WET/15249
Q1742293001	CBL - 341I	SW3010A, Metals Prep	MEP/7539	SW6020 ICP-MS	MET/5850
Q1742293002	CBL - 641I	SW3010A, Metals Prep	MEP/7539	SW6020 ICP-MS	MET/5850
Q1742293003	Field Blank	SW3010A, Metals Prep	MEP/7539	SW6020 ICP-MS	MET/5850
Q1742293004	EQ Blank	SW3010A, Metals Prep	MEP/7539	SW6020 ICP-MS	MET/5850
Q1742293001	CBL - 341I	SW3010A, Metals Prep	MEP/7540	SW6010B ICP-AES	MET/5851
Q1742293002	CBL - 641I	SW3010A, Metals Prep	MEP/7540	SW6010B ICP-AES	MET/5851
Q1742293003	Field Blank	SW3010A, Metals Prep	MEP/7540	SW6010B ICP-AES	MET/5851
Q1742293004	EQ Blank	SW3010A, Metals Prep	MEP/7540	SW6010B ICP-AES	MET/5851

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Environmental Laboratory Services
The Solution Lab

LCRA Environmental Laboratory Services
Request for Analysis Chain-of-Custody Record

LCRA - Environmental Lab
3505 Montopolis Dr.
Austin, TX 78744

Phone: (512) 356-6022 or 1-800-776-5272
Fax: (512) 356-6021
https://els.lcra.org

Lab ID#: Q1742293
Client PO:

Project:	FPP - Goundwater - CBL Wells	Client:	LCRA
Collector:	Colt Petri / John Gallagher	Contact:	
Event#:	1379090 / 4931	Phone:	

Report To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

Invoice To: BECKIE LOEVE
FAYETTE POWER PLANT
6549 POWER PLANT RD
MAIL STOP FPP
LA GRANGE, TX 78945

LAB USE ONLY		Sample ID *	Collected * Date*	Collected * Time * HH:MM	Matrix* (AQ = Aqueous, S = Solid, T = Tissue, DW = Drinking Water)	COMPOSITE Y/N	FILTERED Y/N	500PU	250PHNO3							6020-AM	Fld_FP	6010-AM	7470-AU	2540-AMTDS	300.0AM-28						
001	1	CBL - 341I	9/11/17	1156	AQ	N	N	1	1							X	X	X	X	X	X						
002	2	CBL - 641I		1156	AQ			1	1							X	X	X	X	X	X						
003	3	Field Blank		1200	AQ				1							X		X	X								
004	4	EQ Blank		1205	AQ				1							X		X	X								
	5																										
	6																										
	7																										

CF = 0

Transfers	Relinquished By	Date/Time	Received By	Date/Time
1	Colt Petri	9/11/17 1438	[illegible]	9-11-17 1438
2				
3				

Cooler Temp: #	T#	Obs.	Corr.
1	6	3.3	3.3
2			

Client Special Instructions:

Lab

Q1742293 284981

Note: Relinquishing sample(s) and signing the COC, client agrees to accept and is bound by the ELS Standard Terms and Conditions. All fields with an asterisk (*) are required to be completed.

FPP Groundwater - CCR Wells - Purge Data - September 2017

Date M/D/Y	Time HH:MM:SS	Temp C	pH	DO mg/L	DOsat %	SpCond uS	Orp mV	Monitoring Well
9/11/2017	11:03:39	24.64	7.04	6.47	79.2	6126	294.6	CBL - 341I
9/11/2017	11:03:52	24.40	6.98	5.77	70.3	6140	295.2	CBL - 341I
9/11/2017	11:06:52	22.61	6.43	4.27	50.4	6131	305.0	CBL - 341I
9/11/2017	11:09:52	22.53	6.30	3.79	44.7	6090	306.3	CBL - 341I
9/11/2017	11:12:52	22.53	6.24	3.53	41.6	6087	309.7	CBL - 341I
9/11/2017	11:15:52	22.56	6.19	3.40	40.0	6082	312.9	CBL - 341I
9/11/2017	11:18:52	22.55	6.16	4.16	49.0	6072	316.1	CBL - 341I
9/11/2017	11:21:52	22.59	6.14	3.87	45.7	6073	320.0	CBL - 341I
9/11/2017	11:24:52	22.63	6.12	6.22	73.3	6080	322.9	CBL - 341I
9/11/2017	11:27:52	22.65	6.11	6.63	78.2	6087	324.8	CBL - 341I
9/11/2017	11:30:52	22.67	6.11	5.56	65.6	6091	325.5	CBL - 341I
9/11/2017	11:33:52	22.68	6.10	4.83	57.0	6098	325.0	CBL - 341I
9/11/2017	11:36:52	22.69	6.10	6.38	75.3	6100	324.7	CBL - 341I
9/11/2017	11:44:45	22.60	6.10	4.02	47.4	6111	322.2	CBL - 341I
9/11/2017	11:47:45	22.71	6.11	4.76	56.3	6105	320.2	CBL - 341I
9/11/2017	11:50:45	22.78	6.11	5.51	65.2	6103	318.3	CBL - 341I
9/11/2017	11:53:45	22.81	6.10	4.42	52.3	6104	318.3	CBL - 341I
9/11/2017	11:56:45	22.70	6.10	4.52	53.5	6102	319.9	CBL - 341I

LCRA
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Field Information Form

Sample Date: 9/11/17
Sample Time: 1156
Sample ID: CBL341T

PURGING INFORMATION

PURGE DATE (YY MM DD)	START PURGE (2400 Hr. Clock)	WATER VOL IN CASING (Gallons)	3 X WELL VOL. IN (Gallons)	ACTUAL VOLUME PURGED (Gallons)
170911	1103	V= 4.9	14.7	9

PURGING AND SAMPLING EQUIPMENT

Purging Equipment ..... Dedicated (Y) I N I Sampling Equipment ..... Dedicated (Y) I N I

Purging Device	B	A-Submersible Pump	D-Gas Litf Pump	G-Bailer	X- ____ Purging Other (Specify)
Sampling Device	B	B-Perisataltic Pump	E-Venturi Pump	H-Scoop/Shovel	
		C-Bladder Pump	F-Dipper/Bottle	I-Piston Pump	X- ____ Sampling Other (Specify)
Purging Material	F	A-Teflon	C-Polypropylene	E-Polyethylene	X- ____ Purging Other (Specify)
Sampling Material	F	B-Stainless Steel	D-PVC		X- ____ Sampling Other (Specify)
Tubing-Purging	F	A-Teflon	D-Polypropylene	F-Silicon	X- ____ Purging Other (Specify)
Tubing-Sampling	F	B-Tygon	E-Polyethylene	G-Combination teflon/Polypropylene	X- ____ Sampling Other (Specify)

C-Rope X- ____ (Specify)

FIELD MEASUREMENTS

Well Elevation	(ft/msl)	Land Surface Elevation	(ft/msl)
Depth to water From top of well casing $=D_w$	16.47 (ft)	Depth to water From land surface	(ft)
Groundwater Elevation		Groundwater Elevation	(ft/msl)
Well Depth = D	46.43 (ft)	Pump Placement	36 (ft)

6.10 (STD) PH 6102 uS/cm Specific Conductivity Sample Temp. 22.70 (°C)

Bottle			Analysis	Field Filt. Y/N
Type	Size	Preservative		
P	4L	ICE	Radium 226+228	N
P	250mL	HNO_3	Metals	N
P	500mL	~~Anio~~ ICE (CP 9/11/17)	Anions	N
P	4L	ICE	Radium 226+228 Dup 641	N
P	4L	ICE	Radium 226+228 Equipment Blank	P 250mL HNO_3 Dup Metals 641I
P	4L	ICE	Radium 226+228 Field Blank	P 250mL HNO_3 Equipment Blank
				P 250mL HNO_3 metals Field Blank

Sample Appearance: Clear Odor: none Color: none Turbidity: 0.79

Weather Conditions: Clear, Sunny. Slight wind from North at 0-5mp 82°

Other: Purge water is clear with no odor.

WELL VOLUME CALCULATION

$V=(D-D_w)(A)(7.48\ gal/ft^3)$ where

V= volume of standing water in well

D= depth to bottom of well below measuring point

D_w=depth to water below measuring point

A= cross sectional area

2" dia. A= 0.0218 4" dia. A = 0.0872

Well Appearance Normal: Yes X No ____

If No, Explain ____

Procedure: ELS Groundwater SOP 5-70

Date: 9/11/17

Sampler: CP/JC

Employer: LCRA

Rev. 1 (08/2009)