

**COAL COMBUSTION RESIDUAL RULE
2017 ANNUAL GROUNDWATER MONITORING REPORT**

**MARTIN LAKE STEAM ELECTRIC STATION
PDP 5
RUSK COUNTY, TEXAS**

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1.0 INTRODUCTION

Luminant Generation Company LLC (Luminant) operates the Martin Lake Steam Electric Station (MLSES) located approximately 5 miles southeast of Tatum, Rusk County, Texas (Figure 1). The MLSES consists of three coal/lignite-fired power generation units. Coal Combustion Residuals (CCRs) including fly ash, bottom ash and gypsum are generated as part of the MLSES unit operations. Currently, CCRs generated at the MLSES are transported off-site for beneficial use by third-parties or are managed by Luminant in surface impoundments located on the MLSES property or the A1 Area Landfill located approximately 2.5 miles east of the MLSES. Three CCR Units have been identified within the MLSES operations, the Ash Pond Area (the West Ash Pond (WAP) East Ash Pond (EAP), and the New Scrubber Pond), Permanent Disposal Pond 5 (PDP 5), and A1 Area Landfill. This report discusses PDP 5 (the Site).

The CCR Rule (40 CFR 257 Subpart D - *Standards for the Receipt of Coal Combustion Residuals in Landfills and Surface Impoundments*) has been promulgated by the EPA to regulate the management and disposal of CCRs as solid waste under Resource Conservation and Recovery Act (RCRA) Subtitle D. The final CCR Rule was published in the Federal Register on April 17, 2015. The effective date of the CCR Rule was October 19, 2015. PDP 5 meets the definition of a CCR surface impoundment and is subject to groundwater monitoring system requirements of the CCR Rule.

1.1 CCR Unit Groundwater Monitoring Applicability

Section 257.90 of the CCR Rule requires that existing CCR landfills and surface impoundments be in compliance with the following groundwater monitoring requirements no later than October 17, 2017:

- Install a groundwater monitoring system as required under Section 257.91;
- Develop a groundwater sampling and analysis program to include selection of the statistical procedures to be used for evaluating groundwater monitoring data as required under Section 257.93;
- Initiate a detection monitoring program to include obtaining a minimum of eight independent samples for each background and downgradient monitoring well as required under Section 257.94; and
- Begin evaluating the groundwater monitoring data for statistically significant increases over background levels for the constituents listed in Appendix III of this part as required under Section 257.94.

Pastor, Behling & Wheeler, LLC (PBW) was retained by Luminant to evaluate the CCR groundwater monitoring system and develop and implement a CCR groundwater sampling and analysis program at the Site. To document these activities, PBW prepared the following reports, which were placed in the facility's operating record to comply with Section 257.105(h) of the CCR Rule:

- CCR Groundwater Monitoring System Certification (PBW, 2017a);
- CCR Monitoring Well Design, Installation, Development, and Decommissioning Report (PBW, 2017b); and
- CCR Statistical Analysis Plan (PBW, 2017c).

For existing CCR landfills and surface impoundments, the owner or operator must prepare an annual groundwater monitoring and corrective action report to document the status of the groundwater monitoring and corrective action program for the CCR unit for the previous calendar year. The CCR Rule requires that the owner or operator of a CCR unit prepare the initial annual groundwater monitoring and corrective action report for the unit no later than January 31, 2018, and annually thereafter. Per Section 257.90(e) of the CCR Rule, the report should contain the following information, to the extent available:

- (1) A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;
- (2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;
- (3) In addition to all the monitoring data obtained under §§ 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;
- (4) A narrative discussion of any transition between monitoring programs (*e.g.*, the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and
- (5) Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.

1.2 Groundwater Sampling and Analysis Requirements

1.2.1 Background Monitoring Requirements

The CCR Rule requires that background groundwater quality be established in background well(s) for each of the groundwater constituents required in the detection monitoring or assessment monitoring program that applies to the CCR unit. Background groundwater quality may be established at wells that are not located hydraulically upgradient from the CCR unit if the samples accurately represent the quality of background groundwater that has not been affected by leakage from the CCR unit. Section 257.94(b) of the CCR Rule requires that a minimum of eight independent samples from each background and downgradient well associated with a CCR unit be collected and analyzed for the constituents listed in Appendix III and Appendix IV to Part 257 CCR Rule no later than October 17, 2017.

PBW was retained by Luminant to collect and analyze the required background well samples at the Site. Eight background groundwater monitoring events were performed using the PDP 5 CCR monitoring well system from October 2015 to December 2016. The background groundwater monitoring program is described in detail in Section 2 of this report.

1.2.2 Detection Monitoring Requirements

Groundwater detection monitoring must be performed at each CCR unit (CCR Rule Section 257.94). The following constituents must be included in the detection monitoring program (from Appendix III of the CCR Rule):

- Boron
- Calcium
- Chloride
- Fluoride
- pH
- Sulfate
- Total Dissolved Solids (TDS)

The monitoring frequency for these constituents must be at least semi-annual during the active life of the CCR unit and post-closure period. The reported concentrations of the detection monitoring constituents must be compared to the respective CCR unit background concentration developed for each constituent. If a statistically significant increase over background is determined for one or more of the constituents listed above at any monitoring well at the CCR unit waste boundary, within 90 days the owner or operator

must:

- Establish an assessment monitoring program as described in Section 257.95 of the Rule; or
- Demonstrate that a source other than the CCR unit caused the statistically significant increase over background levels for a constituent or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. If a successful demonstration is completed within the 90-day period, the owner or operator of the CCR unit may continue with the detection monitoring program. If at the end of the 90-day period in 257.94(e)(2), the owner or operator is unable to successfully make an alternate source demonstration, the assessment monitoring program is triggered and the owner or operator has 90 days to complete the sampling required under 257.95(d).

Detection monitoring performed at the Site is discussed in Section 4.0 of this report.

1.2.3 Assessment Monitoring Requirements

Assessment monitoring is required under the CCR Rule whenever a statistically significant increase over background levels has been detected for one or more of the detection monitoring constituents listed above (CCR Rule Section 257.95). The following constituents must be included in the assessment monitoring program (from Appendix IV of the CCR Rule):

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Fluoride
- Lead
- Lithium
- Mercury
- Molybdenum
- Selenium
- Thallium
- Radium 226 and 228 combined

Assessment monitoring performed at the Site is discussed in Section 5.0 of this report.

2.0 GROUNDWATER MONITORING SYSTEM

2.1 Description of PDP 5

PDP 5 was constructed in 2010 and is located approximately 3,000 feet west of the MLSES power units (Figure 2). It is used for emergency storm water storage and for storage of material from the ash ponds and New Scrubber Pond during cleaning cycles (BM, 2015).

Based on drawings provided by Luminant and included in the BM report, PDP 5 is lined with compacted soil measuring 3 feet thick on its sides and 2 feet thick on its bottom (BM, 2015). PDP 5 is built on top of three closed and capped landfills (PDP 1, PDP 2, and PDP 3). PDP 4, which is located adjacent to PDP 5 to the south, is also a closed and capped landfill. PDP 1 through PDP 4 are not considered regulated units under the CCR Rule.

2.2 Local Geology and Hydrogeology

PDP 5 is located in the outcrop area of the Eocene-aged Wilcox Group (Barnes, 1965). Based on soil borings completed in the PDP 5 area, the geologic units include: (1) an upper sand unit observed on hilltops and other topographically high areas, (2) an intermediate continuous clay unit that contains discontinuous, interbedded sand layers, and (3) a lower unit of silt and sand that contains discontinuous packages of relatively thick, interbedded clay (PBW, 2017a). Based on information provided by Luminant, PDP 5 is completed entirely within the upper hilltop sand unit. The uppermost aquifer at the Site occurs in the lower unit of silt and sand that contains discontinuous packages of relatively thick, interbedded clay.

2.3 PDP 5 Groundwater Monitoring System

The CCR groundwater monitoring well system at PDP 5 consists of nine monitoring wells (MW-17A, MW-18A, MW-19, MW-20A, PDP-22, PDP-23, PDP-24, PDP-25, PDP-26) that are each screened in the uppermost aquifer at the Site. The locations of the CCR monitoring wells are shown on Figure 2. Well construction information and survey data for the CCR wells are summarized in Table 1. The wells were installed in 2008 and 2015. No wells were added to or removed from the CCR groundwater monitoring system during 2017.

2.4 Groundwater Potentiometric Surface

Static water levels measured during the background monitoring period and 2017 detection monitoring event indicated water elevations ranging from 352.38 feet above mean sea level (amsl) to 381.40 feet amsl, and depths to water ranging from 5.14 feet bgs to 38.44 feet bgs (Table 2).

Groundwater is mounded at PDP 5, with an inferred groundwater flow direction radially outward from the unit (Figure 3). Based on the inferred direction of groundwater flow, there are no upgradient areas in the immediate vicinity of PDP 5. All of the CCR monitoring wells, which are positioned radially around PDP 5, are downgradient wells.

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3.0 BACKGROUND GROUNDWATER MONITORING PROGRAM

Eight background groundwater monitoring events were performed using the PDP 5 CCR monitoring well system from October 2015 to December 2016. The results of the background monitoring events are described in this section.

3.1 Background Groundwater Monitoring Results

The PDP 5 CCR groundwater monitoring wells were sampled approximately every two months from October 2015 to December 2016 (eight sampling events) to fulfill the background monitoring period sampling requirements of the CCR Rule. Background sample data are summarized in Table 3 (Appendix III) and Table 4 (Appendix IV). Laboratory analytical reports for the data are presented in Appendix A.

3.2 Background Statistical Evaluation Procedures

Statistical analysis of groundwater monitoring data is required as part of detection monitoring and assessment monitoring under Section 257.93 of the CCR Rule. Section 257.93 of the CCR Rule provides several options for statistically evaluating the groundwater data. The owner or operator of the CCR unit must select one of the following statistical methods specified in paragraphs (f)(1) through (5) of Section 257.93 to be use in evaluating groundwater monitoring data for each specified constituent:

- (1) A parametric analysis of variance followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's mean and the background mean levels for each constituent.
- (2) An analysis of variance based on ranks followed by multiple comparison procedures to identify statistically significant evidence of contamination. The method must include estimation and testing of the contrasts between each compliance well's median and the background median levels for each constituent.
- (3) A tolerance or prediction interval procedure, in which an interval for each constituent is established from the distribution of the background data and the level of each constituent in each compliance well is compared to the upper tolerance or prediction limit.
- (4) A control chart approach that gives control limits for each constituent.
- (5) Another statistical test method that meets the performance standards of paragraph (g) of this section.

The following statistical evaluation approaches were selected to demonstrate groundwater compliance for PDP 5 under the CCR Rule:

- Use of intrawell data evaluations, which compare new sample data to historical data at each groundwater monitoring well independently.
- Use of prediction limits for data comparisons. This approach is a common statistical method used to evaluate groundwater compliance for Subtitle D landfill facilities and is one of the approved options for groundwater quality data statistical evaluation under the CCR Rule.

The evaluation procedures used for the PDP 5 background groundwater data conforms with the Rule requirements shown above, as well as EPA's *Unified Guidance: Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities* (EPA, 2009) and the American Society for Testing and Materials (ASTM) standard D6312-17, *Developing Appropriate Statistical Approaches for Groundwater Detection Monitoring Programs at waste Disposal Facilities* (ASTM, 2017). The statistical approach used for establishing prediction limits based on the background data are described in detail in the Statistical Analysis Plan for the Site (PBW, 2017c).

4.0 DETECTION GROUNDWATER MONITORING PROGRAM

In accordance with CCR Rule Section 257.94, detection monitoring groundwater samples are collected on a semi-annual basis from the PDP 5 CCR groundwater monitoring network.

4.1 Detection Monitoring Results

PBW collected the initial detection monitoring groundwater samples from the PDP 5 CCR monitoring wells in September 2017 and evaluation of the data commenced by October 17, 2017. The detection monitoring results are summarized in Table 5. Laboratory analytical reports for the detection monitoring samples are included in Appendix B. The evaluation of these data will be completed in 2018, and the evaluation will be summarized in the 2018 Annual Groundwater Monitoring Report.

4.2 CCR Detection Monitoring Activities Planned for 2018

In accordance with CCR Rule Section 257.94, detection monitoring groundwater samples will be collected on a semi-annual basis in 2018 and the analytical data from both sampling events will be included in the 2018 Annual Groundwater Monitoring Report. A statistical evaluation of the 2017 detection monitoring data and the first semi-annual 2018 detection monitoring data will be summarized in the 2018 Annual Groundwater Monitoring Report. If a statistically significant increase over background is determined for one or more of the detection monitoring constituents at any monitoring well at the CCR unit waste boundary, Luminant will comply with the applicable CCR Rule requirements in 257.94(e)(2).

5.0 ASSESSMENT GROUNDWATER MONITORING PROGRAM

Assessment groundwater monitoring was not performed at the Site during 2017. Assessment monitoring will be performed during 2018 if required based on the 2017/2018 detection monitoring results.

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6.0 REFERENCES

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- Burns & McDonnell Engineering Company, Inc (BM), 2015. CCR Study for Martin Lake Steam Electric Station – Final Draft. June 2015.
- Environmental Protection Agency (EPA), 2009. Unified Guidance Document: Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, EPA 530-R-09-007, March 2009.
- Pastor, Behling & Wheeler, LLC, 2017a. Coal Combustion Residual Rule Groundwater Monitoring System Certification, Martin Lake Steam Electric Station, PDP 5, Rusk County, Texas. October 16, 2017.
- Pastor, Behling & Wheeler, LLC, 2017b. Coal Combustion Residual Rule Monitoring Well Design, Installation, Development, and Decommissioning Report, Martin Lake Steam Electric Station, PDP 5, Rusk County, Texas. October 13, 2017.
- Pastor, Behling & Wheeler, LLC, 2017c. Coal Combustion Residual Rule Statistical Analysis Plan, Martin Lake Steam Electric Station, PDP 5, Rusk County, Texas. October 11, 2017.

Tables

TABLE 1
WELL CONSTRUCTION SUMMARY
PDP 5
MARTIN LAKE STEAM ELECTRIC STATION

Well ID	Date Installed	Northing	Easting	Ground Elevation (ft amsl)	TOC Elevation (ft amsl)	Top of Screen (ft bgs)	Bottom of Screen (ft bgs)	Screen Length (ft)	Total Design Depth (ft bgs)	Casing Diameter (in)
MW-17A	10/01/08	228279	2902653	384.57	387.75	27	47	20	47	2
MW-18A	10/2/08	228860	2902563	410.89	414.44	47	67	20	67	2
MW-19	9/30/08	229492	2902142	367.98	371.33	10	25	15	25	2
MW-20A	9/30/08	228847	2901077	395.74	398.98	10	40	30	41	2
PDP-22	9/9/15	229672	2901564	383.90	386.75	35	60	25	60	2
PDP-23	9/10/15	229231	2902465	391.06	394.43	35	45	10	45	2
PDP-24	9/11/15	228132	2902782	387.06	389.73	30	40	10	40	2
PDP-25	9/11/15	227735	2901945	385.13	387.97	50	60	10	60	2
PDP-26	9/9/15	227663	2900878	394.29	397.68	39	49	10	49	2

Notes:

1. Abbreviations: ft - feet; amsl - above mean sea level; bgs - below ground surface.

TABLE 2
GROUNDWATER ELEVATION SUMMARY
PERMANENT DISPOSAL POND 5
MARTIN LAKE STEAM ELECTRIC STATION

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
MW-17A	387.75	10/19/15	18.69	369.06
		12/14/15	17.14	370.61
		02/24/16	16.80	370.95
		04/05/16	16.46	371.29
		06/06/16	15.62	372.13
		08/09/16	16.14	371.61
		10/17/16	16.39	371.36
		12/11/16	18.17	369.58
		09/21/17	17.93	369.82
MW-18A	414.44	10/20/15	37.41	377.03
		12/14/15	35.92	378.52
		02/24/16	34.84	379.60
		04/05/16	33.88	380.56
		06/06/16	33.96	380.48
		08/09/16	33.04	381.40
		10/17/16	35.31	379.13
		12/11/16	37.46	376.98
		09/21/17	38.44	376.00
MW-19	371.33	10/20/15	12.60	358.73
		12/14/15	5.14	366.19
		02/24/16	5.56	365.77
		04/05/16	5.99	365.34
		06/06/16	5.31	366.02
		08/09/16	9.59	361.74
		10/17/16	6.81	364.52
		12/11/16	9.06	362.27
		09/21/17	6.17	365.16
MW-20A	398.98	10/20/15	25.17	373.81
		12/14/15	23.64	375.34
		02/24/16	23.44	375.54
		04/05/16	23.23	375.75
		06/06/16	22.39	376.59
		08/09/16	23.92	375.06
		10/17/16	24.47	374.51
		12/11/16	25.96	373.02
		09/21/17	25.86	373.12
PDP-22	386.75	10/20/15	34.17	352.58
		12/14/15	33.48	353.27
		02/24/16	33.09	353.66
		04/05/16	32.66	354.09
		06/06/16	33.49	353.26
		08/09/16	32.21	354.54
		10/17/16	32.59	354.16
		12/11/16	34.37	352.38
		09/21/17	33.14	353.61

TABLE 2
GROUNDWATER ELEVATION SUMMARY
PERMANENT DISPOSAL POND 5
MARTIN LAKE STEAM ELECTRIC STATION

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
PDP-23	394.43	10/20/15	23.61	370.82
		12/14/15	22.34	372.09
		02/24/16	19.94	374.49
		04/05/16	19.29	375.14
		06/06/16	18.11	376.32
		08/09/16	21.41	373.02
		10/17/16	22.51	371.92
		12/11/16	23.04	371.39
PDP-24	389.73	09/21/17	23.98	370.45
		10/20/15	25.62	364.11
		12/14/15	24.94	364.79
		02/24/16	24.76	364.97
		04/05/16	24.51	365.22
		06/06/16	23.87	365.86
		08/09/16	22.61	367.12
		10/17/16	22.08	367.65
PDP-25	387.97	12/11/16	24.19	365.54
		09/21/17	23.29	366.44
		10/20/15	13.49	374.48
		12/14/15	12.76	375.21
		02/24/16	26.84	361.13
		04/05/16	26.96	361.01
		06/06/16	26.17	361.80
		08/09/16	26.06	361.91
PDP-26	397.68	10/17/16	27.83	360.14
		12/11/16	29.71	358.26
		09/21/17	28.21	359.76
		10/20/15	31.24	366.44
		12/14/15	30.67	367.01
		02/24/16	30.11	367.57
		04/05/16	29.89	367.79
		06/06/16	29.06	368.62
PDP-27*	377.58	08/09/16	29.54	368.14
		10/17/16	30.57	367.11
		12/11/16	32.81	364.87
		09/21/17	32.22	365.46
		10/20/15	18.28	359.30
		12/14/15	7.61	369.97
		02/24/16	11.95	365.63
		04/05/16	10.27	367.31
PDP-27*	377.58	06/06/16	7.44	370.14
		08/09/16	17.46	360.12
		10/17/16	19.06	358.52
		12/11/16	19.78	357.80
		09/21/17	NM	NM

TABLE 3
APPENDIX III BACKGROUND GROUNDWATER ANALYTICAL DATA
MARTIN LAKE STEAM ELECTRIC STATION
PDP5

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	Fl (mg/L)	pH (s.u.)	SO ₄ (mg/L)	TDS (mg/L)
MW-17A	10/21/15	0.402	4.38	9.1	<0.1	5.00	37	138
	12/15/15	0.44	4.16	8.92	0.182 J	6.23	37.3	112
	02/24/16	0.458	4.56	8.39	<0.1	4.52	39.5	118
	04/05/16	0.459	4.64	7.82	<0.1	6.31	41.4	132
	06/07/16	0.455	5.02	8.96	<0.1	6.29	43.4	141
	08/10/16	0.41	4.46	9.52	<0.1	4.73	42.9	143
	10/19/16	0.375	6.05	8.01	0.182 J	6.84	30.4	108
	12/13/16	0.366	4.47	8.58	<0.1	6.83	39.4	131
MW-18A	10/29/15	0.158	1.75	9.34	<0.1	6.12	7.59	83
	12/15/15	0.142	2.06	8.23	0.125 J	5.62	6.43	50
	02/24/16	0.133	1.78	8.1	0.104 J	6.10	6.44	125
	04/06/16	0.0961	1.45	7.07	<0.1	6.42	5.26	79
	06/07/16	0.113	2.32	7.43	<0.1	6.52	6.11	81
	08/10/16	0.0755	1.13	7.04	<0.1	6.78	4.78	62
	10/19/16	0.0998	1.45	6.52	<0.1	6.72	4.26	37
	12/12/16	0.113	2.28	7.68	<0.1	6.90	5.48	80
MW-19	10/20/15	0.117	21.7	48.2	0.117 J	6.07	84.1	472
	12/14/15	0.271	75.4	28.4	0.195 J	6.25	200	573
	02/24/16	0.516	155	30	0.144 J	6.16	372	978
	04/06/16	0.473	134	31.3	0.221 J	6.34	362	836
	06/08/16	0.0965	17.8	25.5	0.258 J	6.77	29.1	311
	08/10/16	0.0539	8.62	30.8	0.152 J	5.42	31.6	323
	10/19/16	0.106	24.5	39.1	0.42	6.87	97.8	381
	12/12/16	0.203	65.4	39.9	0.145 J	6.85	369	786
MW-20A	10/20/15	0.102	9.16	10.7	0.552	5.67	99.8	236
	12/14/15	0.147	14.8	9.98	0.654	5.69	97.8	201
	02/24/16	0.159	15.4	10.2	0.608	5.72	107	309
	04/06/16	0.15	17.1	9.65	0.804	6.06	118	313
	06/08/16	0.177	20.8	11	0.583	6.32	119	261
	08/10/16	0.123	12.7	11.2	0.389 J	4.28	77.8	210
	10/19/16	0.126	10.8	10.9	0.52	6.78	79.6	229
	12/12/16	0.131	14.4	11	0.51	6.79	101	245
PDP-22	10/20/15	0.0794	3.4	25.9	0.108 J	5.47	42.2	270
	12/14/15	0.291	123	21.1	0.858	5.43	202	1,430
	02/24/16	0.25	160	16.5	0.264 J	6.22	211	883
	04/06/16	0.218	97.9	13.7	0.349 J	6.19	209	767
	06/08/16	0.213	216	14.1	0.113 J	6.72	200	778
	08/10/16	0.255	104	15.2	<0.1	7.12	216	750
	10/19/16	0.185	68.4	13.4	0.264 J	6.93	160	607
	12/12/16	0.163	122	8.27	0.201 J	6.74	105	710
PDP-23	10/20/15	0.031	1.8	5.38	<0.1	5.75	1.75 J	106
	12/14/15	0.039	1.79	5.09	0.127 J	5.70	1.45	57
	02/24/16	0.0556	1.61	5.63	<0.1	4.85	2.52 J	60
	04/06/16	0.0476	1.57	4.17	<0.1	6.29	1.46 J	88
	06/08/16	0.0388	1.59	5.68	<0.1	6.38	1.72 J	104
	08/10/16	0.0357	1.77	6.61	<0.1	5.00	2.37 J	99
	10/19/16	0.0456	1.7	5.09	0.129 J	6.62	1.31 J	78
	12/12/16	0.0294 J	1.77	4.87	<0.1	6.74	1.1 J	78

TABLE 3
APPENDIX III BACKGROUND GROUNDWATER ANALYTICAL DATA
MARTIN LAKE STEAM ELECTRIC STATION
PDP5

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	Fl (mg/L)	pH (s.u.)	SO ₄ (mg/L)	TDS (mg/L)
PDP-24	10/20/15	3.82	36.4	21.7	0.539	5.90	425	711
	12/15/15	2.96	34.9	22.6	0.756	5.72	340	606
	02/24/16	3.81	35.3	19.1	0.732	3.57	410	688
	04/05/16	3.99	34.5	18	0.817	6.17	416	711
	06/07/16	2.83	27.6	22.5	0.689	6.42	308	596
	08/10/16	3.8	32.6	21.4	0.693	3.97	432	747
	10/19/16	3.03	23.5	21.9	0.869	6.86	319	516
	12/12/16	3.58	32.4	21.7	0.69	6.57	351	588
PDP-25	10/20/15	0.101	35.2	137	<0.1	6.20	105	533
	12/15/15	0.0935	33.2	124	0.259 J	6.12	94.3	578
	02/24/16	0.113	36.6	116	0.151 J	5.76	97.8	602
	04/06/16	0.1	38.3	124	0.149 J	6.42	102	646
	06/08/16	0.102	36.3	132	<0.1	6.73	106	626
	08/10/16	0.119	37.7	136	<0.1	5.60	110	612
	10/19/16	0.117	37.2	129	0.198 J	6.93	98.6	590
	12/12/16	0.0955	36.3	176	0.135 J	6.58	102	565
PDP-26	10/20/15	0.0838	4.19	11.8	0.16 J	6.18	37.2	306
	12/15/15	0.0429	2.71	6.94	0.391 J	6.22	15.3	126
	02/24/16	0.0446	2.33	5.99	0.246 J	6.07	10.5	186
	04/06/16	0.0441	2.62	5.26	0.187 J	6.26	8.55	126
	06/08/16	0.0365	2.23	6.22	0.102 J	6.53	8.41	118
	08/10/16	0.0671	3.04	5.62	<0.1	6.86	7.79	114
	10/19/16	0.0483	2.31	5.22	<0.1	6.76	6.19	87
	12/12/16	0.047	2.43	5.56	0.251 J	6.78	6.69	84

Notes:

1. Abbreviations: mg/L - milligrams per liter; TDS - total dissolved solids; s.u. - standard units.
2. J - concentration is below method quantitation limit; result is an estimate.

TABLE 4
APPENDIX IV BACKGROUND GROUNDWATER ANALYTICAL DATA
MARTIN LAKE STEAM ELECTRIC STATION
PDP5

Sample Location	Date Sampled	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	Fl (mg/L)	Pb (mg/L)	Li (mg/L)	Hg (mg/L)	Mo (mg/L)	Se (mg/L)	Th (mg/L)	Ra 226 (pCi/L)	Ra 228 (pCi/L)	Ra 226/228 Comb.^ (pCi/L)
MW-17A	10/21/15	<0.0008	<0.002	0.101	<0.0003	<0.0003	<0.002	0.00732	<0.1	<0.0003	0.0145	0.000217	<0.002	<0.002	<0.0005	0.597	<1.67	2.27
	12/15/15	<0.0008	<0.002	0.0987	<0.0003	<0.0003	<0.002	0.0078	0.182 J	<0.0003	0.0147	0.0000969 J	<0.002	<0.002	<0.0005	0.459	<1.54	2.00
	02/24/16	<0.0008	<0.002	0.111	<0.0003	<0.0003	<0.002	0.0079	<0.1	<0.0003	0.0146	0.000232 J	<0.002	<0.002	<0.0005	<0.44	3.07	3.51
	04/05/16	<0.0008	<0.002	0.103	<0.0003	<0.0003	0.0055	0.00829	<0.1	<0.0003	0.0137	0.000196 J	<0.002	<0.002	<0.0005	0.280	<0.863	1.14
	06/07/16	<0.0008	<0.002	0.115	<0.0003	<0.0003	<0.002	0.00869	<0.1	<0.0003	0.0128	0.000174 J	<0.002	<0.002	<0.0005	0.241	1.35	1.59
	08/10/16	<0.0008	<0.002	0.108	<0.0003	<0.0003	<0.002	0.00795	<0.1	<0.0003	0.0153	0.000114 J	<0.002	<0.002	<0.0005	0.343	<0.707	1.05
	10/19/16	<0.0008	<0.002	0.0908	<0.0003	<0.0003	<0.002	0.00617	0.182 J	<0.0003	0.00886 J	0.0000846 J	<0.002	<0.002	<0.0005	0.215	0.975	1.19
	12/13/16	<0.0008	<0.002	0.116	<0.0003	<0.0003	<0.002	0.0082	<0.1	<0.0003	0.0161	0.0000996 J	<0.002	<0.002	<0.0005	0.404	1.12	1.52
MW-18A	10/29/15	<0.0008	<0.002	0.063	<0.0003	<0.0003	<0.002	0.00321 J	<0.1	<0.0003	0.00901 J	0.0035	<0.002	<0.002	<0.0005	0.659	<2.39	3.05
	12/15/15	<0.0008	<0.002	0.0674	<0.0003	<0.0003	<0.002	0.00346 J	0.125 J	<0.0003	0.00873 J	0.0062	<0.002	<0.002	<0.0005	0.805	<1.9	2.71
	02/24/16	<0.0008	<0.002	0.0591	0.000344 J	<0.0003	<0.002	0.00318 J	0.104 J	<0.0003	0.00858 J	0.00354	<0.002	<0.002	<0.0005	<0.521	<1.82	2.34
	04/06/16	<0.0008	<0.002	0.0487	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.00907 J	0.00252	<0.002	<0.002	<0.0005	<0.443	<1.04	1.48
	06/07/16	<0.0008	<0.002	0.0505	<0.0003	<0.0003	0.00326 J	0.00308 J	<0.1	0.000403 J	0.00768 J	0.0378	<0.002	0.00251 J	<0.0005	0.164	1.60	1.76
	08/10/16	<0.0008	<0.002	0.0447	<0.0003	<0.0003	0.00251 J	<0.003	<0.1	<0.0003	0.00806 J	0.0312	<0.002	0.00292 J	<0.0005	0.288	<0.607	0.90
	10/19/16	<0.0008	<0.002	0.0453	<0.0003	<0.0003	0.00313 J	<0.003	<0.1	0.000375 J	0.00852 J	0.0428	<0.002	0.00234 J	<0.0005	0.267	<0.648	0.92
	12/12/16	<0.0008	<0.002	0.0413	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.000353 J	0.00908 J	0.061	<0.002	0.00311 J	<0.0005	<0.125	<0.624	0.75
MW-19	10/20/15	<0.0008	0.00502	0.0396	0.000336 J	<0.0003	<0.002	0.00304 J	0.117 J	<0.0003	0.0158	<0.00008	<0.002	<0.002	<0.0005	0.683	<2.48	3.16
	12/14/15	<0.0008	0.0047 J	0.0591	<0.0003	<0.0003	<0.002	<0.003	0.195 J	<0.0003	0.00593 J	<0.00008	<0.002	<0.002	<0.0005	<0.448	<1.19	1.64
	02/24/16	<0.0008	0.0147	0.0878	0.000679 J	<0.0003	<0.002	<0.003	0.144 J	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	1.49	<1.6	3.09
	04/06/16	<0.0008	0.00689	0.0517	<0.0003	<0.0003	<0.002	0.00434 J	0.221 J	<0.0003	0.00622 J	<0.00008	<0.002	<0.002	<0.0005	0.307	<1.05	1.36
	06/08/16	<0.0008	0.00761	0.0223	0.00043 J	<0.0003	0.00266 J	<0.003	0.258 J	0.000501 J	0.0153	<0.00008	<0.002	<0.002	<0.0005	0.261	<0.7	0.96
	08/10/16	<0.0008	0.00286 J	0.0188	<0.0003	<0.0003	0.00346 J	<0.003	0.152 J	0.000807 J	0.0144	<0.00008	<0.002	<0.002	<0.0005	0.223	0.62	0.85
	10/19/16	<0.0008	0.0125	0.0307	0.000539 J	<0.0003	0.00385 J	0.00325 J	0.42	0.00122	0.0151	<0.00008	<0.002	<0.002	<0.0005	0.151	1.87	2.02
	12/12/16	<0.0008	0.0259	0.0548	0.00066 J	<0.0003	0.00336 J	0.00328 J	0.145 J	0.00106	0.00976 J	<0.00008	<0.002	0.00257 J	<0.0005	0.229	1.13	1.36
MW-20A	10/20/15	<0.0008	<0.002	0.0357	0.000407 J	<0.0003	<0.002	0.00346 J	0.552	0.00101	0.0164	0.00289	<0.002	0.00483 J	<0.0005	3.01	<1.60	4.61
	12/14/15	<0.0008	<0.002	0.0291	0.000605 J	<0.0003	<0.002	0.00464 J	0.654	0.00132	0.0162	0.00039	<0.002	0.00682	<0.0005	0.939	<2.2	3.14
	02/24/16	<0.0008	<0.002	0.0289	0.000632 J	<0.0003	<0.002	0.00539	0.608	0.00166	0.0163	0.000352	<0.002	0.0068	<0.0005	0.643	2.21	2.85
	04/06/16	<0.0008	<0.002	0.03	0.000519 J	<0.0003	<0.002	0.00575	0.804	0.00209	0.0166	0.000371	<0.002	0.00739	<0.0005	0.778	<1.23	2.01
	06/08/16	<0.0008	<0.002	0.106	0.00057 J	<0.0003	0.00249 J	0.00672	0.583	0.00471	0.0147	0.00069	<0.002	0.0105	<0.0005	3.15	5.35	8.50
	08/10/16	<0.0008	<0.002	0.0313	0.000502 J	<0.0003	<0.002	0.00427 J	0.389 J	0.00141	0.0166	0.000325	<0.002	0.00518	<0.0005	0.61	1.05	1.66
	10/19/16	<0.0008	<0.002	0.0282	0.000541 J	<0.0003	<0.002	0.00382 J	0.52	0.00136	0.0194	0.000362	<0.002	0.00478 J	<0.0005	0.301	1.17	1.47
	12/12/16	<0.0008	<0.002	0.0315	0.000553 J	<0.0003	<0.002	0.00494 J	0.51	0.00186	0.0186	0.000412	<0.002	0.00801	<0.0005	0.168	0.895	1.06
PDP-22	10/20/15	<0.0008	<0.002	0.0567	<0.0003	<0.0003	<0.002	0.00397 J	0.108 J	0.00244	0.00712 J	<0.00008	<0.002	<0.002	<0.0005	1.18	<1.66	2.84
	12/14/15	<0.0008	0.0108	0.469	<0.0003	<0.0003	0.0968	0.00434 J	0.858	<0.0003	0.106	<0.00008	0.00649	<0.002	<0.0005	2.12	2.14	4.26
	02/24/16	<0.0008	0.00742	0.332	<0.0003	<0.0003	0.0375	0.00608	0.264 J	<0.0003	0.0229	<0.00008	0.00213 J	<0.002	<0.0005	1.27	<1.6	2.87
	04/06/16	<0.0008	0.00536	0.146	<0.0003	<0.0003	0.017	<0.003	0.349 J	<0.0003	0.0874	<0.00008	0.00205 J	<0.002	<0.0005	0.354	<1.16	1.51
	06/08/16	<0.0008	0.00774	0.521	<0.0003	<0.0003	0.0995	0.00404 J	0.113 J	0.000532 J	0.184	<0.00008	0.00236 J	<0.002	<0.0005	2.64	<1.02	3.66
	08/10/16	<0.0008	0.00488 J	0.141	<0.0003	<0.0003	0.0121	<0.003	<0.1	<0.0003	0.0219	<0.00008	<0.002	<0.002	<0.0005	0.793	0.628	1.42
	10/19/16	<0.0008	0.00518	0.0963	<0.0003	<0.0003	0.0259	<0.003	0.264 J	0.000417 J	<0.025	<0.00008	<0.002	<0.002	<0.0005	0.231	1.40	1.63
	12/12/16	<0.0008	0.0047 J	0.258	<0.0003	<0.0003	0.0361	<0.003	0.201 J	<0.0003	0.116	<0.00008	<0.002	<0.002	<0.0005	1.16	2.30	3.46
PDP-23	10/20/15	<0.0008	<0.002	0.0423	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0114	<0.00008	<0.002	<0.002	<0.0005	1.06	<1.67	2.73
	12/14/15	<0.0008	<0.002	0.0384	<0.0003	<0.0003	0.00275 J	<0.003	0.127 J	<0.0003	0.0162	<0.00008	<0.002	<0.002	<0.0005	<0.419	<1.11	1.53
	02/24/16	<0.0008	<0.002	0.0433	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0115	<0.00008	<0.002	<0.002	<0.0005	1.06	<1.61	2.67
	04/06/16	<0.0008	<0.002	0.0375	<0.0003	<0.0003	0.002 J	<0.003	<0.1	<0.0003	0.0126	<0.00008	<0.002	<0.002	<0.0005	<0.247	<1.11	1.36
	06/08/16	<0.0008	<0.002	0.0435	<0.0003	<0.0003	0.00225 J	<0.003	<0.1	<0.0003	0.0125	<0.00008	<0.002	<0.002	<0.0005	<0.369	<0.757	1.13
	08/10/16	<0.0008	<0.002	0.0449	<0.0003	<0.0003	<0.002	<0.003	&									

TABLE 4
APPENDIX IV BACKGROUND GROUNDWATER ANALYTICAL DATA
MARTIN LAKE STEAM ELECTRIC STATION
PDP5

Sample Location	Date Sampled	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	Fl (mg/L)	Pb (mg/L)	Li (mg/L)	Hg (mg/L)	Mo (mg/L)	Se (mg/L)	Th (mg/L)	Ra 226 (pCi/L)	Ra 228 (pCi/L)	Ra 226/228 Comb.^ (pCi/L)
PDP-25	10/20/15	<0.0008	<0.002	0.222	<0.0003	<0.0003	<0.002	0.0114	<0.1	<0.0003	0.0718	<0.00008	<0.002	<0.002	<0.0005	1.19	<1.55	2.74
	12/15/15	<0.0008	0.00372 J	0.21	<0.0003	<0.0003	0.0131	0.011	0.259 J	<0.0003	0.128	<0.00008	<0.002	<0.002	<0.0005	0.807	<1.36	2.17
	02/24/16	<0.0008	0.00239 J	0.218	<0.0003	<0.0003	0.0231	0.00978	0.151 J	<0.0003	0.176	<0.00008	<0.002	<0.002	<0.0005	0.613	<2.28	2.89
	04/06/16	<0.0008	<0.002	0.197	<0.0003	<0.0003	0.0165	0.0103	0.149 J	<0.0003	0.171	<0.00008	<0.002	<0.002	<0.0005	0.568	<1.22	1.79
	06/08/16	<0.0008	0.00214 J	0.201	<0.0003	<0.0003	0.025	0.0114	<0.1	<0.0003	0.164	<0.00008	<0.002	<0.002	<0.0005	0.410	2.59	3.00
	08/10/16	<0.0008	<0.002	0.193	<0.0003	<0.0003	0.00527	0.0109	<0.1	<0.0003	0.12	<0.00008	<0.002	<0.002	<0.0005	0.410	<1.22	1.63
	10/19/16	<0.0008	<0.002	0.178	<0.0003	<0.0003	0.00684	0.0104	0.198 J	<0.0003	0.0974	<0.00008	<0.002	<0.002	<0.0005	<0.112	1.76	1.87
	12/12/16	<0.0008	0.00378 J	0.196	<0.0003	<0.0003	0.0593	0.0112	0.135 J	<0.0003	0.109	<0.00008	<0.002	<0.002	<0.0005	<0.181	1.03	1.21
PDP-26	10/20/15	<0.0008	<0.002	0.0326	<0.0003	<0.0003	<0.002	0.00338 J	0.16 J	0.000983 J	0.0111	<0.00008	<0.002	<0.002	<0.0005	0.590	<1.54	2.13
	12/15/15	<0.0008	0.00474 J	0.0284	<0.0003	<0.0003	<0.002	<0.003	0.391 J	<0.0003	0.0126	<0.00008	<0.002	<0.002	<0.0005	<0.506	<1.35	1.86
	02/24/16	<0.0008	0.00334 J	0.0277	<0.0003	<0.0003	<0.002	<0.003	0.246 J	<0.0003	0.0141	<0.00008	<0.002	<0.002	<0.0005	0.793	<1.64	2.43
	04/06/16	<0.0008	<0.002	0.0242	<0.0003	<0.0003	<0.002	<0.003	0.187 J	<0.0003	0.0138	<0.00008	<0.002	<0.002	<0.0005	<0.187	<1.08	1.27
	06/08/16	<0.0008	0.00302 J	0.029	<0.0003	<0.0003	<0.002	<0.003	0.102 J	0.000377 J	0.0129	<0.00008	<0.002	<0.002	<0.0005	<0.171	<0.755	0.93
	08/10/16	<0.0008	0.00589	0.0355	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.000675 J	0.0151	<0.00008	<0.002	<0.002	<0.0005	<0.166	<0.484	0.65
	10/19/16	<0.0008	0.00271 J	0.0287	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0122	<0.00008	<0.002	<0.002	<0.0005	<0.136	0.705	0.84
	12/12/16	<0.0008	0.00206 J	0.0286	<0.0003	<0.0003	<0.002	<0.003	0.251 J	<0.0003	0.0134	<0.00008	<0.002	<0.002	<0.0005	0.193	<0.534	0.73

Notes:

1. Abbreviations: mg/L - milligrams per liter; pCi/L - picocuries per liter.
2. ^ - Sum of Ra 226 and Ra 228 concentrations. Non-detect isotope results were assigned a value equal to the minimum detectable concentration.
3. J - concentration is below method quantitation limit; result is an estimate

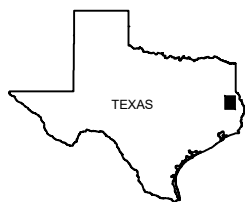
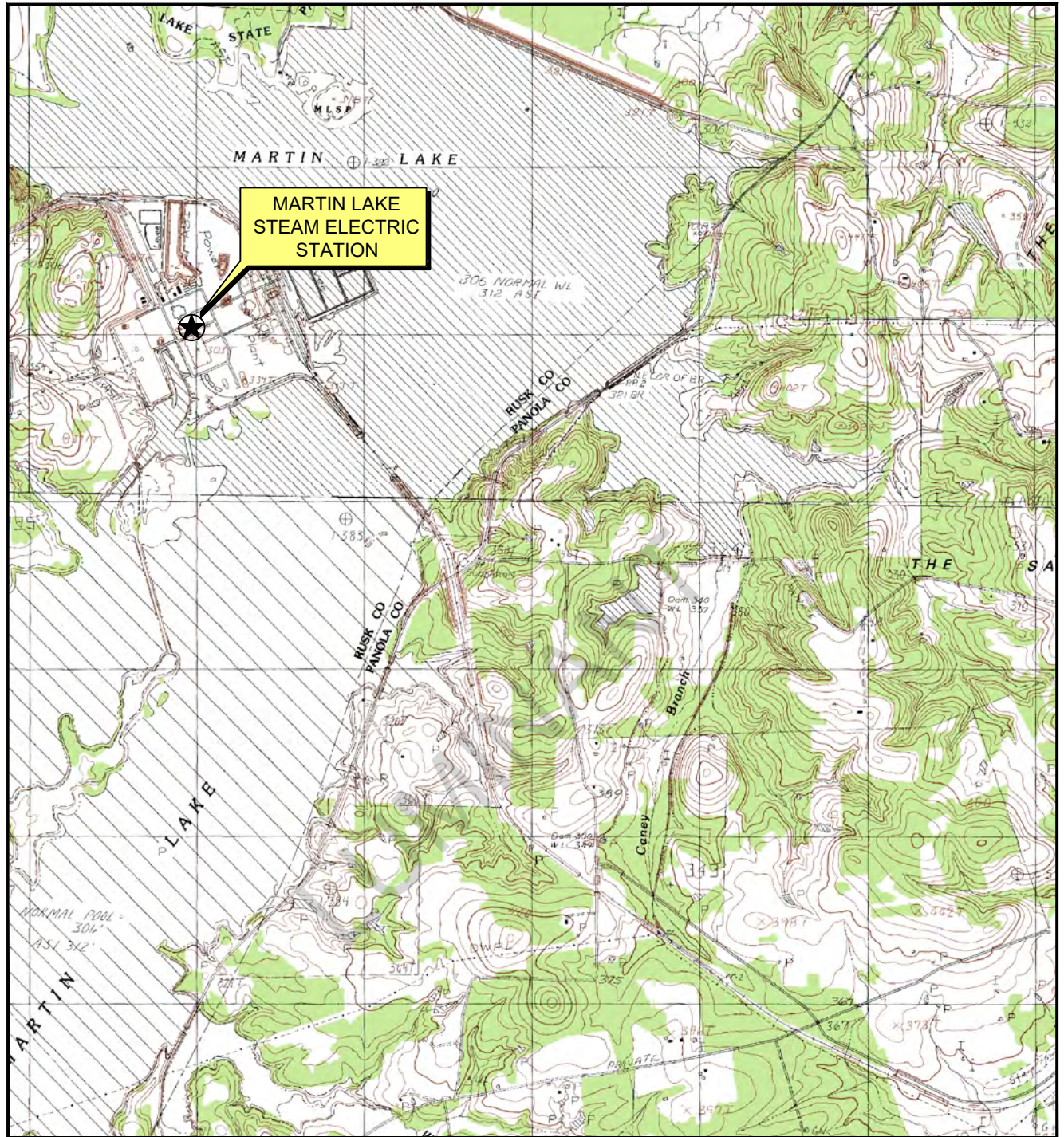
TABLE 5
APPENDIX III DETECTION MONITORING GROUNDWATER ANALYTICAL DATA
MARTIN LAKE STEAM ELECTRIC STATION
PDP5

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	Fl (mg/L)	pH (s.u.)	SO₄ (mg/L)	TDS (mg/L)
MW-17A	09/22/17	0.402	3.1	8.3	<0.1	6.78	31.2	111
MW-18A	09/21/17	0.0654	1.04	5.27	<0.1	6.94	3.23	45
MW-19	09/22/17	0.0677	2.74	5.36	<0.1	6.94	1.46 J	98
MW-20A	09/22/17	0.0807	17.4	12.6	0.175 J	6.71	74.2	237
PDP-22	09/22/17	0.221	92.5	12.3	0.321 J	6.98	178	558
PDP-23	09/22/17	0.0463	2.34	4.48	0.147 J	6.77	1.47 J	111
PDP-24	09/22/17	3.01	25.8	17.5	0.898	6.95	231	440
PDP-25	09/22/17	0.133	36.8	130	0.157 J	6.81	89.1	481
PDP-26	09/22/17	0.0343	2.32	5.24	0.157 J	6.84	5.88	107

Notes:

1. Abbreviations: mg/L - milligrams per liter; TDS - total dissolved solids; s.u. - standard units.
2. J - concentration is below method quantitation limit; result is an estimate.

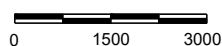
Figures



QUADRANGLE LOCATION



Scale in Feet



SOURCE:
Base map from www.tnris.gov, Tatum, TX 7.5 min. USGS quadrangle dated 1983.

MARTIN LAKE STEAM ELECTRIC STATION TATUM, TEXAS

Figure 1

PDP 5 AREA **SITE LOCATION MAP**

PROJECT: 5123B

BY: AJD

REVISIONS

DATE: JUNE, 2015

CHECKED: PJB

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

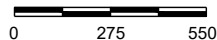


EXPLANATION

 CCR Monitoring Well



Scale in Feet



SOURCE:
Imagery from www.tnris.gov, Rusk County, aerial photographs, 2012.

MARTIN LAKE STEAM ELECTRIC STATION TATUM, TEXAS

Figure 2

PDP 5 AREA DETAILED SITE PLAN

PROJECT: 5164B

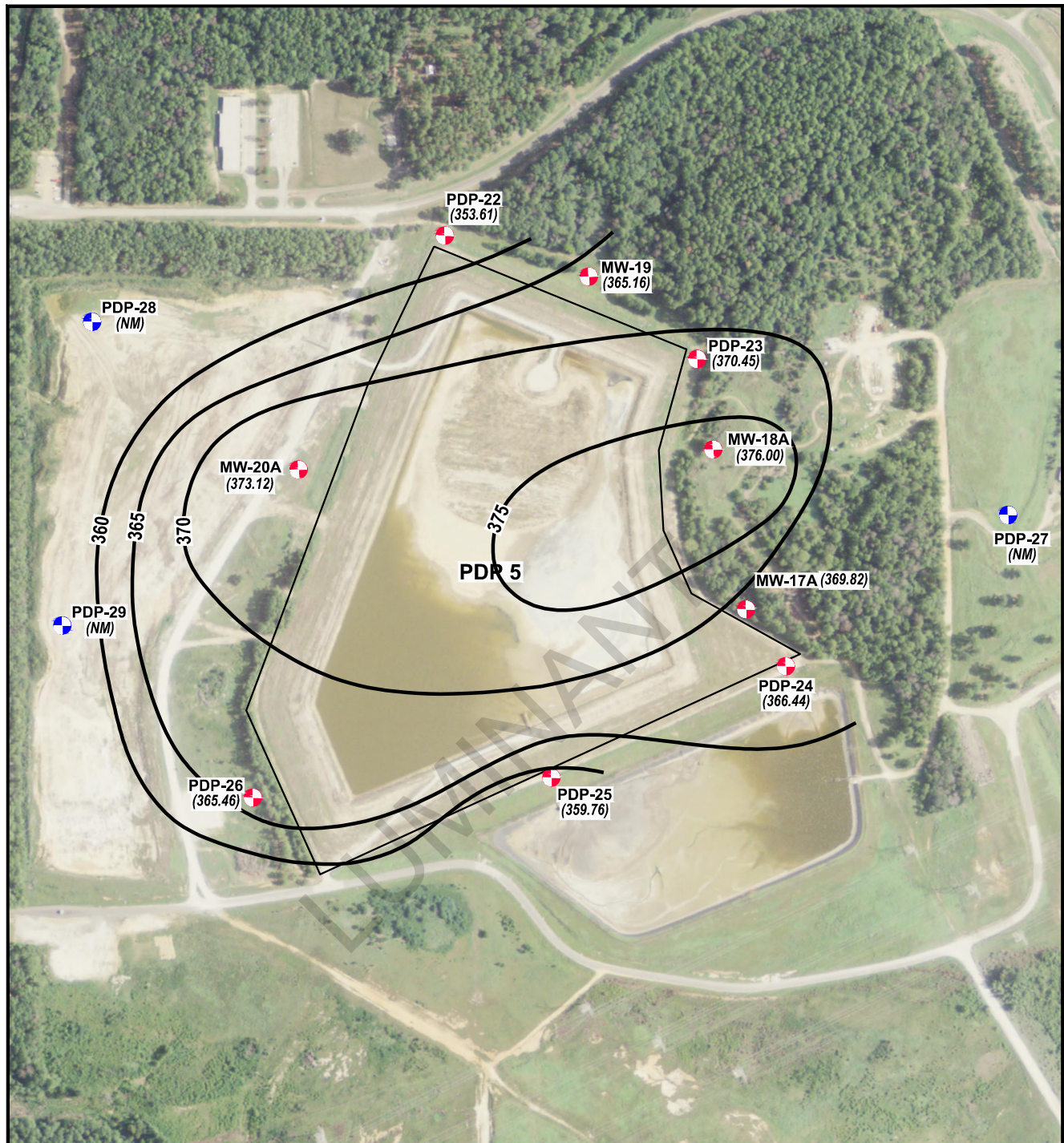
BY: AJD

REVISIONS

DATE: SEPT., 2017

CHECKED: PJB

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS



EXPLANATION

-  CCR Monitoring Well Location
-  Non-CCR Monitoring Well Used to Further Evaluate Groundwater Flow Direction

(374.34) Groundwater Potentiometric Surface (ft. MSL)

— 360 — Groundwater Potentiometric Surface Contour (C.I. = 5 ft.)

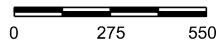
Notes:

1. Only Zone A wells were used to construct potentiometric surface contours.
2. NM - not measured

SOURCE:
Imagery from www.tnris.gov, Rusk County, aerial photographs, 2012.



Scale in Feet



MARTIN LAKE STEAM ELECTRIC STATION TATUM, TEXAS

Figure 3

PDP 5 - GROUNDWATER POTENTIOMETRIC SURFACE MAP SEPTEMBER 21, 2017

PROJECT: 5347C

BY: AJD

REVISIONS

DATE: JAN., 2018

CHECKED: PJB

PASTOR, BEHLING & WHEELER, LLC
CONSULTING ENGINEERS AND SCIENTISTS

Appendix A

Laboratory Analytical Reports – Background Data



December 04, 2015

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Luminant - Martin Lake

Order No.: 1510216

Dear Will Vienne:

DHL Analytical, Inc. received 16 sample(s) on 10/23/2015 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-15-15



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John Dupont

From: Sara Taube [Sara.Taube@pbwllc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

SHIP DATE: 22OCT15
ACTWGT: 50.20 LB
CAD: /POS1621
DIMS: 24x13x13 IN
BILL SENDER

10

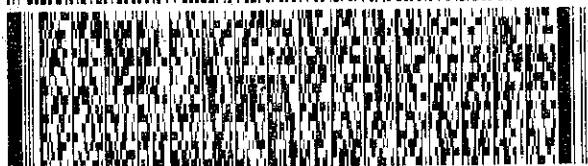
ROUND ROCK TX 78664

(512) 388-8222

REF :

PO:

DEPT:



FedEx
Express

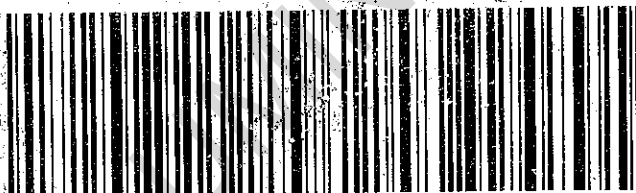


TRK# 8066 8916 8136
0200

FRI - 23 OCT 10:30A
PRIORITY OVERNIGHT

A8 BSMA

78664
TX-US AUS



ORIGIN ID: 666A (803) 794-0625
PASTOR, BEHLING & WHEELER, LLC
2201 DOUBLE CREEK DR STE 4004
ROUND ROCK, TX 786643843
UNITED STATES US

SHIP DATE: 22OCT15
ACTWGT: 49.80 LB
CAD: /POS1621
DIMS: 24x13x13 IN
BILL SENDER

Pat # 18629/435 HT2 05/15
JUL 15 2015 15:05:11
cc/11 330988

TO
DHL ANALYTICAL
2300 DOUBLE CREEK DR
ROUND ROCK TX 78664

(512) 388-8222

DEPT:



FedEx
Express



US 10011505108311

TRK#
10200

8066 8916 8158

A8 BSM

FRI - 23 OCT 10:30A
PRIORITY OVERNIGHT

78664

TX-US AUS



Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 10/23/2015

Work Order Number 1510216

Received by JB

Checklist completed by: [Signature] 10/23/2015
Signature DateReviewed by: [Initials] 10/23/2015
Initials Date

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	4.5 °C, 4.2.3.4
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH<2 acceptable upon receipt?	Yes ☒	No ☐	NA ☐ LOT # 8086
	Adjusted? <u>NO</u>		Checked by <u>[Signature]</u>
Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☒ LOT #
	Adjusted? _____		Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Lab Order: 1510216

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis

LOG IN

The samples were received and log-in performed on 10/23/15. A total of 16 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 11/5/15 Chromium and Molybdenum were detected above the reporting limits in the method blank (MB-72051). All associated samples were below detection limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 11/5/15 (batch 72051) the matrix spike duplicate recovery was slightly above control limits for Boron and Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 11/9/15 (batch 72217) the RPD for the serial dilution was above control limits for Chromium. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 11/5/15 and 11/9/15 four LCVLs were above control limits for Boron. These are flagged accordingly. The associated CCVs were within control limits for this analyte. No further corrective actions were taken.

ANIONS ANALYSIS

For Anions analysis performed on 11/2/15 the matrix spike duplicate recoveries (1510216-02 MSD & 1510216-07 MSD) were slightly above control limits for Sulfate. These are flagged accordingly in the QC summary report. The samples selected for the matrix spikes and matrix spike duplicates were from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Lab Order: 1510216**Work Order Sample Summary**

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1510216-01	PDP-23		10/20/15 07:40 AM	10/23/2015
1510216-02	PDP-24		10/20/15 08:35 AM	10/23/2015
1510216-03	PDP-22		10/20/15 09:25 AM	10/23/2015
1510216-04	MW-19		10/20/15 10:20 AM	10/23/2015
1510216-05	MW-20A		10/20/15 11:20 AM	10/23/2015
1510216-06	PDP-26		10/20/15 02:20 PM	10/23/2015
1510216-07	PDP-25		10/20/15 03:20 PM	10/23/2015
1510216-08	H-30		10/20/15 04:20 PM	10/23/2015
1510216-09	H-31		10/20/15 05:15 PM	10/23/2015
1510216-10	H-29		10/21/15 12:45 PM	10/23/2015
1510216-11	H-28		10/21/15 01:35 PM	10/23/2015
1510216-12	H-27		10/21/15 02:20 PM	10/23/2015
1510216-13	H-26		10/21/15 03:25 PM	10/23/2015
1510216-14	H-33		10/22/15 12:55 PM	10/23/2015
1510216-15	H-32		10/22/15 01:55 PM	10/23/2015
1510216-16	MW-17A		10/21/15 02:55 PM	10/23/2015

Lab Order: 1510216
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1510216-01A	PDP-23	10/20/15 07:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-23	10/20/15 07:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-23	10/20/15 07:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-01D	PDP-23	10/20/15 07:40 AM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	PDP-23	10/20/15 07:40 AM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	PDP-23	10/20/15 07:40 AM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-02A	PDP-24	10/20/15 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-24	10/20/15 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-24	10/20/15 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-24	10/20/15 08:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-02D	PDP-24	10/20/15 08:35 AM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	PDP-24	10/20/15 08:35 AM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	PDP-24	10/20/15 08:35 AM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	PDP-24	10/20/15 08:35 AM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-03A	PDP-22	10/20/15 09:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-22	10/20/15 09:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-22	10/20/15 09:25 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-03D	PDP-22	10/20/15 09:25 AM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	PDP-22	10/20/15 09:25 AM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	PDP-22	10/20/15 09:25 AM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-04A	MW-19	10/20/15 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	MW-19	10/20/15 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	MW-19	10/20/15 10:20 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-04D	MW-19	10/20/15 10:20 AM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	MW-19	10/20/15 10:20 AM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	MW-19	10/20/15 10:20 AM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-05A	MW-20A	10/20/15 11:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	MW-20A	10/20/15 11:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051

Lab Order: 1510216
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1510216-05A	MW-20A	10/20/15 11:20 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-05D	MW-20A	10/20/15 11:20 AM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	MW-20A	10/20/15 11:20 AM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	MW-20A	10/20/15 11:20 AM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-06A	PDP-26	10/20/15 02:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-26	10/20/15 02:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-26	10/20/15 02:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-06D	PDP-26	10/20/15 02:20 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	PDP-26	10/20/15 02:20 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	PDP-26	10/20/15 02:20 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-07A	PDP-25	10/20/15 03:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-25	10/20/15 03:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-25	10/20/15 03:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	PDP-25	10/20/15 03:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-07D	PDP-25	10/20/15 03:20 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	PDP-25	10/20/15 03:20 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	PDP-25	10/20/15 03:20 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	PDP-25	10/20/15 03:20 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-08A	H-30	10/20/15 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-30	10/20/15 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-30	10/20/15 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/09/15 08:08 AM	72217
	H-30	10/20/15 04:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-08D	H-30	10/20/15 04:20 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-30	10/20/15 04:20 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-30	10/20/15 04:20 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	H-30	10/20/15 04:20 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-09A	H-31	10/20/15 05:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-31	10/20/15 05:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/09/15 08:08 AM	72217

Lab Order: 1510216
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1510216-09A	H-31	10/20/15 05:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	11/09/15 08:08 AM	72217
	H-31	10/20/15 05:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-31	10/20/15 05:15 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-09D	H-31	10/20/15 05:15 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-31	10/20/15 05:15 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-31	10/20/15 05:15 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	H-31	10/20/15 05:15 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-10A	H-29	10/21/15 12:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-29	10/21/15 12:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-29	10/21/15 12:45 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-10D	H-29	10/21/15 12:45 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-29	10/21/15 12:45 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-29	10/21/15 12:45 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	H-29	10/21/15 12:45 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
	H-29	10/21/15 12:45 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-11A	H-28	10/21/15 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-28	10/21/15 01:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-28	10/21/15 01:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-11D	H-28	10/21/15 01:35 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-28	10/21/15 01:35 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-28	10/21/15 01:35 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	H-28	10/21/15 01:35 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
	H-28	10/21/15 01:35 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-12A	H-27	10/21/15 02:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-27	10/21/15 02:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-27	10/21/15 02:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-12D	H-27	10/21/15 02:20 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-27	10/21/15 02:20 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-27	10/21/15 02:20 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	H-27	10/21/15 02:20 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016

Lab Order: 1510216
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1510216-13A	H-26	10/21/15 03:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-26	10/21/15 03:25 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-13D	H-26	10/21/15 03:25 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-26	10/21/15 03:25 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-26	10/21/15 03:25 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	H-26	10/21/15 03:25 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-14A	H-33	10/22/15 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-33	10/22/15 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-33	10/22/15 12:55 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-14D	H-33	10/22/15 12:55 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-33	10/22/15 12:55 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-33	10/22/15 12:55 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	H-33	10/22/15 12:55 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-15A	H-32	10/22/15 01:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-32	10/22/15 01:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	H-32	10/22/15 01:55 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-15D	H-32	10/22/15 01:55 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-32	10/22/15 01:55 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	H-32	10/22/15 01:55 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	H-32	10/22/15 01:55 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016
1510216-16A	MW-17A	10/21/15 02:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/28/15 08:58 AM	72051
	MW-17A	10/21/15 02:55 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/28/15 10:56 AM	72061
1510216-16D	MW-17A	10/21/15 02:55 PM	Aqueous	E300	Anion Preparation	11/02/15 08:38 AM	72110
	MW-17A	10/21/15 02:55 PM	Aqueous	M4500-H+ B	pH Preparation	10/23/15 12:13 PM	71998
	MW-17A	10/21/15 02:55 PM	Aqueous	M2540C	TDS Preparation	10/26/15 10:21 AM	72016

Lab Order: 1510216
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1510216-01A	PDP-23	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 12:36 PM	CETAC2_HG_151029 B
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 01:33 PM	ICP-MS3_151105A
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/09/15 03:16 PM	ICP-MS4_151109D
1510216-01D	PDP-23	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 10:06 AM	IC2_151102A
	PDP-23	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 12:49 PM	TITRATOR_151023A
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-02A	PDP-24	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 12:47 PM	CETAC2_HG_151029 B
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 01:20 PM	ICP-MS3_151105A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	10	11/05/15 05:24 PM	ICP-MS3_151105A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	10	11/09/15 03:12 PM	ICP-MS4_151109D
1510216-02D	PDP-24	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 10:21 AM	IC2_151102A
	PDP-24	Aqueous	E300	Anions by IC method - Water	72110	10	11/02/15 02:52 PM	IC2_151102A
	PDP-24	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 12:51 PM	TITRATOR_151023A
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-03A	PDP-22	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 12:49 PM	CETAC2_HG_151029 B
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 01:39 PM	ICP-MS3_151105A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/09/15 03:18 PM	ICP-MS4_151109D
1510216-03D	PDP-22	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 10:35 AM	IC2_151102A
	PDP-22	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 12:53 PM	TITRATOR_151023A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-04A	MW-19	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 12:52 PM	CETAC2_HG_151029 B
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 01:45 PM	ICP-MS3_151105A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/09/15 03:20 PM	ICP-MS4_151109D
1510216-04D	MW-19	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 10:50 AM	IC2_151102A
	MW-19	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 12:55 PM	TITRATOR_151023A
	MW-19	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B

Lab Order: 1510216
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1510216-05A	MW-20A	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 12:54 PM	CETAC2_HG_151029 B
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/09/15 03:22 PM	ICP-MS4_151109D
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 01:51 PM	ICP-MS3_151105A
1510216-05D	MW-20A	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 11:04 AM	IC2_151102A
	MW-20A	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 12:58 PM	TITRATOR_151023A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-06A	PDP-26	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:01 PM	CETAC2_HG_151029 B
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 01:57 PM	ICP-MS3_151105A
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/09/15 03:24 PM	ICP-MS4_151109D
1510216-06D	PDP-26	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 11:19 AM	IC2_151102A
	PDP-26	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 12:59 PM	TITRATOR_151023A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-07A	PDP-25	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:03 PM	CETAC2_HG_151029 B
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 02:03 PM	ICP-MS3_151105A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	10	11/05/15 05:30 PM	ICP-MS3_151105A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/09/15 03:26 PM	ICP-MS4_151109D
1510216-07D	PDP-25	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 11:44 AM	IC2_151102A
	PDP-25	Aqueous	E300	Anions by IC method - Water	72110	10	11/02/15 03:06 PM	IC2_151102A
	PDP-25	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 01:00 PM	TITRATOR_151023A
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-08A	H-30	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:05 PM	CETAC2_HG_151029 B
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 02:09 PM	ICP-MS3_151105A
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	50	11/05/15 05:36 PM	ICP-MS3_151105A
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72217	1	11/09/15 05:48 PM	ICP-MS4_151109D
1510216-08D	H-30	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 11:59 AM	IC2_151102A
	H-30	Aqueous	E300	Anions by IC method - Water	72110	10	11/02/15 03:21 PM	IC2_151102A

Lab Order: 1510216
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1510216-08D	H-30	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 01:02 PM	TITRATOR_151023A
	H-30	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-09A	H-31	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:08 PM	CETAC2_HG_151029 B
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 02:15 PM	ICP-MS3_151105A
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	50	11/05/15 05:42 PM	ICP-MS3_151105A
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72217	1	11/09/15 05:44 PM	ICP-MS4_151109D
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72217	100	11/09/15 06:37 PM	ICP-MS4_151109D
1510216-09D	H-31	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 12:13 PM	IC2_151102A
	H-31	Aqueous	E300	Anions by IC method - Water	72110	100	11/02/15 05:22 PM	IC2_151102A
	H-31	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 01:03 PM	TITRATOR_151023A
	H-31	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-10A	H-29	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:11 PM	CETAC2_HG_151029 B
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 02:21 PM	ICP-MS3_151105A
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/09/15 03:28 PM	ICP-MS4_151109D
1510216-10D	H-29	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 12:28 PM	IC2_151102A
	H-29	Aqueous	E300	Anions by IC method - Water	72110	10	11/02/15 05:36 PM	IC2_151102A
	H-29	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 01:08 PM	TITRATOR_151023A
	H-29	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-11A	H-28	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:13 PM	CETAC2_HG_151029 B
	H-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 03:58 PM	ICP-MS3_151105A
	H-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	10	11/05/15 05:48 PM	ICP-MS3_151105A
1510216-11D	H-28	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 01:18 PM	IC2_151102A
	H-28	Aqueous	E300	Anions by IC method - Water	72110	10	11/02/15 05:51 PM	IC2_151102A
	H-28	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 01:09 PM	TITRATOR_151023A
	H-28	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-12A	H-27	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:15 PM	CETAC2_HG_151029 B

Lab Order: 1510216
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1510216-12A	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 04:04 PM	ICP-MS3_151105A
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	10	11/05/15 05:54 PM	ICP-MS3_151105A
1510216-12D	H-27	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 01:33 PM	IC2_151102A
	H-27	Aqueous	E300	Anions by IC method - Water	72110	10	11/02/15 06:20 PM	IC2_151102A
	H-27	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 01:11 PM	TITRATOR_151023A
	H-27	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-13A	H-26	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:17 PM	CETAC2_HG_151029 B
	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 04:10 PM	ICP-MS3_151105A
1510216-13D	H-26	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 01:48 PM	IC2_151102A
	H-26	Aqueous	E300	Anions by IC method - Water	72110	10	11/02/15 06:34 PM	IC2_151102A
	H-26	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 01:12 PM	TITRATOR_151023A
	H-26	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-14A	H-33	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:20 PM	CETAC2_HG_151029 B
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 04:16 PM	ICP-MS3_151105A
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/09/15 03:30 PM	ICP-MS4_151109D
1510216-14D	H-33	Aqueous	E300	Anions by IC method - Water	72110	10	11/02/15 06:49 PM	IC2_151102A
	H-33	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 02:02 PM	IC2_151102A
	H-33	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 01:14 PM	TITRATOR_151023A
	H-33	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B
1510216-15A	H-32	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:22 PM	CETAC2_HG_151029 B
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 04:22 PM	ICP-MS3_151105A
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	10	11/05/15 06:00 PM	ICP-MS3_151105A
1510216-15D	H-32	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 02:17 PM	IC2_151102A
	H-32	Aqueous	E300	Anions by IC method - Water	72110	10	11/02/15 07:04 PM	IC2_151102A
	H-32	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 01:16 PM	TITRATOR_151023A
	H-32	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B

Lab Order: 1510216
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1510216-16A	MW-17A	Aqueous	SW7470A	Mercury Total: Aqueous	72061	1	10/29/15 01:29 PM	CETAC2_HG_151029 B
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72051	1	11/05/15 04:34 PM	ICP-MS3_151105A
1510216-16D	MW-17A	Aqueous	E300	Anions by IC method - Water	72110	1	11/02/15 02:31 PM	IC2_151102A
	MW-17A	Aqueous	M4500-H+ B	pH	71998	1	10/23/15 01:17 PM	TITRATOR_151023A
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	72016	1	10/27/15 07:30 AM	WC_151026B

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: PDP-23
Lab ID: 1510216-01
Collection Date: 10/20/15 07:40 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 12:36 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 01:33 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:33 PM
Barium	0.0423	0.00300	0.0100		mg/L	1	11/05/15 01:33 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 01:33 PM
Boron	0.0310	0.0100	0.0300		mg/L	1	11/09/15 03:16 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 01:33 PM
Calcium	1.80	0.100	0.300		mg/L	1	11/05/15 01:33 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:33 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	11/05/15 01:33 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 01:33 PM
Lithium	0.0114	0.00500	0.0100		mg/L	1	11/05/15 01:33 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:33 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:33 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 01:33 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	5.38	0.300	1.00		mg/L	1	11/02/15 10:06 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/02/15 10:06 AM
Sulfate	1.75	1.00	3.00	J	mg/L	1	11/02/15 10:06 AM
PH		M4500-H+ B		Analyst: LM			
pH	5.76	0	0		pH Units@15.2°C	1	10/23/15 12:49 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	106	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: PDP-24
Lab ID: 1510216-02
Collection Date: 10/20/15 08:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	0.000734	0.0000800	0.000200		mg/L	1	10/29/15 12:47 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 01:20 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:20 PM
Barium	0.0214	0.00300	0.0100		mg/L	1	11/05/15 01:20 PM
Beryllium	0.00477	0.000300	0.00100		mg/L	1	11/05/15 01:20 PM
Boron	3.82	0.100	0.300		mg/L	10	11/09/15 03:12 PM
Cadmium	0.00230	0.000300	0.00100		mg/L	1	11/05/15 01:20 PM
Calcium	36.4	1.00	3.00		mg/L	10	11/09/15 03:12 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:20 PM
Cobalt	0.0897	0.00300	0.00500		mg/L	1	11/05/15 01:20 PM
Lead	0.000812	0.000300	0.00100	J	mg/L	1	11/05/15 01:20 PM
Lithium	0.0262	0.00500	0.0100		mg/L	1	11/05/15 01:20 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:20 PM
Selenium	0.00914	0.00200	0.00500		mg/L	1	11/05/15 01:20 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 01:20 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	21.7	0.300	1.00		mg/L	1	11/02/15 10:21 AM
Fluoride	0.539	0.100	0.400		mg/L	1	11/02/15 10:21 AM
Sulfate	425	10.0	30.0		mg/L	10	11/02/15 02:52 PM
PH		M4500-H+ B		Analyst: LM			
pH	4.60	0	0		pH Units@15.2°C	1	10/23/15 12:51 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	711	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: PDP-22
Lab ID: 1510216-03
Collection Date: 10/20/15 09:25 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 12:49 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 01:39 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:39 PM
Barium	0.0567	0.00300	0.0100		mg/L	1	11/05/15 01:39 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 01:39 PM
Boron	0.0794	0.0100	0.0300		mg/L	1	11/09/15 03:18 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 01:39 PM
Calcium	3.40	0.100	0.300		mg/L	1	11/05/15 01:39 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:39 PM
Cobalt	0.00397	0.00300	0.00500	J	mg/L	1	11/05/15 01:39 PM
Lead	0.00244	0.000300	0.00100		mg/L	1	11/05/15 01:39 PM
Lithium	0.00712	0.00500	0.0100	J	mg/L	1	11/05/15 01:39 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:39 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:39 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 01:39 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	25.9	0.300	1.00		mg/L	1	11/02/15 10:35 AM
Fluoride	0.108	0.100	0.400	J	mg/L	1	11/02/15 10:35 AM
Sulfate	42.2	1.00	3.00		mg/L	1	11/02/15 10:35 AM
PH		M4500-H+ B		Analyst: LM			
pH	6.17	0	0		pH Units@15.4°C	1	10/23/15 12:53 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	270	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: MW-19
Lab ID: 1510216-04
Collection Date: 10/20/15 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 12:52 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 01:45 PM
Arsenic	0.00502	0.00200	0.00500		mg/L	1	11/05/15 01:45 PM
Barium	0.0396	0.00300	0.0100		mg/L	1	11/05/15 01:45 PM
Beryllium	0.000336	0.000300	0.00100	J	mg/L	1	11/05/15 01:45 PM
Boron	0.117	0.0100	0.0300		mg/L	1	11/09/15 03:20 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 01:45 PM
Calcium	21.7	0.100	0.300		mg/L	1	11/05/15 01:45 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:45 PM
Cobalt	0.00304	0.00300	0.00500	J	mg/L	1	11/05/15 01:45 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 01:45 PM
Lithium	0.0158	0.00500	0.0100		mg/L	1	11/05/15 01:45 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:45 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:45 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 01:45 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	48.2	0.300	1.00		mg/L	1	11/02/15 10:50 AM
Fluoride	0.117	0.100	0.400	J	mg/L	1	11/02/15 10:50 AM
Sulfate	84.1	1.00	3.00		mg/L	1	11/02/15 10:50 AM
PH							
M4500-H+ B				Analyst: LM			
pH	6.10	0	0		pH Units@15.8°C	1	10/23/15 12:55 PM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	472	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: MW-20A
Lab ID: 1510216-05
Collection Date: 10/20/15 11:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	0.00289	0.0000800	0.000200		mg/L	1	10/29/15 12:54 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 01:51 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:51 PM
Barium	0.0357	0.00300	0.0100		mg/L	1	11/05/15 01:51 PM
Beryllium	0.000407	0.000300	0.00100	J	mg/L	1	11/05/15 01:51 PM
Boron	0.102	0.0100	0.0300		mg/L	1	11/09/15 03:22 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 01:51 PM
Calcium	9.16	0.100	0.300		mg/L	1	11/05/15 01:51 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:51 PM
Cobalt	0.00346	0.00300	0.00500	J	mg/L	1	11/05/15 01:51 PM
Lead	0.00101	0.000300	0.00100		mg/L	1	11/05/15 01:51 PM
Lithium	0.0164	0.00500	0.0100		mg/L	1	11/05/15 01:51 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:51 PM
Selenium	0.00483	0.00200	0.00500	J	mg/L	1	11/05/15 01:51 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 01:51 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	10.7	0.300	1.00		mg/L	1	11/02/15 11:04 AM
Fluoride	0.552	0.100	0.400		mg/L	1	11/02/15 11:04 AM
Sulfate	99.8	1.00	3.00		mg/L	1	11/02/15 11:04 AM
PH		M4500-H+ B		Analyst: LM			
pH	4.67	0	0		pH Units@16.2°C	1	10/23/15 12:58 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	236	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: PDP-26
Lab ID: 1510216-06
Collection Date: 10/20/15 02:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 01:01 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 01:57 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:57 PM
Barium	0.0326	0.00300	0.0100		mg/L	1	11/05/15 01:57 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 01:57 PM
Boron	0.0838	0.0100	0.0300		mg/L	1	11/09/15 03:24 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 01:57 PM
Calcium	4.19	0.100	0.300		mg/L	1	11/05/15 01:57 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:57 PM
Cobalt	0.00338	0.00300	0.00500	J	mg/L	1	11/05/15 01:57 PM
Lead	0.000983	0.000300	0.00100	J	mg/L	1	11/05/15 01:57 PM
Lithium	0.0111	0.00500	0.0100		mg/L	1	11/05/15 01:57 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:57 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 01:57 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 01:57 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	11.8	0.300	1.00		mg/L	1	11/02/15 11:19 AM
Fluoride	0.160	0.100	0.400	J	mg/L	1	11/02/15 11:19 AM
Sulfate	37.2	1.00	3.00		mg/L	1	11/02/15 11:19 AM
PH		M4500-H+ B		Analyst: LM			
pH	6.50	0	0		pH Units@15.7°C	1	10/23/15 12:59 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	306	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: PDP-25
Lab ID: 1510216-07
Collection Date: 10/20/15 03:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 01:03 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 02:03 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 02:03 PM
Barium	0.222	0.00300	0.0100		mg/L	1	11/05/15 02:03 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 02:03 PM
Boron	0.101	0.0100	0.0300		mg/L	1	11/09/15 03:26 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 02:03 PM
Calcium	35.2	1.00	3.00		mg/L	10	11/05/15 05:30 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 02:03 PM
Cobalt	0.0114	0.00300	0.00500		mg/L	1	11/05/15 02:03 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 02:03 PM
Lithium	0.0718	0.00500	0.0100		mg/L	1	11/05/15 02:03 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 02:03 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 02:03 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 02:03 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	137	3.00	10.0		mg/L	10	11/02/15 03:06 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/02/15 11:44 AM
Sulfate	105	1.00	3.00		mg/L	1	11/02/15 11:44 AM
PH		M4500-H+ B		Analyst: LM			
pH	5.90	0	0		pH Units@15.5°C	1	10/23/15 01:00 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	533	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: H-30
Lab ID: 1510216-08
Collection Date: 10/20/15 04:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 01:05 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 02:09 PM
Arsenic	0.0120	0.00200	0.00500		mg/L	1	11/05/15 02:09 PM
Barium	0.0675	0.00300	0.0100		mg/L	1	11/05/15 02:09 PM
Beryllium	0.0102	0.000300	0.00100		mg/L	1	11/05/15 02:09 PM
Boron	12.3	0.500	1.50		mg/L	50	11/05/15 05:36 PM
Cadmium	0.00186	0.000300	0.00100		mg/L	1	11/05/15 02:09 PM
Calcium	156	5.00	15.0		mg/L	50	11/05/15 05:36 PM
Chromium	0.00680	0.00200	0.00500		mg/L	1	11/09/15 05:48 PM
Cobalt	0.303	0.00300	0.00500		mg/L	1	11/05/15 02:09 PM
Lead	0.000456	0.000300	0.00100	J	mg/L	1	11/05/15 02:09 PM
Lithium	0.110	0.00500	0.0100		mg/L	1	11/05/15 02:09 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 02:09 PM
Selenium	0.0740	0.00200	0.00500		mg/L	1	11/05/15 02:09 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 02:09 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	131	3.00	10.0		mg/L	10	11/02/15 03:21 PM
Fluoride	0.471	0.100	0.400		mg/L	1	11/02/15 11:59 AM
Sulfate	1400	10.0	30.0		mg/L	10	11/02/15 03:21 PM
PH		M4500-H+ B		Analyst: LM			
pH	5.74	0	0		pH Units@15.7°C	1	10/23/15 01:02 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	2410	50.0	50.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: H-31
Lab ID: 1510216-09
Collection Date: 10/20/15 05:15 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 01:08 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 02:15 PM
Arsenic	0.0168	0.00200	0.00500		mg/L	1	11/05/15 02:15 PM
Barium	0.0732	0.00300	0.0100		mg/L	1	11/05/15 02:15 PM
Beryllium	0.0126	0.000300	0.00100		mg/L	1	11/05/15 02:15 PM
Boron	17.2	0.500	1.50		mg/L	50	11/05/15 05:42 PM
Cadmium	0.00320	0.000300	0.00100		mg/L	1	11/05/15 02:15 PM
Calcium	194	5.00	15.0		mg/L	50	11/05/15 05:42 PM
Chromium	0.00687	0.00200	0.00500		mg/L	1	11/09/15 05:44 PM
Cobalt	0.434	0.00300	0.00500		mg/L	1	11/05/15 02:15 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 02:15 PM
Lithium	0.137	0.00500	0.0100		mg/L	1	11/05/15 02:15 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 02:15 PM
Selenium	0.116	0.00200	0.00500		mg/L	1	11/05/15 02:15 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 02:15 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	179	30.0	100		mg/L	100	11/02/15 05:22 PM
Fluoride	0.889	0.100	0.400		mg/L	1	11/02/15 12:13 PM
Sulfate	1930	100	300		mg/L	100	11/02/15 05:22 PM
PH		M4500-H+ B		Analyst: LM			
pH	5.53	0	0		pH Units@15.7°C	1	10/23/15 01:03 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	3270	50.0	50.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: H-29
Lab ID: 1510216-10
Collection Date: 10/21/15 12:45 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 01:11 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 02:21 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 02:21 PM
Barium	0.159	0.00300	0.0100		mg/L	1	11/05/15 02:21 PM
Beryllium	0.000359	0.000300	0.00100	J	mg/L	1	11/05/15 02:21 PM
Boron	0.0788	0.0100	0.0300		mg/L	1	11/09/15 03:28 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 02:21 PM
Calcium	16.0	0.100	0.300		mg/L	1	11/05/15 02:21 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 02:21 PM
Cobalt	0.0301	0.00300	0.00500		mg/L	1	11/05/15 02:21 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 02:21 PM
Lithium	0.0156	0.00500	0.0100		mg/L	1	11/05/15 02:21 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 02:21 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 02:21 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 02:21 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	65.2	3.00	10.0		mg/L	10	11/02/15 05:36 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/02/15 12:28 PM
Sulfate	171	10.0	30.0		mg/L	10	11/02/15 05:36 PM
PH		M4500-H+ B		Analyst: LM			
pH	5.59	0	0		pH Units@17.6°C	1	10/23/15 01:08 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	441	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: H-28
Lab ID: 1510216-11
Collection Date: 10/21/15 01:35 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 01:13 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 03:58 PM
Arsenic	0.00278	0.00200	0.00500	J	mg/L	1	11/05/15 03:58 PM
Barium	0.0396	0.00300	0.0100		mg/L	1	11/05/15 03:58 PM
Beryllium	0.00148	0.000300	0.00100		mg/L	1	11/05/15 03:58 PM
Boron	9.25	0.100	0.300		mg/L	10	11/05/15 05:48 PM
Cadmium	0.00121	0.000300	0.00100		mg/L	1	11/05/15 03:58 PM
Calcium	113	1.00	3.00		mg/L	10	11/05/15 05:48 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 03:58 PM
Cobalt	0.188	0.00300	0.00500		mg/L	1	11/05/15 03:58 PM
Lead	0.000491	0.000300	0.00100	J	mg/L	1	11/05/15 03:58 PM
Lithium	0.154	0.00500	0.0100		mg/L	1	11/05/15 03:58 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 03:58 PM
Selenium	0.00682	0.00200	0.00500		mg/L	1	11/05/15 03:58 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 03:58 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	109	3.00	10.0		mg/L	10	11/02/15 05:51 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/02/15 01:18 PM
Sulfate	1010	10.0	30.0		mg/L	10	11/02/15 05:51 PM
PH		M4500-H+ B		Analyst: LM			
pH	5.00	0	0		pH Units@17°C	1	10/23/15 01:09 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	1830	50.0	50.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: H-27
Lab ID: 1510216-12
Collection Date: 10/21/15 02:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 01:15 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 04:04 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:04 PM
Barium	0.0378	0.00300	0.0100		mg/L	1	11/05/15 04:04 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:04 PM
Boron	0.580	0.0100	0.0300		mg/L	1	11/05/15 04:04 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:04 PM
Calcium	55.3	1.00	3.00		mg/L	10	11/05/15 05:54 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:04 PM
Cobalt	0.00432	0.00300	0.00500		mg/L	1	11/05/15 04:04 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:04 PM
Lithium	0.0607	0.00500	0.0100		mg/L	1	11/05/15 04:04 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:04 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:04 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 04:04 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	117	3.00	10.0		mg/L	10	11/02/15 06:20 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/02/15 01:33 PM
Sulfate	328	10.0	30.0		mg/L	10	11/02/15 06:20 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.10	0	0		pH Units@16.9°C	1	10/23/15 01:11 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	800	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: H-26
Lab ID: 1510216-13
Collection Date: 10/21/15 03:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 01:17 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 04:10 PM
Arsenic	0.00364	0.00200	0.00500	J	mg/L	1	11/05/15 04:10 PM
Barium	0.0785	0.00300	0.0100		mg/L	1	11/05/15 04:10 PM
Beryllium	0.000349	0.000300	0.00100	J	mg/L	1	11/05/15 04:10 PM
Boron	0.602	0.0100	0.0300		mg/L	1	11/05/15 04:10 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:10 PM
Calcium	24.2	0.100	0.300		mg/L	1	11/05/15 04:10 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:10 PM
Cobalt	0.0385	0.00300	0.00500		mg/L	1	11/05/15 04:10 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:10 PM
Lithium	0.0139	0.00500	0.0100		mg/L	1	11/05/15 04:10 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:10 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:10 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 04:10 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	69.2	3.00	10.0		mg/L	10	11/02/15 06:34 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/02/15 01:48 PM
Sulfate	154	10.0	30.0		mg/L	10	11/02/15 06:34 PM
PH		M4500-H+ B		Analyst: LM			
pH	5.71	0	0		pH Units@17.2°C	1	10/23/15 01:12 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	466	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: H-33
Lab ID: 1510216-14
Collection Date: 10/22/15 12:55 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 01:20 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 04:16 PM
Arsenic	0.00208	0.00200	0.00500	J	mg/L	1	11/05/15 04:16 PM
Barium	0.0586	0.00300	0.0100		mg/L	1	11/05/15 04:16 PM
Beryllium	0.000351	0.000300	0.00100	J	mg/L	1	11/05/15 04:16 PM
Boron	0.0462	0.0100	0.0300		mg/L	1	11/09/15 03:30 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:16 PM
Calcium	17.9	0.100	0.300		mg/L	1	11/05/15 04:16 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:16 PM
Cobalt	0.0274	0.00300	0.00500		mg/L	1	11/05/15 04:16 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:16 PM
Lithium	0.0814	0.00500	0.0100		mg/L	1	11/05/15 04:16 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:16 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:16 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 04:16 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	60.5	3.00	10.0		mg/L	10	11/02/15 06:49 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/02/15 02:02 PM
Sulfate	120	1.00	3.00		mg/L	1	11/02/15 02:02 PM
PH		M4500-H+ B		Analyst: LM			
pH	5.65	0	0		pH Units@17.1°C	1	10/23/15 01:14 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	415	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: H-32
Lab ID: 1510216-15
Collection Date: 10/22/15 01:55 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/29/15 01:22 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 04:22 PM
Arsenic	0.00280	0.00200	0.00500	J	mg/L	1	11/05/15 04:22 PM
Barium	0.160	0.00300	0.0100		mg/L	1	11/05/15 04:22 PM
Beryllium	0.00266	0.000300	0.00100		mg/L	1	11/05/15 04:22 PM
Boron	1.22	0.0100	0.0300		mg/L	1	11/05/15 04:22 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:22 PM
Calcium	42.2	1.00	3.00		mg/L	10	11/05/15 06:00 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:22 PM
Cobalt	0.163	0.00300	0.00500		mg/L	1	11/05/15 04:22 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:22 PM
Lithium	0.0788	0.00500	0.0100		mg/L	1	11/05/15 04:22 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:22 PM
Selenium	0.00303	0.00200	0.00500	J	mg/L	1	11/05/15 04:22 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 04:22 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	120	3.00	10.0		mg/L	10	11/02/15 07:04 PM
Fluoride	0.374	0.100	0.400	J	mg/L	1	11/02/15 02:17 PM
Sulfate	309	10.0	30.0		mg/L	10	11/02/15 07:04 PM
PH		M4500-H+ B		Analyst: LM			
pH	5.65	0	0		pH Units@17.9°C	1	10/23/15 01:16 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	797	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 04-Dec-15

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1510216

Client Sample ID: MW-17A
Lab ID: 1510216-16
Collection Date: 10/21/15 02:55 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	0.000217	0.0000800	0.000200		mg/L	1	10/29/15 01:29 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: KL			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/05/15 04:34 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:34 PM
Barium	0.101	0.00300	0.0100		mg/L	1	11/05/15 04:34 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:34 PM
Boron	0.402	0.0100	0.0300		mg/L	1	11/05/15 04:34 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:34 PM
Calcium	4.38	0.100	0.300		mg/L	1	11/05/15 04:34 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:34 PM
Cobalt	0.00732	0.00300	0.00500		mg/L	1	11/05/15 04:34 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/05/15 04:34 PM
Lithium	0.0145	0.00500	0.0100		mg/L	1	11/05/15 04:34 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:34 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/05/15 04:34 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/05/15 04:34 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	9.10	0.300	1.00		mg/L	1	11/02/15 02:31 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	11/02/15 02:31 PM
Sulfate	37.0	1.00	3.00		mg/L	1	11/02/15 02:31 PM
PH		M4500-H+ B		Analyst: LM			
pH	5.30	0	0		pH Units@17.9°C	1	10/23/15 01:17 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	138	10.0	10.0		mg/L	1	10/27/15 07:30 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT**RunID: CETAC2_HG_151029B**

The QC data in batch 72061 applies to the following samples: 1510216-01A, 1510216-02A, 1510216-03A, 1510216-04A, 1510216-05A, 1510216-06A, 1510216-07A, 1510216-08A, 1510216-09A, 1510216-10A, 1510216-11A, 1510216-12A, 1510216-13A, 1510216-14A, 1510216-15A, 1510216-16A

Sample ID MB-72061	Batch ID: 72061	TestNo: SW7470A	Units: mg/L
SampType: MBLK	Run ID: CETAC2_HG_151029B	Analysis Date: 10/29/2015 12:29:17 P	Prep Date: 10/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.0000800	0.000200								

Sample ID LCS-72061	Batch ID: 72061	TestNo: SW7470A	Units: mg/L
SampType: LCS	Run ID: CETAC2_HG_151029B	Analysis Date: 10/29/2015 12:31:33 P	Prep Date: 10/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00211	0.000200	0.00200	0	106	85	115			

Sample ID LCSD-72061	Batch ID: 72061	TestNo: SW7470A	Units: mg/L
SampType: LCSD	Run ID: CETAC2_HG_151029B	Analysis Date: 10/29/2015 12:33:50 P	Prep Date: 10/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00212	0.000200	0.00200	0	106	85	115	0.473	15	

Sample ID 1510216-01A SD	Batch ID: 72061	TestNo: SW7470A	Units: mg/L
SampType: SD	Run ID: CETAC2_HG_151029B	Analysis Date: 10/29/2015 12:38:23 P	Prep Date: 10/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID 1510216-01A PDS	Batch ID: 72061	TestNo: SW7470A	Units: mg/L
SampType: PDS	Run ID: CETAC2_HG_151029B	Analysis Date: 10/29/2015 12:40:40 P	Prep Date: 10/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00246	0.000200	0.00250	0	98.4	85	115			

Sample ID 1510216-01A MS	Batch ID: 72061	TestNo: SW7470A	Units: mg/L
SampType: MS	Run ID: CETAC2_HG_151029B	Analysis Date: 10/29/2015 12:42:56 P	Prep Date: 10/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00200	0.000200	0.00200	0	100	80	120			

Sample ID 1510216-01A MSD	Batch ID: 72061	TestNo: SW7470A	Units: mg/L
SampType: MSD	Run ID: CETAC2_HG_151029B	Analysis Date: 10/29/2015 12:45:13 P	Prep Date: 10/28/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00218	0.000200	0.00200	0	109	80	120	8.61	15	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_151029B

Sample ID	ICV-151029	Batch ID:	R82414	TestNo:	SW7470A	Units:	mg/L			
SampType:	ICV	Run ID:	CETAC2_HG_151029B	Analysis Date:	10/29/2015 11:25:42 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00406	0.000200	0.00400	0	102	90	110			

Sample ID	CCV1-151029	Batch ID:	R82414	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_151029B	Analysis Date:	10/29/2015 12:06:33 P	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00200	0.000200	0.00200	0	100	90	110			

Sample ID	CCV2-151029	Batch ID:	R82414	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_151029B	Analysis Date:	10/29/2015 12:56:38 P	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00200	0	102	90	110			

Sample ID	CCV3-151029	Batch ID:	R82414	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_151029B	Analysis Date:	10/29/2015 1:24:47 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00201	0.000200	0.00200	0	101	90	110			

Sample ID	CCV4-151029	Batch ID:	R82414	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_151029B	Analysis Date:	10/29/2015 2:12:20 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00202	0.000200	0.00200	0	101	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151105A

The QC data in batch 72051 applies to the following samples: 1510216-01A, 1510216-02A, 1510216-03A, 1510216-04A, 1510216-05A, 1510216-06A, 1510216-07A, 1510216-08A, 1510216-09A, 1510216-10A, 1510216-11A, 1510216-12A, 1510216-13A, 1510216-14A, 1510216-15A, 1510216-16A

Sample ID	MB-72051		Batch ID:	72051		TestNo:	SW6020A		Units:	mg/L	
SampType:	MBLK		Run ID:	ICP-MS3_151105A		Analysis Date:	11/5/2015 12:50:00 PM		Prep Date:	10/28/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.000800	0.00250
Arsenic	<0.00200	0.00500
Barium	<0.00300	0.0100
Beryllium	<0.000300	0.00100
Boron	<0.0100	0.0300
Cadmium	<0.000300	0.00100
Calcium	<0.100	0.300
Chromium	0.0533	0.00500
Cobalt	<0.00300	0.00500
Lead	<0.000300	0.00100
Lithium	<0.00500	0.0100
Molybdenum	0.00622	0.00500
Selenium	<0.00200	0.00500
Thallium	<0.000500	0.00150

Sample ID	LCS-72051		Batch ID:	72051	TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS		Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 12:56:00 PM		Prep Date:	10/28/2015	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.181	0.00250	0.200	0	90.3	80	120
Arsenic	0.186	0.00500	0.200	0	92.8	80	120
Barium	0.181	0.0100	0.200	0	90.7	80	120
Beryllium	0.199	0.00100	0.200	0	99.6	80	120
Boron	0.181	0.0300	0.200	0	90.6	80	120
Cadmium	0.179	0.00100	0.200	0	89.4	80	120
Calcium	4.76	0.300	5.00	0	95.2	80	120
Chromium	0.184	0.00500	0.200	0	92.1	80	120
Cobalt	0.189	0.00500	0.200	0	94.6	80	120
Lead	0.192	0.00100	0.200	0	95.8	80	120
Lithium	0.192	0.0100	0.200	0	96.2	80	120
Molybdenum	0.176	0.00500	0.200	0	87.8	80	120
Selenium	0.184	0.00500	0.200	0	91.9	80	120
Thallium	0.194	0.00150	0.200	0	96.8	80	120

Sample ID	LCSD-72051	Batch ID:	72051	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 1:02:00 PM	Prep Date:	10/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.182	0.00250	0.200	0	90.9	80	120	0.662	15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151105A

Sample ID	LCSD-72051	Batch ID:	72051	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 1:02:00 PM	Prep Date:	10/28/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.189	0.00500	0.200	0	94.3	80	120	1.55	15	
Barium	0.187	0.0100	0.200	0	93.4	80	120	2.99	15	
Beryllium	0.207	0.00100	0.200	0	103	80	120	3.65	15	
Boron	0.193	0.0300	0.200	0	96.6	80	120	6.41	15	
Cadmium	0.184	0.00100	0.200	0	92.0	80	120	2.87	15	
Calcium	4.84	0.300	5.00	0	96.7	80	120	1.52	15	
Chromium	0.190	0.00500	0.200	0	94.8	80	120	2.84	15	
Cobalt	0.198	0.00500	0.200	0	99.0	80	120	4.65	15	
Lead	0.195	0.00100	0.200	0	97.6	80	120	1.81	15	
Lithium	0.201	0.0100	0.200	0	101	80	120	4.52	15	
Molybdenum	0.180	0.00500	0.200	0	90.2	80	120	2.75	15	
Selenium	0.189	0.00500	0.200	0	94.5	80	120	2.79	15	
Thallium	0.199	0.00150	0.200	0	99.5	80	120	2.80	15	

Sample ID	1510216-02A SD			Batch ID:	72051		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD			Run ID:	ICP-MS3_151105A		Analysis Date:	11/5/2015 1:26:00 PM		Prep Date:	10/28/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0222	0.0500	0	0.0214				3.78	10	
Beryllium	0.00476	0.00500	0	0.00477				0.083	10	
Cadmium	0.00228	0.00500	0	0.00230				0.829	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	0.0927	0.0250	0	0.0897				3.19	10	
Lead	<0.00150	0.00500	0	0.000812				0	10	
Lithium	0.0270	0.0500	0	0.0262				3.03	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0.00914				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID	1510216-02A PDS	Batch ID:	72051	TestNo:	SW6020A	Units:	mg/L				
SampType:	PDS	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 2:27:00 PM	Prep Date:	10/28/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.179	0.00250	0.200	0	89.4	80	120			
Arsenic	0.184	0.00500	0.200	0	92.0	80	120			
Barium	0.209	0.0100	0.200	0.0214	93.6	80	120			
Beryllium	0.197	0.00100	0.200	0.00477	96.2	80	120			
Cadmium	0.182	0.00100	0.200	0.00230	89.8	80	120			
Chromium	0.188	0.00500	0.200	0	93.8	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151105A

Sample ID	1510216-02A PDS	Batch ID:	72051	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 2:27:00 PM	Prep Date:	10/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Cobalt	0.277	0.00500	0.200	0.0897	93.6	80	120			
Lead	0.194	0.00100	0.200	0.000812	96.5	80	120			
Lithium	0.208	0.0100	0.200	0.0262	91.0	80	120			
Molybdenum	0.176	0.00500	0.200	0	88.2	80	120			
Selenium	0.190	0.00500	0.200	0.00914	90.5	80	120			
Thallium	0.194	0.00150	0.200	0	97.2	80	120			

Sample ID	1510216-02A MS	Batch ID:	72051	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 2:33:00 PM	Prep Date:	10/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.184	0.00250	0.200	0	92.2	80	120			
Arsenic	0.185	0.00500	0.200	0	92.5	80	120			
Barium	0.207	0.0100	0.200	0.0214	92.9	80	120			
Beryllium	0.194	0.00100	0.200	0.00477	94.4	80	120			
Boron	3.58	0.0300	0.200	3.37	104	80	120			
Cadmium	0.181	0.00100	0.200	0.00230	89.5	80	120			
Calcium	42.0	0.300	5.00	36.7	107	80	120			
Chromium	0.181	0.00500	0.200	0	90.7	80	120			
Cobalt	0.275	0.00500	0.200	0.0897	92.5	80	120			
Lead	0.190	0.00100	0.200	0.000812	94.5	80	120			
Lithium	0.206	0.0100	0.200	0.0262	90.1	80	120			
Molybdenum	0.175	0.00500	0.200	0	87.6	80	120			
Selenium	0.187	0.00500	0.200	0.00914	89.0	80	120			
Thallium	0.194	0.00150	0.200	0	97.0	80	120			

Sample ID	1510216-02A MSD	Batch ID:	72051	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 2:39:00 PM	Prep Date:	10/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.182	0.00250	0.200	0	90.9	80	120	1.37	15	
Arsenic	0.182	0.00500	0.200	0	91.1	80	120	1.53	15	
Barium	0.206	0.0100	0.200	0.0214	92.2	80	120	0.678	15	
Beryllium	0.194	0.00100	0.200	0.00477	94.5	80	120	0.155	15	
Boron	3.63	0.0300	0.200	3.37	129	80	120	1.39	15	S
Cadmium	0.181	0.00100	0.200	0.00230	89.2	80	120	0.331	15	
Calcium	42.8	0.300	5.00	36.7	123	80	120	1.91	15	S
Chromium	0.180	0.00500	0.200	0	90.2	80	120	0.608	15	
Cobalt	0.272	0.00500	0.200	0.0897	91.3	80	120	0.914	15	
Lead	0.191	0.00100	0.200	0.000812	95.0	80	120	0.525	15	
Lithium	0.212	0.0100	0.200	0.0262	92.9	80	120	2.68	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151105A

Sample ID	1510216-02A MSD	Batch ID:	72051	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 2:39:00 PM	Prep Date:	10/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.176	0.00500	0.200	0	87.9	80	120	0.399	15	
Selenium	0.189	0.00500	0.200	0.00914	90.0	80	120	1.01	15	
Thallium	0.195	0.00150	0.200	0	97.4	80	120	0.514	15	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151105A

Sample ID	ICV1-151105	Batch ID:	R82538	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 12:26:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.100	0.00250	0.100	0	100	90	110			
Arsenic	0.101	0.00500	0.100	0	101	90	110			
Barium	0.101	0.0100	0.100	0	101	90	110			
Beryllium	0.108	0.00100	0.100	0	108	90	110			
Boron	0.0989	0.0300	0.100	0	98.9	90	110			
Cadmium	0.0994	0.00100	0.100	0	99.4	90	110			
Calcium	2.41	0.300	2.50	0	96.4	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.108	0.00500	0.100	0	108	90	110			
Lead	0.104	0.00100	0.100	0	104	90	110			
Lithium	0.104	0.0100	0.100	0	104	90	110			
Molybdenum	0.0943	0.00500	0.100	0	94.3	90	110			
Selenium	0.101	0.00500	0.100	0	101	90	110			
Thallium	0.101	0.00150	0.100	0	101	90	110			

Sample ID	ILCVL-151105	Batch ID:	R82538	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 12:38:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00202	0.00250	0.00200	0	101	70	130			
Arsenic	0.00519	0.00500	0.00500	0	104	70	130			
Barium	0.00531	0.0100	0.00500	0	106	70	130			
Beryllium	0.00114	0.00100	0.00100	0	114	70	130			
Boron	0.0194	0.0300	0.0200	0	97.1	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Calcium	0.111	0.300	0.100	0	111	70	130			
Chromium	0.00528	0.00500	0.00500	0	106	70	130			
Cobalt	0.00549	0.00500	0.00500	0	110	70	130			
Lead	0.00113	0.00100	0.00100	0	113	70	130			
Lithium	0.0108	0.0100	0.0100	0	108	70	130			
Molybdenum	0.00515	0.00500	0.00500	0	103	70	130			
Selenium	0.00533	0.00500	0.00500	0	107	70	130			
Thallium	0.00111	0.00150	0.00100	0	111	70	130			

Sample ID	CCV1-151105	Batch ID:	R82538	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 3:40:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.198	0.00250	0.200	0	98.8	90	110			
Arsenic	0.193	0.00500	0.200	0	96.6	90	110			
Barium	0.195	0.0100	0.200	0	97.3	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151105A

Sample ID	CCV1-151105	Batch ID:	R82538	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 3:40:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.215	0.00100	0.200	0	108	90	110			
Boron	0.215	0.0300	0.200	0	107	90	110			
Cadmium	0.190	0.00100	0.200	0	95.0	90	110			
Calcium	5.27	0.300	5.00	0	105	90	110			
Chromium	0.197	0.00500	0.200	0	98.3	90	110			
Cobalt	0.205	0.00500	0.200	0	103	90	110			
Lead	0.206	0.00100	0.200	0	103	90	110			
Lithium	0.214	0.0100	0.200	0	107	90	110			
Molybdenum	0.187	0.00500	0.200	0	93.4	90	110			
Selenium	0.200	0.00500	0.200	0	100	90	110			
Thallium	0.209	0.00150	0.200	0	105	90	110			

Sample ID	LCVL1-151105	Batch ID:	R82538	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 3:52:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00204	0.00250	0.00200	0	102	70	130			
Arsenic	0.00506	0.00500	0.00500	0	101	70	130			
Barium	0.00523	0.0100	0.00500	0	105	70	130			
Beryllium	0.00112	0.00100	0.00100	0	112	70	130			
Boron	0.0331	0.0300	0.0200	0	166	70	130			S
Cadmium	0.00100	0.00100	0.00100	0	100	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00521	0.00500	0.00500	0	104	70	130			
Cobalt	0.00534	0.00500	0.00500	0	107	70	130			
Lead	0.00109	0.00100	0.00100	0	109	70	130			
Lithium	0.0111	0.0100	0.0100	0	110	70	130			
Molybdenum	0.00489	0.00500	0.00500	0	97.8	70	130			
Selenium	0.00523	0.00500	0.00500	0	105	70	130			
Thallium	0.00105	0.00150	0.00100	0	105	70	130			

Sample ID	CCV2-151105	Batch ID:	R82538	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 4:46:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.204	0.00250	0.200	0	102	90	110			
Arsenic	0.198	0.00500	0.200	0	98.8	90	110			
Barium	0.201	0.0100	0.200	0	100	90	110			
Beryllium	0.218	0.00100	0.200	0	109	90	110			
Boron	0.220	0.0300	0.200	0	110	90	110			
Cadmium	0.197	0.00100	0.200	0	98.4	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_151105A

Sample ID	CCV2-151105	Batch ID:	R82538	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 4:46:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	5.40	0.300	5.00	0	108	90	110			
Chromium	0.203	0.00500	0.200	0	102	90	110			
Cobalt	0.206	0.00500	0.200	0	103	90	110			
Lead	0.209	0.00100	0.200	0	104	90	110			
Lithium	0.217	0.0100	0.200	0	108	90	110			
Molybdenum	0.189	0.00500	0.200	0	94.4	90	110			
Selenium	0.201	0.00500	0.200	0	101	90	110			
Thallium	0.210	0.00150	0.200	0	105	90	110			

Sample ID	LCVL2-151105	Batch ID:	R82538	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 5:12:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00197	0.00250	0.00200	0	98.4	70	130			
Arsenic	0.00469	0.00500	0.00500	0	93.9	70	130			
Barium	0.00521	0.0100	0.00500	0	104	70	130			
Beryllium	0.00109	0.00100	0.00100	0	109	70	130			
Boron	0.0301	0.0300	0.0200	0	150	70	130			S
Cadmium	0.00105	0.00100	0.00100	0	104	70	130			
Calcium	0.102	0.300	0.100	0	102	70	130			
Chromium	0.00523	0.00500	0.00500	0	105	70	130			
Cobalt	0.00526	0.00500	0.00500	0	105	70	130			
Lead	0.00107	0.00100	0.00100	0	107	70	130			
Lithium	0.0118	0.0100	0.0100	0	118	70	130			
Molybdenum	0.00473	0.00500	0.00500	0	94.5	70	130			
Selenium	0.00507	0.00500	0.00500	0	101	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Sample ID	CCV3-151105	Batch ID:	R82538	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 6:07:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.214	0.0300	0.200	0	107	90	110			
Calcium	5.22	0.300	5.00	0	104	90	110			

Sample ID	LCVL3-151105	Batch ID:	R82538	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS3_151105A	Analysis Date:	11/5/2015 6:31:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0283	0.0300	0.0200	0	141	70	130			S
Calcium	0.0945	0.300	0.100	0	94.5	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_151109D

The QC data in batch 72051 applies to the following samples: 1510216-01A, 1510216-02A, 1510216-03A, 1510216-04A, 1510216-05A, 1510216-06A, 1510216-07A, 1510216-08A, 1510216-09A, 1510216-10A, 1510216-11A, 1510216-12A, 1510216-13A, 1510216-14A, 1510216-15A, 1510216-16A

Sample ID	1510216-02A SD	Batch ID:	72051	TestNo:	SW6020A	Units:	mg/L				
SampType:	SD	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 3:14:00 PM	Prep Date:	10/28/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	4.22	1.50	0	3.82				9.82	10
Calcium	35.8	15.0	0	36.4				1.60	10

Sample ID	1510216-02A PDS		Batch ID:	72051		TestNo:	SW6020A		Units:	mg/L		
SampType:	PDS		Run ID:	ICP-MS4_151109D		Analysis Date:	11/9/2015 3:32:00 PM		Prep Date:	10/28/2015		
Analyte			Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	5.97	0.300	2.00	3.82	107	80	120
Calcium	80.2	3.00	50.0	36.4	87.6	80	120

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_151109D

The QC data in batch 72217 applies to the following samples: 1510216-08A, 1510216-09A

Sample ID	MB-72217	Batch ID:	72217	TestNo:	SW6020A	Units:	mg/L			
SampType:	MBLK	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 5:36:00 PM	Prep Date:	11/9/2015			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Chromium	<0.00200	0.00500								

Sample ID	LCS-72217	Batch ID:	72217	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCS	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 5:38:00 PM	Prep Date:	11/9/2015			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Chromium	0.196	0.00500	0.200	0	97.8	80	120			

Sample ID	LCSD-72217	Batch ID:	72217	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 5:40:00 PM	Prep Date:	11/9/2015			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Chromium	0.196	0.00500	0.200	0	98.0	80	120	0.238	15	

Sample ID	1510216-09A SD	Batch ID:	72217	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 5:46:00 PM	Prep Date:	11/9/2015			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Chromium	0.216	0.0250	0	0.00687					188	10	R

Sample ID	1510216-09A PDS	Batch ID:	72217	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 6:06:00 PM	Prep Date:	11/9/2015			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Chromium	0.199	0.00500	0.200	0.00687	96.1	80	120			

Sample ID	1510216-09A MS	Batch ID:	72217	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 6:07:00 PM	Prep Date:	11/9/2015			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Chromium	0.194	0.00500	0.200	0.00687	93.7	80	120			

Sample ID	1510216-09A MSD	Batch ID:	72217	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 6:09:00 PM	Prep Date:	11/9/2015			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Chromium	0.196	0.00500	0.200	0.00687	94.6	80	120	0.873	15	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_151109D

Sample ID	ICV-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 10:39:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.104	0.0300	0.100	0	104	90	110			
Calcium	2.28	0.300	2.50	0	91.3	90	110			
Chromium	0.107	0.00500	0.100	0	107	90	110			

Sample ID	LCVL-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 10:45:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0338	0.0300	0.0200	0	169	70	130			S
Calcium	0.0913	0.300	0.100	0	91.3	70	130			
Chromium	0.00514	0.00500	0.00500	0	103	70	130			

Sample ID	CCV2-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 11:55:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.202	0.0300	0.200	0	101	90	110			

Sample ID	LCVL2-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 12:02:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0216	0.0300	0.0200	0	108	70	130			

Sample ID	CCV6-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 3:02:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.199	0.0300	0.200	0	99.6	90	110			
Calcium	4.86	0.300	5.00	0	97.3	90	110			

Sample ID	LCVL6-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 3:08:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0253	0.0300	0.0200	0	126	70	130			
Calcium	0.102	0.300	0.100	0	102	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_151109D

Sample ID	CCV7-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 3:36:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.209	0.0300	0.200	0	105	90	110			
Calcium	4.77	0.300	5.00	0	95.4	90	110			

Sample ID	LCVL7-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 3:53:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0247	0.0300	0.0200	0	124	70	130			
Calcium	0.0965	0.300	0.100	0	96.5	70	130			

Sample ID	CCV9-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 5:17:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.202	0.00500	0.200	0	101	90	110			

Sample ID	LCVL9-151109		Batch ID:	R82579		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCVL		Run ID:	ICP-MS4_151109D		Analysis Date:	11/9/2015 5:32:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.00517	0.00500	0.00500	0	103	70	130			

Sample ID	CCV10-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 6:19:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.203	0.00500	0.200	0	101	90	110			

Sample ID	LCVL10-151109	Batch ID:	R82579	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_151109D	Analysis Date:	11/9/2015 6:33:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.00511	0.00500	0.00500	0	102	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_151102A

The QC data in batch 72110 applies to the following samples: 1510216-01D, 1510216-02D, 1510216-03D, 1510216-04D, 1510216-05D, 1510216-06D, 1510216-07D, 1510216-08D, 1510216-09D, 1510216-10D, 1510216-11D, 1510216-12D, 1510216-13D, 1510216-14D, 1510216-15D, 1510216-16D

Sample ID: MB-72110	Batch ID: 72110	TestNo: E300	Units: mg/L							
SampType: MBLK	Run ID: IC2_151102A	Analysis Date: 11/2/2015 9:01:55 AM	Prep Date: 11/2/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCSD-72110	Batch ID:	72110	TestNo:	E300	Units:	mg/L				
SampType:	LCSD	Run ID:	IC2_151102A	Analysis Date:	11/2/2015 9:31:04 AM	Prep Date:	11/2/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.0	1.00	10.00	0	100	90	110	0.071	20	
Fluoride	3.67	0.400	4.000	0	91.7	90	110	0.548	20	
Sulfate	30.9	3.00	30.00	0	103	90	110	0.336	20	

Sample ID	LCS-72110			Batch ID:	72110		TestNo:	E300		Units:	mg/L	
SampType:	LCS			Run ID:	IC2_151102A		Analysis Date:	11/2/2015 9:49:16 AM		Prep Date:	11/2/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	10.0	1.00	10.00	0	100	90	110			
Fluoride	3.69	0.400	4.000	0	92.2	90	110			
Sulfate	31.0	3.00	30.00	0	103	90	110			

Sample ID	1510216-02DMS	Batch ID:	72110	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC2_151102A	Analysis Date:	11/2/2015 3:52:34 PM	Prep Date:	11/2/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	225	10.0	200.0	21.08	102	90	110			
Fluoride	200	4.00	200.0	0	99.8	90	110			
Sulfate	646	30.0	200.0	424.6	110	90	110			

Sample ID	1510216-02DMSD	Batch ID:	72110	TestNo:	E300	Units:	mg/L				
SampType:	MSD	Run ID:	IC2_151102A	Analysis Date:	11/2/2015 4:07:08 PM	Prep Date:	11/2/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	226	10.0	200.0	21.08	102	90	110	0.173	20	
Fluoride	200	4.00	200.0	0	100	90	110	0.354	20	
Sulfate	646	30.0	200.0	424.6	111	90	110	0.140	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_151102A

Sample ID	1510216-07DMS	Batch ID:	72110	TestNo:	E300	Units:	mg/L				
SampType:	MS	Run ID:	IC2_151102A	Analysis Date:	11/2/2015 4:21:42 PM	Prep Date:	11/2/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	327	10.0	200.0	137.0	95.2	90	110			
Fluoride	202	4.00	200.0	0	101	90	110			
Sulfate	320	30.0	200.0	103.1	108	90	110			

Sample ID: 1510216-07DMSD	Batch ID: 72110	TestNo: E300	Units: mg/L							
SampType: MSD	Run ID: IC2_151102A	Analysis Date: 11/2/2015 4:36:17 PM	Prep Date: 11/2/2015							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	328	10.0	200.0	137.0	95.3	90	110	0.068	20	
Fluoride	202	4.00	200.0	0	101	90	110	0.067	20	
Sulfate	325	30.0	200.0	103.1	111	90	110	1.53	20	S

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Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_151102A

Sample ID	ICV-151102	Batch ID:	R82477	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC2_151102A	Analysis Date:	11/2/2015 8:26:46 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	24.8	1.00	25.00	0	99.0	90	110			
Fluoride	9.86	0.400	10.00	0	98.6	90	110			
Sulfate	78.1	3.00	75.00	0	104	90	110			

Sample ID	CCV1-151102	Batch ID:	R82477	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_151102A	Analysis Date:	11/2/2015 12:42:58 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.90	1.00	10.00	0	99.0	90	110			
Fluoride	3.92	0.400	4.000	0	98.0	90	110			
Sulfate	30.8	3.00	30.00	0	103	90	110			

Sample ID	CCV2-151102			Batch ID:	R82477		TestNo:	E300		Units:	mg/L	
SampType:	CCV			Run ID:	IC2_151102A		Analysis Date:	11/2/2015 4:50:51 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	9.97	1.00	10.00	0	99.7	90	110			
Fluoride	4.03	0.400	4.000	0	101	90	110			
Sulfate	30.4	3.00	30.00	0	101	90	110			

Sample ID	CCV3-151102			Batch ID:	R82477		TestNo:	E300		Units:	mg/L	
SampType:	CCV			Run ID:	IC2_151102A		Analysis Date:	11/2/2015 7:18:42 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	9.88	1.00	10.00	0	98.8	90	110			
Fluoride	3.99	0.400	4.000	0	99.8	90	110			
Sulfate	29.6	3.00	30.00	0	98.6	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_151023A

The QC data in batch 71998 applies to the following samples: 1510216-01D, 1510216-02D, 1510216-03D, 1510216-04D, 1510216-05D, 1510216-06D, 1510216-07D, 1510216-08D, 1510216-09D, 1510216-10D, 1510216-11D, 1510216-12D, 1510216-13D, 1510216-14D, 1510216-15D, 1510216-16D

Sample ID	1510216-09D DUP	Batch ID:	71998	TestNo:	M4500-H+ B	Units:	pH Units@15.7°C
SampType:	DUP	Run ID:	TITRATOR_151023A	Analysis Date:	10/23/2015 1:05:00 PM	Prep Date:	10/23/2015
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		5.55	0	0	5.530		0.361 5

Sample ID	1510216-16D DUP	Batch ID:	71998	TestNo:	M4500-H+ B	Units:	pH Units@17.9°C
SampType:	DUP	Run ID:	TITRATOR_151023A	Analysis Date:	10/23/2015 1:19:00 PM	Prep Date:	10/23/2015
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		5.28	0	0	5.300		0.378 5

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_151023A

Sample ID	ICV-151023	Batch ID:	R82326	TestNo:	M4500-H+ B	Units:	pH Units@22.7°C			
SampType:	ICV	Run ID:	TITRATOR_151023A	Analysis Date:	10/23/2015 12:44:00 P	Prep Date:	10/23/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	10.0	0	10.00	0	100	99	101			

Sample ID	CCV1-151023	Batch ID:	R82326		TestNo:	M4500-H+ B		Units:	pH Units@21.2℃		
SampType:	CCV	Run ID:	TITRATOR_151023A		Analysis Date:	10/23/2015 1:06:00 PM		Prep Date:	10/23/2015		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.99	0	7.000	0	99.9	97.1	102.9			

Sample ID	CCV2-151023			Batch ID:	R82326		TestNo:	M4500-H+ B		Units:	pH Units@21°C	
SampType:	CCV			Run ID:	TITRATOR_151023A		Analysis Date:	10/23/2015 1:24:00 PM		Prep Date:	10/23/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

pH	7.00	0	7.000	0	100	97.1	102.9			

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1510216
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: WC_151026B

The QC data in batch 72016 applies to the following samples: 1510216-01D, 1510216-02D, 1510216-03D, 1510216-04D, 1510216-05D, 1510216-06D, 1510216-07D, 1510216-08D, 1510216-09D, 1510216-10D, 1510216-11D, 1510216-12D, 1510216-13D, 1510216-14D, 1510216-15D, 1510216-16D

Sample ID	MB-72016		Batch ID:	72016		TestNo:	M2540C		Units:	mg/L	
SampType:	MBLK		Run ID:	WC_151026B		Analysis Date:	10/27/2015 7:30:00 AM		Prep Date:	10/26/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-72016		Batch ID:	72016		TestNo:	M2540C		Units:	mg/L	
SampType:	LCS		Run ID:	WC_151026B		Analysis Date:	10/27/2015 7:30:00 AM		Prep Date:	10/26/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 766 10.0 745.6 0 103 90 113

Sample ID	1510216-01D-DUP		Batch ID:	72016		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_151026B		Analysis Date:	10/27/2015 7:30:00 AM		Prep Date:	10/26/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 106 10.0 0 106.0 0 5

Sample ID	1510216-11D-DUP		Batch ID:	72016		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_151026B		Analysis Date:	10/27/2015 7:30:00 AM		Prep Date:	10/26/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1820 50.0 0 1830 0.823 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified



December 02, 2015

Mr. John DuPont
DHL Analytical
2300 Double Creek Drive
Round Rock, Texas 78664

Re: Routine Analysis
Work Order: 384150
SDG: 1510216

Dear Mr. DuPont:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on October 28, 2015. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4707.

Sincerely,

Anna Day
Project Manager

Enclosures



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis Report for

DHLA002 DHL Analytical

Client SDG: 1510216 GEL Work Order: 384150

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Anna Day.

Reviewed by

Anna C Day

There are no "Data Exception Reports" associated with this analytical report.

LUMINANT

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1510216

CHAIN-OF-CUSTODY RECORD

Page 1 of 2

Subcontractor:

GEL Laboratories

PO Box 30712

Charleston, SC 29417

TEL: (843) 556-8171

FAX:

Acct #:

384/50

23-Oct-15

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E903.1	E904.0				
PDP-23	Aqueous	-01B	10/20/15 07:40 AM	500HDPEHNO3		1				
PDP-23	Aqueous	-01C	10/20/15 07:40 AM	500HDPEHNO3	1					
PDP-24	Aqueous	-02B	10/20/15 08:35 AM	500HDPEHNO3		1				
PDP-24	Aqueous	-02C	10/20/15 08:35 AM	500HDPEHNO3	1					
PDP-22	Aqueous	-03B	10/20/15 09:25 AM	500HDPEHNO3		1				
PDP-22	Aqueous	-03C	10/20/15 09:25 AM	500HDPEHNO3	1					
MW-19	Aqueous	-04B	10/20/15 10:20 AM	500HDPEHNO3		1				
MW-19	Aqueous	-04C	10/20/15 10:20 AM	500HDPEHNO3	1					
MW-20A	Aqueous	-05B	10/20/15 11:20 AM	500HDPEHNO3		1				
MW-20A	Aqueous	-05C	10/20/15 11:20 AM	500HDPEHNO3	1					
PDP-26	Aqueous	-06B	10/20/15 02:20 PM	500HDPEHNO3		1				
PDP-26	Aqueous	-06C	10/20/15 02:20 PM	500HDPEHNO3	1					
PDP-25	Aqueous	-07B	10/20/15 03:20 PM	500HDPEHNO3		1				
PDP-25	Aqueous	-07C	10/20/15 03:20 PM	500HDPEHNO3	1					
H-30	Aqueous	-08B	10/20/15 04:20 PM	500HDPEHNO3		1				
H-30	Aqueous	-08C	10/20/15 04:20 PM	500HDPEHNO3	1					
H-31	Aqueous	-09B	10/20/15 05:15 PM	500HDPEHNO3		1				
H-31	Aqueous	-09C	10/20/15 05:15 PM	500HDPEHNO3	1					

General Comments:

Please analyze these samples with a Standard Turnaround Time.
 Call John DuPont if you have questions.
 Quality Control Package Needed: Standard / _____
 EMAIL report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

Relinquished by: <u>[Signature]</u>	Date/Time: <u>10/23/15 1730</u>	Received by: <u>[Signature]</u>	Date/Time: <u>10/23/15 1720</u>
Relinquished by: _____	Date/Time: _____	Received by: <u>[Signature]</u>	Date/Time: <u>0920 10/28/15</u>

DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1510216

CHAIN-OF-CUSTODY RECORD

Page 2 of 2

Subcontractor:

GEL Laboratories
PO Box 30712
Charleston, SC 29417

TEL: (843) 556-8171

FAX:

Acct #:

23-Oct-15

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E903.1	E904.0				
H-29	Aqueous	-10B	10/21/15 12:45 PM	500HDPEHNO3		1				
H-29	Aqueous	-10C	10/21/15 12:45 PM	500HDPEHNO3	1					
H-28	Aqueous	-11B	10/21/15 01:35 PM	500HDPEHNO3		1				
H-28	Aqueous	-11C	10/21/15 01:35 PM	500HDPEHNO3	1					
H-27	Aqueous	-12B	10/21/15 02:20 PM	500HDPEHNO3		1				
H-27	Aqueous	-12C	10/21/15 02:20 PM	500HDPEHNO3	1					
H-26	Aqueous	-13B	10/21/15 03:25 PM	500HDPEHNO3		1				
H-26	Aqueous	-13C	10/21/15 03:25 PM	500HDPEHNO3	1					
H-33	Aqueous	-14B	10/22/15 12:55 PM	500HDPEHNO3		1				
H-33	Aqueous	-14C	10/22/15 12:55 PM	500HDPEHNO3	1					
H-32	Aqueous	-15B	10/22/15 01:55 PM	500HDPEHNO3		1				
H-32	Aqueous	-15C	10/22/15 01:55 PM	500HDPEHNO3	1					
MW-17A	Aqueous	-16B	10/21/15 02:55 PM	500HDPEHNO3		1				
MW-17A	Aqueous	-16C	10/21/15 02:55 PM	500HDPEHNO3	1					

General Comments:

Please analyze these samples with a Standard Turnaround Time.
Call John DuPont if you have questions.
Quality Control Package Needed: Standard / _____
EMAIL report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

Relinquished by: <u>[Signature]</u>		Date/Time: <u>10/23/15 1730</u>	Received by: <u>[Signature]</u>		Date/Time: <u>10/23/15 1730</u>
Relinquished by: _____		Date/Time: _____	Received by: <u>[Signature]</u>		Date/Time: <u>0920 10/28/15</u>



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: <u>H. Taylor</u>		SDG/AR/COC/Work Order: <u>384150</u>	
Received By: <u>H. Taylor</u>		Date Received: <u>102815 0920</u>	
Suspected Hazard Information	Yes ☐ No ☒	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.	
COC/Samples marked as radioactive?	Yes ☐ No ☒	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>00cpm</u>	
Classified Radioactive II or III by RSO?	Yes ☐ No ☒	If yes, Were swipes taken of sample containers < action levels?	
COC/Samples marked containing PCBs?	Yes ☐ No ☒		
Package, COC, and/or Samples marked as beryllium or asbestos containing?	Yes ☐ No ☒	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.	
Shipped as a DOT Hazardous?	Yes ☐ No ☒	Hazard Class Shipped: UN#:	
Samples identified as Foreign Soil?	Yes ☐ No ☒		

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	☒	☐	☐	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	☐	☐	☒	Preservation Method: Ice bags Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius
2a Daily check performed and passed on IR temperature gun?	☒	☐	☐	Temperature Device Serial #: <u>163201530</u> Secondary Temperature Device Serial # (If Applicable):
3 Chain of custody documents included with shipment?	☒	☐	☐	
4 Sample containers intact and sealed?	☒	☐	☐	Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	☒	☐	☐	Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples have headspace as required?	☒	☐	☐	Sample ID's and containers affected:
7 VOA vials contain acid preservation?	☒	☐	☐	(If unknown, select No)
8 VOA vials free of headspace (defined as < 6mm bubble)?	☒	☐	☐	Sample ID's and containers affected:
9 Are Encore containers present?	☒	☐	☐	(If yes, immediately deliver to Volatiles laboratory)
10 Samples received within holding time?	☒	☐	☐	ID's and tests affected:
11 Sample ID's on COC match ID's on bottles?	☒	☐	☐	Sample ID's and containers affected:
12 Date & time on COC match date & time on bottles?	☒	☐	☐	Sample ID's affected:
13 Number of containers received match number indicated on COC?	☒	☐	☐	Sample ID's affected:
14 Are sample containers identifiable as GEL provided?	☒	☐	☐	
15 COC form is properly signed in relinquished/received sections?	☒	☐	☐	
16 Carrier and tracking number.	☒	☐	☐	Circle Applicable: FedEx Air FedEx Ground UPS Field Services Courier Other <u>1748 1199 6994</u>

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials

HA

Date

102515

Page

1 of 1

GL-CHL-SR-001 Rev 2

List of current GEL Certifications as of 02 December 2015

State	Certification
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC000122013-10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013-10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA150001
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC000122013-10
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-15-10
Utah NELAP	SC000122015-19
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-23
Sample ID: 384150001
Matrix: Water
Collect Date: 20-OCT-15 07:40
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	-0.554	+/-0.788	1.67	3.00	pCi/L		AXM6	12/02/15	1104	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.06	+/-0.452	0.537	1.00	pCi/L		CXP3	11/20/15	0450	1518773	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			79	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-24
Sample ID: 384150002
Matrix: Water
Collect Date: 20-OCT-15 08:35
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		3.49	+/-1.81	2.53	3.00	pCi/L		AXM6	12/02/15	1104	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.29	+/-0.557	0.670	1.00	pCi/L		CXP3	11/20/15	0450	1518773	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						44.7	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID:	PDP-22	Project:	DHLA00112
Sample ID:	384150003	Client ID:	DHLA002
Matrix:	Water		
Collect Date:	20-OCT-15 09:25		
Receive Date:	28-OCT-15		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.730	+/-0.970	1.66	3.00	pCi/L		AXM6	12/02/15	1100	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.18	+/-0.522	0.634	1.00	pCi/L		CXP3	11/20/15	0450	1518773	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86.2	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-19
Sample ID: 384150004
Matrix: Water
Collect Date: 20-OCT-15 10:20
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.211	+/-1.28	2.48	3.00	pCi/L		AXM6	12/02/15	1101	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.683	+/-0.388	0.525	1.00	pCi/L		CXP3	11/20/15	0450	1518773	2
The following Analytical Methods were performed:												
Method	Description							Analyst Comments				
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						40.9	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

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Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-20A
Sample ID: 384150005
Matrix: Water
Collect Date: 20-OCT-15 11:20
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	1.38	+/-1.03	1.60	3.00	pCi/L		AXM6	12/02/15	1100	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		3.01	+/-0.651	0.507	1.00	pCi/L		CXP3	11/20/15	0450	1518773	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			81.6	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-26
Sample ID: 384150006
Matrix: Water
Collect Date: 20-OCT-15 14:20
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.237	+/-0.830	1.54	3.00	pCi/L		AXM6	12/02/15	1100	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.590	+/-0.360	0.502	1.00	pCi/L		CXP3	11/20/15	0645	1518773	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			77.9	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-25
Sample ID: 384150007
Matrix: Water
Collect Date: 20-OCT-15 15:20
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	1.11	+/-0.966	1.55	3.00	pCi/L		AXM6	12/02/15	1100	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.19	+/-0.528	0.642	1.00	pCi/L		CXP3	11/20/15	0645	1518773	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery	Test					Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"							83.7	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-30
Sample ID: 384150008
Matrix: Water
Collect Date: 20-OCT-15 16:20
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.886	+/-1.52	2.67	3.00	pCi/L		AXM6	12/02/15	1105	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.404	+/-0.323	0.485	1.00	pCi/L		CXP3	11/20/15	0645	1518773	2
The following Analytical Methods were performed:												
Method	Description							Analyst Comments				
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery	Test					Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"							62	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-31
Sample ID: 384150009
Matrix: Water
Collect Date: 20-OCT-15 17:15
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	-0.476	+/-0.862	1.88	3.00	pCi/L		AXM6	12/02/15	1105	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.943	+/-0.427	0.525	1.00	pCi/L		CXP3	11/20/15	0645	1518773	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery	Test					Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"							62.6	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-29
Sample ID: 384150010
Matrix: Water
Collect Date: 21-OCT-15 12:45
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.82	+/-1.18	1.79	3.00	pCi/L		AXM6	12/02/15	1105	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.464	+/-0.291	0.381	1.00	pCi/L		CXP3	11/20/15	0645	1518773	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						71.8	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

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Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-28
Sample ID: 384150011
Matrix: Water
Collect Date: 21-OCT-15 13:35
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.653	+/-0.959	1.65	3.00	pCi/L		AXM6	12/02/15	1102	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.207	+/-0.318	0.558	1.00	pCi/L		CXP3	11/20/15	0720	1518773	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						89.8	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-27
Sample ID: 384150012
Matrix: Water
Collect Date: 21-OCT-15 14:20
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.245	+/-0.914	1.67	3.00	pCi/L		AXM6	12/02/15	1100	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.445	+/-0.361	0.553	1.00	pCi/L		CXP3	11/20/15	0720	1518773	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						83.7	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-26
Sample ID: 384150013
Matrix: Water
Collect Date: 21-OCT-15 15:25
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	-0.347	+/-0.785	1.64	3.00	pCi/L		AXM6	12/02/15	1105	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.919	+/-0.475	0.619	1.00	pCi/L		CXP3	11/20/15	0720	1518773	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			73.2	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-33
Sample ID: 384150014
Matrix: Water
Collect Date: 21-OCT-15 12:55
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.64	+/-1.09	1.63	3.00	pCi/L		AXM6	12/02/15	1100	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.76	+/-0.589	0.617	1.00	pCi/L		CXP3	11/20/15	0720	1518773	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						73	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-32
Sample ID: 384150015
Matrix: Water
Collect Date: 21-OCT-15 13:55
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	-0.0843	+/-0.953	1.90	3.00	pCi/L		AXM6	12/02/15	1105	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.05	+/-0.445	0.530	1.00	pCi/L		CXP3	11/20/15	0720	1518773	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			60	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 2, 2015

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-17A
Sample ID: 384150016
Matrix: Water
Collect Date: 21-OCT-15 14:55
Receive Date: 28-OCT-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.722	+/-0.974	1.67	3.00	pCi/L		AXM6	12/02/15	1102	1522094	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.597	+/-0.356	0.477	1.00	pCi/L		CXP3	11/20/15	0755	1518773	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						86.1	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: December 2, 2015

Page 1 of 2

DHL Analytical
2300 Double Creek Drive
Round Rock, Texas

Contact: Mr. John DuPont

Workorder: 384150

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	1522094										
QC1203430457	384150008	DUP									
Radium-228	U	0.886	U	1.05	pCi/L	N/A			N/A AXM6	12/02/15	12:45
	Uncertainty	+/-1.52		+/-1.67							
QC1203430458	LCS										
Radium-228	29.2			28.0	pCi/L		95.9	(75%-125%)		12/02/15	11:01
	Uncertainty			+/-2.81							
QC1203430456	MB										
Radium-228			U	-0.145	pCi/L					12/02/15	11:02
	Uncertainty			+/-0.757							
Rad Ra-226											
Batch	1518773										
QC1203421510	384779001	DUP									
Radium-226	U	0.424		0.636	pCi/L	40.1		(0% - 100%)	CXP3	11/20/15	07:55
	Uncertainty	+/-0.362		+/-0.399							
QC1203421512	LCS										
Radium-226	24.4			28.7	pCi/L		117	(75%-125%)		11/20/15	08:25
	Uncertainty			+/-1.97							
QC1203421509	MB										
Radium-226			U	0.197	pCi/L					11/20/15	07:55
	Uncertainty			+/-0.301							
QC1203421511	384779001	MS									
Radium-226	122	U	0.424	92.4	pCi/L		75.7	(75%-125%)		11/20/15	08:25
	Uncertainty	+/-0.362		+/-8.53							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 384150

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N1	See case narrative										
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.										
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, or LOD.										
UI	Gamma Spectroscopy--Uncertain identification										
UJ	Gamma Spectroscopy--Uncertain identification										
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.



January 21, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Luminant - Martin Lake

Order No.: 1512236

Dear Will Vienne:

DHL Analytical, Inc. received 17 sample(s) on 12/17/2015 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-15-15



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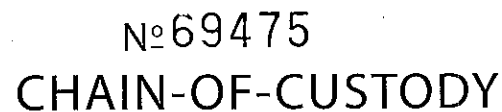
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Subcontract Report 1512236 61

LUMINANT



DATE: 12-15-15 PAGE 1 OF 2
PO #: 5164-B DHL WORK ORDER #: 1512236
PROJECT LOCATION OR NAME: LUMINANT- MARTIN LAKE
CLIENT PROJECT #: 5164-B COLLECTOR: J. BRAYTON

[illegible]

CLIENT: PBW
ADDRESS: 2201 DOUBLE CREEK DR ROUND ROCK TX 78664
PHONE: 512-671-3434 FAX/E-MAIL: 512-671-3446
DATA REPORTED TO: WILL VIENNE
ADDITIONAL REPORT COPIES TO:

DATE: 12-15-15 PAGE 2 OF 2

PO #: 5164-B DHL WORK ORDER #: 1512236

PROJECT LOCATION OR NAME: LUMINANT - MARTIN LAKE

CLIENT PROJECT #: S164-B COLLECTOR: J. BRAYTON

[illegible]

John Dupont

From: Sara Taube [Sara.Taube@pbwllc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

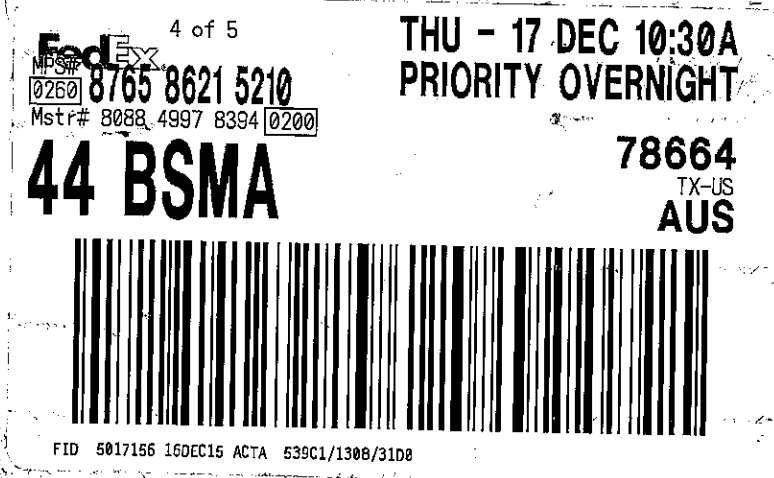
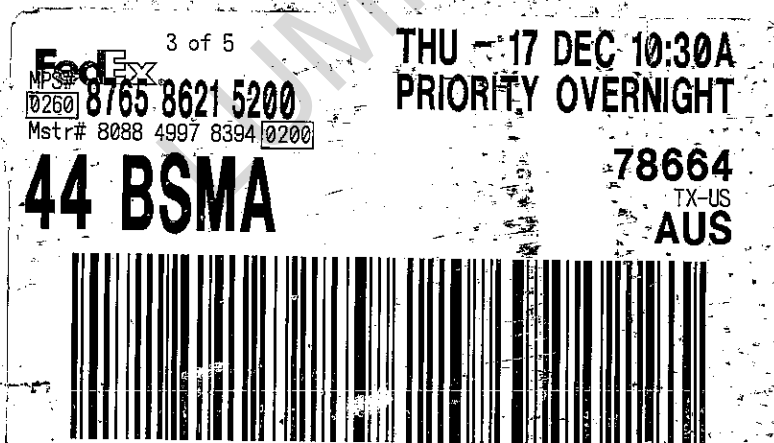
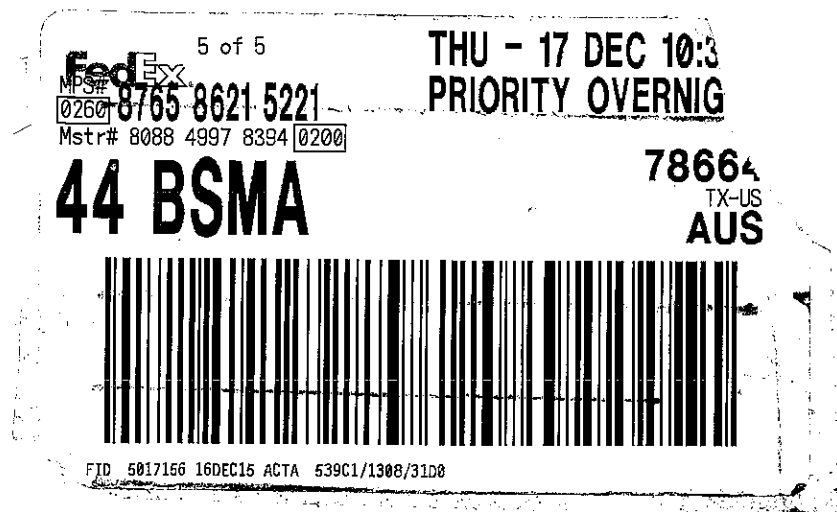
Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015



Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 12/17/2015

Work Order Number 1512236

Received by JB

Checklist completed by: [Signature] 12/17/2015
Signature Date

Reviewed by: [Signature] 12/17/2015
Initials Date

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	3.5 °C, 4.3, 4.3
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH<2 acceptable upon receipt?	Yes ☒	No ☐	NA ☐ LOT # 8086
	Adjusted? <u>no</u>		Checked by <u>[Signature]</u>
Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☒ LOT #
	Adjusted? _____		Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Lab Order: 1512236

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis
Sub-contract - Radium-228 and Radium-226 analyses by methods E904.0/SW8469320 Modified and E903.1 Modified. Analyzed at GEL Laboratory.

LOG IN

The samples were received and log-in performed on 12/17/15. A total of 17 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 1/7/16 Boron was detected below the reporting limit in the method blank (MB-72946). All samples were may be biased high for this analyte. No further corrective actions were taken.

For Metals analysis performed on 1/5/16 the matrix spike and matrix spike duplicate recoveries were out of control limits for Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Lab Order: 1512236

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1512236-01	H-29		12/14/15 09:05 AM	12/17/2015
1512236-02	H-30		12/14/15 09:50 AM	12/17/2015
1512236-03	H-31		12/14/15 10:40 AM	12/17/2015
1512236-04	H-32		12/14/15 11:30 AM	12/17/2015
1512236-05	H-27		12/14/15 12:20 PM	12/17/2015
1512236-06	H-28		12/14/15 01:15 PM	12/17/2015
1512236-07	H-26		12/14/15 02:05 PM	12/17/2015
1512236-08	H-33		12/14/15 02:55 PM	12/17/2015
1512236-09	MW-20A		12/14/15 05:00 PM	12/17/2015
1512236-10	PDP-22		12/14/15 05:50 PM	12/17/2015
1512236-11	MW-19		12/14/15 06:40 PM	12/17/2015
1512236-12	PDP-23		12/14/15 07:30 PM	12/17/2015
1512236-13	PDP-26		12/15/15 07:50 AM	12/17/2015
1512236-14	MW-17A		12/15/15 08:50 AM	12/17/2015
1512236-15	PDP-24		12/15/15 09:40 AM	12/17/2015
1512236-16	MW-18A		12/15/15 10:30 AM	12/17/2015
1512236-17	PDP-25		12/15/15 11:35 AM	12/17/2015

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1512236-01A	H-29	12/14/15 09:05 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-29	12/14/15 09:05 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-29	12/14/15 09:05 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-29	12/14/15 09:05 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-29	12/14/15 09:05 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-01D	H-29	12/14/15 09:05 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-29	12/14/15 09:05 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-29	12/14/15 09:05 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	H-29	12/14/15 09:05 AM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-02A	H-30	12/14/15 09:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-30	12/14/15 09:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-30	12/14/15 09:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-30	12/14/15 09:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-30	12/14/15 09:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-02D	H-30	12/14/15 09:50 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-30	12/14/15 09:50 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-30	12/14/15 09:50 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	H-30	12/14/15 09:50 AM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-03A	H-31	12/14/15 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-31	12/14/15 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-31	12/14/15 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-31	12/14/15 10:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-03D	H-31	12/14/15 10:40 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-31	12/14/15 10:40 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-31	12/14/15 10:40 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	H-31	12/14/15 10:40 AM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-04A	H-32	12/14/15 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-32	12/14/15 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1512236-04A	H-32	12/14/15 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-32	12/14/15 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-32	12/14/15 11:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-04D	H-32	12/14/15 11:30 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-32	12/14/15 11:30 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-32	12/14/15 11:30 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	H-32	12/14/15 11:30 AM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-05A	H-27	12/14/15 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-27	12/14/15 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-27	12/14/15 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-27	12/14/15 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-27	12/14/15 12:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-05D	H-27	12/14/15 12:20 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-27	12/14/15 12:20 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-27	12/14/15 12:20 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	H-27	12/14/15 12:20 PM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-06A	H-28	12/14/15 01:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-28	12/14/15 01:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-28	12/14/15 01:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-28	12/14/15 01:15 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-06D	H-28	12/14/15 01:15 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-28	12/14/15 01:15 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	H-28	12/14/15 01:15 PM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-07A	H-26	12/14/15 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-26	12/14/15 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-26	12/14/15 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-26	12/14/15 02:05 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-07D	H-26	12/14/15 02:05 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1512236-07D	H-26	12/14/15 02:05 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	H-26	12/14/15 02:05 PM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-08A	H-33	12/14/15 02:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-33	12/14/15 02:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-33	12/14/15 02:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	H-33	12/14/15 02:55 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-08D	H-33	12/14/15 02:55 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-33	12/14/15 02:55 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	H-33	12/14/15 02:55 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	H-33	12/14/15 02:55 PM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-09A	MW-20A	12/14/15 05:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-20A	12/14/15 05:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-20A	12/14/15 05:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-20A	12/14/15 05:00 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-09D	MW-20A	12/14/15 05:00 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	MW-20A	12/14/15 05:00 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	MW-20A	12/14/15 05:00 PM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-10A	PDP-22	12/14/15 05:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-22	12/14/15 05:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-22	12/14/15 05:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-22	12/14/15 05:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-22	12/14/15 05:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-22	12/14/15 05:50 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-10D	PDP-22	12/14/15 05:50 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	PDP-22	12/14/15 05:50 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	PDP-22	12/14/15 05:50 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	PDP-22	12/14/15 05:50 PM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-11A	MW-19	12/14/15 06:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
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PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1512236-11A	MW-19	12/14/15 06:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-19	12/14/15 06:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-19	12/14/15 06:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-19	12/14/15 06:40 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-11D	MW-19	12/14/15 06:40 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	MW-19	12/14/15 06:40 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	MW-19	12/14/15 06:40 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	MW-19	12/14/15 06:40 PM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-12A	PDP-23	12/14/15 07:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-23	12/14/15 07:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-23	12/14/15 07:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-23	12/14/15 07:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-12D	PDP-23	12/14/15 07:30 PM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	PDP-23	12/14/15 07:30 PM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	PDP-23	12/14/15 07:30 PM	Aqueous	M2540C	TDS Preparation	12/18/15 02:13 PM	72824
1512236-13A	PDP-26	12/15/15 07:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-26	12/15/15 07:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-26	12/15/15 07:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-26	12/15/15 07:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-13D	PDP-26	12/15/15 07:50 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	PDP-26	12/15/15 07:50 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	PDP-26	12/15/15 07:50 AM	Aqueous	M2540C	TDS Preparation	12/21/15 01:00 PM	72884
1512236-14A	MW-17A	12/15/15 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-17A	12/15/15 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-17A	12/15/15 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-17A	12/15/15 08:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-14D	MW-17A	12/15/15 08:50 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	MW-17A	12/15/15 08:50 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
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PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1512236-14D	MW-17A	12/15/15 08:50 AM	Aqueous	M2540C	TDS Preparation	12/21/15 01:00 PM	72884
1512236-15A	PDP-24	12/15/15 09:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-24	12/15/15 09:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-24	12/15/15 09:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-24	12/15/15 09:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-15D	PDP-24	12/15/15 09:40 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	PDP-24	12/15/15 09:40 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	PDP-24	12/15/15 09:40 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	PDP-24	12/15/15 09:40 AM	Aqueous	M2540C	TDS Preparation	12/21/15 01:00 PM	72884
1512236-16A	MW-18A	12/15/15 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-18A	12/15/15 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-18A	12/15/15 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	MW-18A	12/15/15 10:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
	MW-18A	12/15/15 10:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-16D	MW-18A	12/15/15 10:30 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	MW-18A	12/15/15 10:30 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	MW-18A	12/15/15 10:30 AM	Aqueous	M2540C	TDS Preparation	12/21/15 01:00 PM	72884
1512236-17A	PDP-25	12/15/15 11:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-25	12/15/15 11:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-25	12/15/15 11:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-25	12/15/15 11:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/28/15 09:07 AM	72946
	PDP-25	12/15/15 11:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/19/15 10:57 AM	72835
1512236-17D	PDP-25	12/15/15 11:35 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	PDP-25	12/15/15 11:35 AM	Aqueous	E300	Anion Preparation	12/22/15 12:13 PM	72897
	PDP-25	12/15/15 11:35 AM	Aqueous	M4500-H+ B	pH Preparation	12/18/15 10:36 AM	72710
	PDP-25	12/15/15 11:35 AM	Aqueous	M2540C	TDS Preparation	12/21/15 01:00 PM	72884

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1512236-01A	H-29	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:08 PM	CETAC2_HG_151222A
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 05:10 PM	ICP-MS4_160105A
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 03:17 PM	ICP-MS4_160106A
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	50	01/06/16 04:22 PM	ICP-MS4_160106A
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 11:15 AM	ICP-MS4_160107A
1512236-01D	H-29	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 01:29 PM	IC2_151222B
	H-29	Aqueous	E300	Anions by IC method - Water	72897	10	12/22/15 07:18 PM	IC2_151222B
	H-29	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 03:57 PM	TITRATOR_151218A
	H-29	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-02A	H-30	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:23 PM	CETAC2_HG_151222A
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 05:14 PM	ICP-MS4_160105A
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	50	01/06/16 02:40 PM	ICP-MS4_160106A
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	10	01/06/16 02:42 PM	ICP-MS4_160106A
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 03:57 PM	ICP-MS4_160107D
1512236-02D	H-30	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 01:44 PM	IC2_151222B
	H-30	Aqueous	E300	Anions by IC method - Water	72897	100	12/22/15 07:32 PM	IC2_151222B
	H-30	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 03:59 PM	TITRATOR_151218A
	H-30	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-03A	H-31	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:25 PM	CETAC2_HG_151222A
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 05:16 PM	ICP-MS4_160105A
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	50	01/06/16 02:44 PM	ICP-MS4_160106A
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 03:59 PM	ICP-MS4_160107D
1512236-03D	H-31	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 01:59 PM	IC2_151222B
	H-31	Aqueous	E300	Anions by IC method - Water	72897	100	12/22/15 07:47 PM	IC2_151222B
	H-31	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:02 PM	TITRATOR_151218A
	H-31	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1512236-04A	H-32	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:27 PM	CETAC2_HG_151222 A
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 05:18 PM	ICP-MS4_160105A
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	10	01/06/16 02:46 PM	ICP-MS4_160106A
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 03:21 PM	ICP-MS4_160106A
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	2	01/07/16 11:17 AM	ICP-MS4_160107A
1512236-04D	H-32	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 02:13 PM	IC2_151222B
	H-32	Aqueous	E300	Anions by IC method - Water	72897	10	12/23/15 07:54 AM	IC2_151222B
	H-32	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:05 PM	TITRATOR_151218A
	H-32	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-05A	H-27	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:29 PM	CETAC2_HG_151222 A
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 05:20 PM	ICP-MS4_160105A
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	10	01/06/16 02:48 PM	ICP-MS4_160106A
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 03:23 PM	ICP-MS4_160106A
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 11:19 AM	ICP-MS4_160107A
1512236-05D	H-27	Aqueous	E300	Anions by IC method - Water	72897	10	12/23/15 08:08 AM	IC2_151222B
	H-27	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 02:28 PM	IC2_151222B
	H-27	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:07 PM	TITRATOR_151218A
	H-27	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-06A	H-28	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:32 PM	CETAC2_HG_151222 A
	H-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 05:22 PM	ICP-MS4_160105A
	H-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 03:25 PM	ICP-MS4_160106A
	H-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	2	01/07/16 11:21 AM	ICP-MS4_160107A
1512236-06D	H-28	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 02:43 PM	IC2_151222B
	H-28	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:10 PM	TITRATOR_151218A
	H-28	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-07A	H-26	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:34 PM	CETAC2_HG_151222 A

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1512236-07A	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 05:24 PM	ICP-MS4_160105A
	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 03:27 PM	ICP-MS4_160106A
	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 11:23 AM	ICP-MS4_160107A
1512236-07D	H-26	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 02:57 PM	IC2_151222B
	H-26	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:12 PM	TITRATOR_151218A
	H-26	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-08A	H-33	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:36 PM	CETAC2_HG_151222A
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 05:26 PM	ICP-MS4_160105A
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 03:29 PM	ICP-MS4_160106A
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 11:25 AM	ICP-MS4_160107A
1512236-08D	H-33	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 03:12 PM	IC2_151222B
	H-33	Aqueous	E300	Anions by IC method - Water	72897	10	12/23/15 08:23 AM	IC2_151222B
	H-33	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:16 PM	TITRATOR_151218A
	H-33	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-09A	MW-20A	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:39 PM	CETAC2_HG_151222A
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 03:31 PM	ICP-MS4_160106A
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 11:27 AM	ICP-MS4_160107A
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 05:28 PM	ICP-MS4_160105A
1512236-09D	MW-20A	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 03:26 PM	IC2_151222B
	MW-20A	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:17 PM	TITRATOR_151218A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-10A	PDP-22	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:41 PM	CETAC2_HG_151222A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 03:33 PM	ICP-MS4_160106A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 11:29 AM	ICP-MS4_160107A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	10	01/06/16 02:50 PM	ICP-MS4_160106A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 05:30 PM	ICP-MS4_160105A

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1512236-10A	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	50	01/07/16 12:11 PM	ICP-MS4_160107A
1512236-10D	PDP-22	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 03:41 PM	IC2_151222B
	PDP-22	Aqueous	E300	Anions by IC method - Water	72897	10	12/23/15 08:44 AM	IC2_151222B
	PDP-22	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:20 PM	TITRATOR_151218A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-11A	MW-19	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:48 PM	CETAC2_HG_151222A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	10	01/06/16 02:52 PM	ICP-MS4_160106A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 03:35 PM	ICP-MS4_160106A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 06:08 PM	ICP-MS4_160105A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 11:31 AM	ICP-MS4_160107A
1512236-11D	MW-19	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 04:37 PM	IC2_151222B
	MW-19	Aqueous	E300	Anions by IC method - Water	72897	10	12/23/15 09:57 AM	IC2_151222B
	MW-19	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:23 PM	TITRATOR_151218A
	MW-19	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-12A	PDP-23	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:50 PM	CETAC2_HG_151222A
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 06:10 PM	ICP-MS4_160105A
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 03:37 PM	ICP-MS4_160106A
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 12:13 PM	ICP-MS4_160107A
1512236-12D	PDP-23	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 04:52 PM	IC2_151222B
	PDP-23	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:26 PM	TITRATOR_151218A
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	72824	1	12/21/15 08:00 AM	WC_151218C
1512236-13A	PDP-26	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:52 PM	CETAC2_HG_151222A
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 11:11 AM	ICP-MS4_160107A
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 06:12 PM	ICP-MS4_160105A
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 04:28 PM	ICP-MS4_160106A
1512236-13D	PDP-26	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 05:06 PM	IC2_151222B

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1512236-13D	PDP-26	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:29 PM	TITRATOR_151218A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	72884	1	12/22/15 08:00 AM	WC_151221A
1512236-14A	MW-17A	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:54 PM	CETAC2_HG_151222A
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 06:14 PM	ICP-MS4_160105A
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 04:30 PM	ICP-MS4_160106A
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 12:15 PM	ICP-MS4_160107A
1512236-14D	MW-17A	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 05:21 PM	IC2_151222B
	MW-17A	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:31 PM	TITRATOR_151218A
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	72884	1	12/22/15 08:00 AM	WC_151221A
1512236-15A	PDP-24	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 01:57 PM	CETAC2_HG_151222A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 06:16 PM	ICP-MS4_160105A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	10	01/06/16 02:54 PM	ICP-MS4_160106A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 04:01 PM	ICP-MS4_160107D
1512236-15D	PDP-24	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 05:36 PM	IC2_151222B
	PDP-24	Aqueous	E300	Anions by IC method - Water	72897	10	12/22/15 06:19 PM	IC2_151222B
	PDP-24	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:33 PM	TITRATOR_151218A
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	72884	1	12/22/15 08:00 AM	WC_151221A
1512236-16A	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 02:03 PM	CETAC2_HG_151222A
	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	72835	5	12/22/15 04:30 PM	CETAC2_HG_151222A
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 06:18 PM	ICP-MS4_160105A
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 04:32 PM	ICP-MS4_160106A
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 12:17 PM	ICP-MS4_160107A
1512236-16D	MW-18A	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 05:50 PM	IC2_151222B
	MW-18A	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:35 PM	TITRATOR_151218A
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	72884	1	12/22/15 08:00 AM	WC_151221A
1512236-17A	PDP-25	Aqueous	SW7470A	Mercury Total: Aqueous	72835	1	12/22/15 02:05 PM	CETAC2_HG_151222A

Lab Order: 1512236
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1512236-17A	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	10	01/06/16 02:56 PM	ICP-MS4_160106A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/06/16 04:34 PM	ICP-MS4_160106A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/07/16 12:19 PM	ICP-MS4_160107A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	72946	1	01/05/16 06:20 PM	ICP-MS4_160105A
1512236-17D	PDP-25	Aqueous	E300	Anions by IC method - Water	72897	1	12/22/15 06:05 PM	IC2_151222B
	PDP-25	Aqueous	E300	Anions by IC method - Water	72897	10	12/22/15 06:34 PM	IC2_151222B
	PDP-25	Aqueous	M4500-H+ B	pH	72710	1	12/18/15 04:38 PM	TITRATOR_151218A
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	72884	1	12/22/15 08:00 AM	WC_151221A

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: H-29
Lab ID: 1512236-01
Collection Date: 12/14/15 09:05 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:08 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 05:10 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:10 PM
Barium	0.277	0.00300	0.0100		mg/L	1	01/05/16 05:10 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:10 PM
Boron	0.290	0.0100	0.0300		mg/L	1	01/07/16 11:15 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:10 PM
Calcium	165	5.00	15.0		mg/L	50	01/06/16 04:22 PM
Chromium	0.0620	0.00200	0.00500		mg/L	1	01/05/16 05:10 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	01/05/16 05:10 PM
Lead	0.000542	0.000300	0.00100	J	mg/L	1	01/05/16 05:10 PM
Lithium	0.0202	0.00500	0.0100		mg/L	1	01/05/16 05:10 PM
Molybdenum	0.00819	0.00200	0.00500		mg/L	1	01/05/16 05:10 PM
Selenium	0.0282	0.00200	0.00500		mg/L	1	01/05/16 05:10 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 03:17 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	8.68	0.300	1.00		mg/L	1	12/22/15 01:29 PM
Fluoride	0.560	0.100	0.400		mg/L	1	12/22/15 01:29 PM
Sulfate	178	10.0	30.0		mg/L	10	12/22/15 07:18 PM
PH		M4500-H+ B		Analyst: LM			
pH	11.9	0	0		pH Units@18.5°C	1	12/18/15 03:57 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	990	50.0	50.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: H-30
Lab ID: 1512236-02
Collection Date: 12/14/15 09:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:23 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 05:14 PM
Arsenic	0.0114	0.00200	0.00500		mg/L	1	01/05/16 05:14 PM
Barium	0.129	0.00300	0.0100		mg/L	1	01/05/16 05:14 PM
Beryllium	0.00999	0.000300	0.00100		mg/L	1	01/05/16 05:14 PM
Boron	4.13	0.100	0.300		mg/L	10	01/06/16 02:42 PM
Cadmium	0.00274	0.000300	0.00100		mg/L	1	01/05/16 05:14 PM
Calcium	360	5.00	15.0		mg/L	50	01/06/16 02:40 PM
Chromium	0.185	0.00200	0.00500		mg/L	1	01/05/16 05:14 PM
Cobalt	0.124	0.00300	0.00500		mg/L	1	01/05/16 05:14 PM
Lead	0.0196	0.000300	0.00100		mg/L	1	01/05/16 05:14 PM
Lithium	0.0513	0.00500	0.0100		mg/L	1	01/05/16 05:14 PM
Molybdenum	0.0133	0.00200	0.00500		mg/L	1	01/05/16 05:14 PM
Selenium	0.161	0.00200	0.00500		mg/L	1	01/05/16 05:14 PM
Thallium	0.000571	0.000500	0.00150	J	mg/L	1	01/07/16 03:57 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	45.2	0.300	1.00		mg/L	1	12/22/15 01:44 PM
Fluoride	0.462	0.100	0.400		mg/L	1	12/22/15 01:44 PM
Sulfate	821	100	300		mg/L	100	12/22/15 07:32 PM
PH							
M4500-H+ B				Analyst: LM			
pH	11.4	0	0		pH Units@18°C	1	12/18/15 03:59 PM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	1660	50.0	50.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: H-31
Lab ID: 1512236-03
Collection Date: 12/14/15 10:40 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:25 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 05:16 PM
Arsenic	0.00513	0.00200	0.00500		mg/L	1	01/05/16 05:16 PM
Barium	0.0388	0.00300	0.0100		mg/L	1	01/05/16 05:16 PM
Beryllium	0.00702	0.000300	0.00100		mg/L	1	01/05/16 05:16 PM
Boron	20.4	0.500	1.50		mg/L	50	01/06/16 02:44 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:16 PM
Calcium	236	5.00	15.0		mg/L	50	01/06/16 02:44 PM
Chromium	0.00456	0.00200	0.00500	J	mg/L	1	01/05/16 05:16 PM
Cobalt	0.0651	0.00300	0.00500		mg/L	1	01/05/16 05:16 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:16 PM
Lithium	0.149	0.00500	0.0100		mg/L	1	01/05/16 05:16 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:16 PM
Selenium	0.0231	0.00200	0.00500		mg/L	1	01/05/16 05:16 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/16 03:59 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	147	30.0	100		mg/L	100	12/22/15 07:47 PM
Fluoride	0.692	0.100	0.400		mg/L	1	12/22/15 01:59 PM
Sulfate	1740	100	300		mg/L	100	12/22/15 07:47 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.47	0	0		pH Units@18.1°C	1	12/18/15 04:02 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	2250	50.0	50.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: H-32
Lab ID: 1512236-04
Collection Date: 12/14/15 11:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:27 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 05:18 PM
Arsenic	0.0123	0.00200	0.00500		mg/L	1	01/05/16 05:18 PM
Barium	0.0384	0.00300	0.0100		mg/L	1	01/05/16 05:18 PM
Beryllium	0.00313	0.000300	0.00100		mg/L	1	01/05/16 05:18 PM
Boron	1.39	0.0200	0.0600		mg/L	2	01/07/16 11:17 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:18 PM
Calcium	37.4	1.00	3.00		mg/L	10	01/06/16 02:46 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:18 PM
Cobalt	0.155	0.00300	0.00500		mg/L	1	01/05/16 05:18 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:18 PM
Lithium	0.0733	0.00500	0.0100		mg/L	1	01/05/16 05:18 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:18 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:18 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 03:21 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	122	3.00	10.0		mg/L	10	12/23/15 07:54 AM
Fluoride	0.619	0.100	0.400		mg/L	1	12/22/15 02:13 PM
Sulfate	325	10.0	30.0		mg/L	10	12/23/15 07:54 AM
PH		M4500-H+ B		Analyst: LM			
pH	5.82	0	0		pH Units@18.3°C	1	12/18/15 04:05 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	860	10.0	10.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: H-27
Lab ID: 1512236-05
Collection Date: 12/14/15 12:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:29 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 05:20 PM
Arsenic	0.00210	0.00200	0.00500	J	mg/L	1	01/05/16 05:20 PM
Barium	0.0390	0.00300	0.0100		mg/L	1	01/05/16 05:20 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:20 PM
Boron	0.474	0.0100	0.0300		mg/L	1	01/07/16 11:19 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:20 PM
Calcium	57.2	1.00	3.00		mg/L	10	01/06/16 02:48 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:20 PM
Cobalt	0.00326	0.00300	0.00500	J	mg/L	1	01/05/16 05:20 PM
Lead	0.000339	0.000300	0.00100	J	mg/L	1	01/05/16 05:20 PM
Lithium	0.0624	0.00500	0.0100		mg/L	1	01/05/16 05:20 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:20 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:20 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 03:23 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	112	3.00	10.0		mg/L	10	12/23/15 08:08 AM
Fluoride	0.156	0.100	0.400	J	mg/L	1	12/22/15 02:28 PM
Sulfate	317	10.0	30.0		mg/L	10	12/23/15 08:08 AM
PH		M4500-H+ B		Analyst: LM			
pH	6.27	0	0		pH Units@18.4°C	1	12/18/15 04:07 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	857	10.0	10.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: H-28
Lab ID: 1512236-06
Collection Date: 12/14/15 01:15 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:32 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 05:22 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:22 PM
Barium	0.0224	0.00300	0.0100		mg/L	1	01/05/16 05:22 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:22 PM
Boron	1.02	0.0200	0.0600		mg/L	2	01/07/16 11:21 AM
Cadmium	0.000572	0.000300	0.00100	J	mg/L	1	01/05/16 05:22 PM
Calcium	17.3	0.100	0.300		mg/L	1	01/05/16 05:22 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:22 PM
Cobalt	0.0225	0.00300	0.00500		mg/L	1	01/05/16 05:22 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:22 PM
Lithium	0.0210	0.00500	0.0100		mg/L	1	01/05/16 05:22 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:22 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:22 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 03:25 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	15.5	0.300	1.00		mg/L	1	12/22/15 02:43 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/22/15 02:43 PM
Sulfate	113	1.00	3.00		mg/L	1	12/22/15 02:43 PM
PH							
M4500-H+ B				Analyst: LM			
pH	6.84	0	0		pH Units@18.7°C	1	12/18/15 04:10 PM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	299	10.0	10.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: H-26
Lab ID: 1512236-07
Collection Date: 12/14/15 02:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:34 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 05:24 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:24 PM
Barium	0.0401	0.00300	0.0100		mg/L	1	01/05/16 05:24 PM
Beryllium	0.000458	0.000300	0.00100	J	mg/L	1	01/05/16 05:24 PM
Boron	0.0679	0.0100	0.0300		mg/L	1	01/07/16 11:23 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:24 PM
Calcium	9.88	0.100	0.300		mg/L	1	01/05/16 05:24 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:24 PM
Cobalt	0.0244	0.00300	0.00500		mg/L	1	01/05/16 05:24 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:24 PM
Lithium	0.0769	0.00500	0.0100		mg/L	1	01/05/16 05:24 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:24 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:24 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 03:27 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	40.3	0.300	1.00		mg/L	1	12/22/15 02:57 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/22/15 02:57 PM
Sulfate	75.8	1.00	3.00		mg/L	1	12/22/15 02:57 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.06	0	0		pH Units@19.1°C	1	12/18/15 04:12 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	280	10.0	10.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: H-33
Lab ID: 1512236-08
Collection Date: 12/14/15 02:55 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:36 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 05:26 PM
Arsenic	0.00205	0.00200	0.00500	J	mg/L	1	01/05/16 05:26 PM
Barium	0.0473	0.00300	0.0100		mg/L	1	01/05/16 05:26 PM
Beryllium	0.000382	0.000300	0.00100	J	mg/L	1	01/05/16 05:26 PM
Boron	0.0596	0.0100	0.0300		mg/L	1	01/07/16 11:25 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:26 PM
Calcium	10.7	0.100	0.300		mg/L	1	01/05/16 05:26 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:26 PM
Cobalt	0.0293	0.00300	0.00500		mg/L	1	01/05/16 05:26 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:26 PM
Lithium	0.0903	0.00500	0.0100		mg/L	1	01/05/16 05:26 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:26 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:26 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 03:29 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	59.6	3.00	10.0		mg/L	10	12/23/15 08:23 AM
Fluoride	0.136	0.100	0.400	J	mg/L	1	12/22/15 03:12 PM
Sulfate	110	1.00	3.00		mg/L	1	12/22/15 03:12 PM
PH							
M4500-H+ B				Analyst: LM			
pH	5.93	0	0		pH Units@19.4°C	1	12/18/15 04:16 PM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	403	10.0	10.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: MW-20A
Lab ID: 1512236-09
Collection Date: 12/14/15 05:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A					Analyst: ABO
Mercury	0.000390	0.0000800	0.000200		mg/L	1	12/22/15 01:39 PM
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 05:28 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:28 PM
Barium	0.0291	0.00300	0.0100		mg/L	1	01/05/16 05:28 PM
Beryllium	0.000605	0.000300	0.00100	J	mg/L	1	01/05/16 05:28 PM
Boron	0.147	0.0100	0.0300		mg/L	1	01/07/16 11:27 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:28 PM
Calcium	14.8	0.100	0.300		mg/L	1	01/05/16 05:28 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:28 PM
Cobalt	0.00464	0.00300	0.00500	J	mg/L	1	01/05/16 05:28 PM
Lead	0.00132	0.000300	0.00100		mg/L	1	01/05/16 05:28 PM
Lithium	0.0162	0.00500	0.0100		mg/L	1	01/05/16 05:28 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:28 PM
Selenium	0.00682	0.00200	0.00500		mg/L	1	01/05/16 05:28 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 03:31 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: AV
Chloride	9.98	0.300	1.00		mg/L	1	12/22/15 03:26 PM
Fluoride	0.654	0.100	0.400		mg/L	1	12/22/15 03:26 PM
Sulfate	97.8	1.00	3.00		mg/L	1	12/22/15 03:26 PM
PH		M4500-H+ B					Analyst: LM
pH	4.72	0	0		pH Units@19.2°C	1	12/18/15 04:17 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: BJT
Total Dissolved Solids (Residue, Filterable)	201	10.0	10.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: PDP-22
Lab ID: 1512236-10
Collection Date: 12/14/15 05:50 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:41 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 05:30 PM
Arsenic	0.0108	0.00200	0.00500		mg/L	1	01/05/16 05:30 PM
Barium	0.469	0.00300	0.0100		mg/L	1	01/05/16 05:30 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:30 PM
Boron	0.291	0.0100	0.0300		mg/L	1	01/07/16 11:29 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:30 PM
Calcium	123	5.00	15.0		mg/L	50	01/07/16 12:11 PM
Chromium	0.0968	0.00200	0.00500		mg/L	1	01/05/16 05:30 PM
Cobalt	0.00434	0.00300	0.00500		mg/L	1	01/05/16 05:30 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 05:30 PM
Lithium	0.106	0.00500	0.0100		mg/L	1	01/05/16 05:30 PM
Molybdenum	0.00649	0.00200	0.00500		mg/L	1	01/05/16 05:30 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 05:30 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 03:33 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	21.1	0.300	1.00		mg/L	1	12/22/15 03:41 PM
Fluoride	0.858	0.100	0.400		mg/L	1	12/22/15 03:41 PM
Sulfate	202	10.0	30.0		mg/L	10	12/23/15 08:44 AM
PH		M4500-H+ B		Analyst: LM			
pH	8.23	0	0		pH Units@19.3°C	1	12/18/15 04:20 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	1430	50.0	50.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: MW-19
Lab ID: 1512236-11
Collection Date: 12/14/15 06:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:48 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 06:08 PM
Arsenic	0.00470	0.00200	0.00500	J	mg/L	1	01/05/16 06:08 PM
Barium	0.0591	0.00300	0.0100		mg/L	1	01/05/16 06:08 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:08 PM
Boron	0.271	0.0100	0.0300		mg/L	1	01/07/16 11:31 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:08 PM
Calcium	75.4	1.00	3.00		mg/L	10	01/06/16 02:52 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:08 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	01/05/16 06:08 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:08 PM
Lithium	0.00593	0.00500	0.0100	J	mg/L	1	01/05/16 06:08 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:08 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:08 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 03:35 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	28.4	0.300	1.00		mg/L	1	12/22/15 04:37 PM
Fluoride	0.195	0.100	0.400	J	mg/L	1	12/22/15 04:37 PM
Sulfate	200	10.0	30.0		mg/L	10	12/23/15 09:57 AM
PH		M4500-H+ B		Analyst: LM			
pH	7.14	0	0		pH Units@19.4°C	1	12/18/15 04:23 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	573	10.0	10.0		mg/L	1	12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: PDP-23
Lab ID: 1512236-12
Collection Date: 12/14/15 07:30 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A							
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	Analyst: ABO 12/22/15 01:50 PM
TRACE METALS: ICP-MS - WATER							
SW6020A							
Antimony	<0.000800	0.000800	0.00250		mg/L	1	Analyst: RO 01/05/16 06:10 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:10 PM
Barium	0.0384	0.00300	0.0100		mg/L	1	01/05/16 06:10 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:10 PM
Boron	0.0390	0.0100	0.0300		mg/L	1	01/07/16 12:13 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:10 PM
Calcium	1.79	0.100	0.300		mg/L	1	01/05/16 06:10 PM
Chromium	0.00275	0.00200	0.00500	J	mg/L	1	01/05/16 06:10 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	01/05/16 06:10 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:10 PM
Lithium	0.0162	0.00500	0.0100		mg/L	1	01/05/16 06:10 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:10 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:10 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 03:37 PM
ANIONS BY IC METHOD - WATER							
E300							
Chloride	5.09	0.300	1.00		mg/L	1	Analyst: AV 12/22/15 04:52 PM
Fluoride	0.127	0.100	0.400	J	mg/L	1	12/22/15 04:52 PM
Sulfate	1.45	1.00	3.00	J	mg/L	1	12/22/15 04:52 PM
PH							
M4500-H+ B							
pH	6.04	0	0		pH Units@19.7°C	1	Analyst: LM 12/18/15 04:26 PM
TOTAL DISSOLVED SOLIDS							
M2540C							
Total Dissolved Solids (Residue, Filterable)	57.0	10.0	10.0		mg/L	1	Analyst: BJT 12/21/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: PDP-26
Lab ID: 1512236-13
Collection Date: 12/15/15 07:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 01:52 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 06:12 PM
Arsenic	0.00474	0.00200	0.00500	J	mg/L	1	01/05/16 06:12 PM
Barium	0.0284	0.00300	0.0100		mg/L	1	01/05/16 06:12 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:12 PM
Boron	0.0429	0.0100	0.0300		mg/L	1	01/07/16 11:11 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:12 PM
Calcium	2.71	0.100	0.300		mg/L	1	01/05/16 06:12 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:12 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	01/05/16 06:12 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:12 PM
Lithium	0.0126	0.00500	0.0100		mg/L	1	01/05/16 06:12 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:12 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:12 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 04:28 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	6.94	0.300	1.00		mg/L	1	12/22/15 05:06 PM
Fluoride	0.391	0.100	0.400	J	mg/L	1	12/22/15 05:06 PM
Sulfate	15.3	1.00	3.00		mg/L	1	12/22/15 05:06 PM
PH							
M4500-H+ B				Analyst: LM			
pH	6.71	0	0		pH Units@20°C	1	12/18/15 04:29 PM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	126	10.0	10.0		mg/L	1	12/22/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: MW-17A
Lab ID: 1512236-14
Collection Date: 12/15/15 08:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
		SW7470A				Analyst: ABO	
Mercury	0.0000969	0.0000800	0.000200	J	mg/L	1	12/22/15 01:54 PM
TRACE METALS: ICP-MS - WATER							
		SW6020A				Analyst: RO	
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 06:14 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:14 PM
Barium	0.0987	0.00300	0.0100		mg/L	1	01/05/16 06:14 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:14 PM
Boron	0.440	0.0100	0.0300		mg/L	1	01/07/16 12:15 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:14 PM
Calcium	4.16	0.100	0.300		mg/L	1	01/05/16 06:14 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:14 PM
Cobalt	0.00780	0.00300	0.00500		mg/L	1	01/05/16 06:14 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:14 PM
Lithium	0.0147	0.00500	0.0100		mg/L	1	01/05/16 06:14 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:14 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:14 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 04:30 PM
ANIONS BY IC METHOD - WATER							
		E300				Analyst: AV	
Chloride	8.92	0.300	1.00		mg/L	1	12/22/15 05:21 PM
Fluoride	0.182	0.100	0.400	J	mg/L	1	12/22/15 05:21 PM
Sulfate	37.3	1.00	3.00		mg/L	1	12/22/15 05:21 PM
PH							
		M4500-H+ B				Analyst: LM	
pH	5.35	0	0		pH Units@20.1°C	1	12/18/15 04:31 PM
TOTAL DISSOLVED SOLIDS							
		M2540C				Analyst: BJT	
Total Dissolved Solids (Residue, Filterable)	112	10.0	10.0		mg/L	1	12/22/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: PDP-24
Lab ID: 1512236-15
Collection Date: 12/15/15 09:40 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	0.000557	0.0000800	0.000200		mg/L	1	12/22/15 01:57 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 06:16 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:16 PM
Barium	0.0259	0.00300	0.0100		mg/L	1	01/05/16 06:16 PM
Beryllium	0.00402	0.000300	0.00100		mg/L	1	01/05/16 06:16 PM
Boron	2.96	0.100	0.300		mg/L	10	01/06/16 02:54 PM
Cadmium	0.00176	0.000300	0.00100		mg/L	1	01/05/16 06:16 PM
Calcium	34.9	1.00	3.00		mg/L	10	01/06/16 02:54 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:16 PM
Cobalt	0.0786	0.00300	0.00500		mg/L	1	01/05/16 06:16 PM
Lead	0.000507	0.000300	0.00100	J	mg/L	1	01/05/16 06:16 PM
Lithium	0.0256	0.00500	0.0100		mg/L	1	01/05/16 06:16 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:16 PM
Selenium	0.00219	0.00200	0.00500	J	mg/L	1	01/05/16 06:16 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/07/16 04:01 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	22.6	0.300	1.00		mg/L	1	12/22/15 05:36 PM
Fluoride	0.756	0.100	0.400		mg/L	1	12/22/15 05:36 PM
Sulfate	340	10.0	30.0		mg/L	10	12/22/15 06:19 PM
PH		M4500-H+ B		Analyst: LM			
pH	4.94	0	0		pH Units@20.4°C	1	12/18/15 04:33 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	606	10.0	10.0		mg/L	1	12/22/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: MW-18A
Lab ID: 1512236-16
Collection Date: 12/15/15 10:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	0.00620	0.000400	0.00100		mg/L	5	12/22/15 04:30 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 06:18 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:18 PM
Barium	0.0674	0.00300	0.0100		mg/L	1	01/05/16 06:18 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:18 PM
Boron	0.142	0.0100	0.0300		mg/L	1	01/07/16 12:17 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:18 PM
Calcium	2.06	0.100	0.300		mg/L	1	01/05/16 06:18 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:18 PM
Cobalt	0.00346	0.00300	0.00500	J	mg/L	1	01/05/16 06:18 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:18 PM
Lithium	0.00873	0.00500	0.0100	J	mg/L	1	01/05/16 06:18 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:18 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:18 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 04:32 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	8.23	0.300	1.00		mg/L	1	12/22/15 05:50 PM
Fluoride	0.125	0.100	0.400	J	mg/L	1	12/22/15 05:50 PM
Sulfate	6.43	1.00	3.00		mg/L	1	12/22/15 05:50 PM
PH		M4500-H+ B		Analyst: LM			
pH	5.35	0	0		pH Units@20.6°C	1	12/18/15 04:35 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	50.0	10.0	10.0		mg/L	1	12/22/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jan-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1512236

Client Sample ID: PDP-25
Lab ID: 1512236-17
Collection Date: 12/15/15 11:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: ABO			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/22/15 02:05 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	01/05/16 06:20 PM
Arsenic	0.00372	0.00200	0.00500	J	mg/L	1	01/05/16 06:20 PM
Barium	0.210	0.00300	0.0100		mg/L	1	01/05/16 06:20 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:20 PM
Boron	0.0935	0.0100	0.0300		mg/L	1	01/07/16 12:19 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:20 PM
Calcium	33.2	1.00	3.00		mg/L	10	01/06/16 02:56 PM
Chromium	0.0131	0.00200	0.00500		mg/L	1	01/05/16 06:20 PM
Cobalt	0.0110	0.00300	0.00500		mg/L	1	01/05/16 06:20 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	01/05/16 06:20 PM
Lithium	0.128	0.00500	0.0100		mg/L	1	01/05/16 06:20 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:20 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	01/05/16 06:20 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	01/06/16 04:34 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	124	3.00	10.0		mg/L	10	12/22/15 06:34 PM
Fluoride	0.259	0.100	0.400	J	mg/L	1	12/22/15 06:05 PM
Sulfate	94.3	1.00	3.00		mg/L	1	12/22/15 06:05 PM
PH		M4500-H+ B		Analyst: LM			
pH	6.28	0	0		pH Units@21°C	1	12/18/15 04:38 PM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: BJT			
Total Dissolved Solids (Residue, Filterable)	578	10.0	10.0		mg/L	1	12/22/15 08:00 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler

Work Order: 1512236

Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_151222A

The QC data in batch 72835 applies to the following samples: 1512236-01A, 1512236-02A, 1512236-03A, 1512236-04A, 1512236-05A, 1512236-06A, 1512236-07A, 1512236-08A, 1512236-09A, 1512236-10A, 1512236-11A, 1512236-12A, 1512236-13A, 1512236-14A, 1512236-15A, 1512236-16A, 1512236-17A

Sample ID	MB-72835	Batch ID:	72835	TestNo:	SW7470A	Units:	mg/L			
SampType:	MBLK	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 1:01:59 PM	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	<0.0000800	0.000200								

Sample ID	LCS-72835	Batch ID:	72835	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCS	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 1:04:15 PM	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00191	0.000200	0.00200	0	95.5	85	115			

Sample ID	LCSD-72835	Batch ID:	72835	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCSD	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 1:11:49 PM	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00192	0.000200	0.00200	0	96.0	85	115	0.522	15	

Sample ID	1512236-01A SD	Batch ID:	72835	TestNo:	SW7470A	Units:	mg/L			
SampType:	SD	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 1:14:06 PM	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	<0.000400	0.00100	0	0				0	10	

Sample ID	1512236-01A PDS	Batch ID:	72835	TestNo:	SW7470A	Units:	mg/L			
SampType:	PDS	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 1:16:21 PM	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00245	0.000200	0.00250	0	98.0	85	115			

Sample ID	1512236-01A MS	Batch ID:	72835	TestNo:	SW7470A	Units:	mg/L			
SampType:	MS	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 1:18:36 PM	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00193	0.000200	0.00200	0	96.5	80	120			

Sample ID	1512236-01A MSD	Batch ID:	72835	TestNo:	SW7470A	Units:	mg/L			
SampType:	MSD	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 1:20:52 PM	Prep Date:	12/19/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00193	0.000200	0.00200	0	96.5	80	120	0	15	

Qualifiers:

B Analyte detected in the associated Method Blank

J Analyte detected between MDL and RL

ND Not Detected at the Method Detection Limit

RL Reporting Limit

J Analyte detected between SDL and RL

DF Dilution Factor

MDL Method Detection Limit

R RPD outside accepted control limits

S Spike Recovery outside control limits

N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_151222A

Sample ID	ICV-151222	Batch ID:	R83299	TestNo:	SW7470A	Units:	mg/L			
SampType:	ICV	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 10:31:35 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00397	0.000200	0.00400	0	99.2	90	110			

Sample ID	CCV4-151222	Batch ID:	R83299	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 12:57:25 P	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00190	0.000200	0.00200	0	95.0	90	110			

Sample ID	CCV5-151222	Batch ID:	R83299	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 1:43:34 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00191	0.000200	0.00200	0	95.5	90	110			

Sample ID	CCV6-151222	Batch ID:	R83299	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 2:14:55 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00193	0.000200	0.00200	0	96.5	90	110			

Sample ID	CCV9-151222	Batch ID:	R83299	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 4:14:23 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00190	0.000200	0.00200	0	95.0	90	110			

Sample ID	CCV10-151222	Batch ID:	R83299	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_151222A	Analysis Date:	12/22/2015 4:53:05 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00190	0.000200	0.00200	0	95.0	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

The QC data in batch 72946 applies to the following samples: 1512236-01A, 1512236-02A, 1512236-03A, 1512236-04A, 1512236-05A, 1512236-06A, 1512236-07A, 1512236-08A, 1512236-09A, 1512236-10A, 1512236-11A, 1512236-12A, 1512236-13A, 1512236-14A, 1512236-15A, 1512236-16A, 1512236-17A

Sample ID	MB-72946		Batch ID:	72946		TestNo:	SW6020A		Units:	mg/L	
SampType:	MBLK		Run ID:	ICP-MS4_160105A		Analysis Date:	1/5/2016 5:02:00 PM		Prep Date:	12/28/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.000800	0.00250
Arsenic	<0.00200	0.00500
Barium	<0.00300	0.0100
Beryllium	<0.000300	0.00100
Cadmium	<0.000300	0.00100
Calcium	<0.100	0.300
Chromium	<0.00200	0.00500
Cobalt	<0.00300	0.00500
Lead	<0.000300	0.00100
Lithium	<0.00500	0.0100
Molybdenum	<0.00200	0.00500
Selenium	<0.00200	0.00500

Sample ID	LCS-72946			Batch ID:	72946		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS			Run ID:	ICP-MS4_160105A		Analysis Date:	1/5/2016 5:04:00 PM		Prep Date:	12/28/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.186	0.00250	0.200	0	92.9	80	120
Arsenic	0.200	0.00500	0.200	0	100	80	120
Barium	0.196	0.0100	0.200	0	97.8	80	120
Beryllium	0.201	0.00100	0.200	0	100	80	120
Cadmium	0.194	0.00100	0.200	0	97.1	80	120
Calcium	4.61	0.300	5.00	0	92.3	80	120
Chromium	0.197	0.00500	0.200	0	98.4	80	120
Cobalt	0.204	0.00500	0.200	0	102	80	120
Lead	0.192	0.00100	0.200	0	96.0	80	120
Lithium	0.203	0.0100	0.200	0	102	80	120
Molybdenum	0.187	0.00500	0.200	0	93.4	80	120
Selenium	0.200	0.00500	0.200	0	99.8	80	120

Sample ID	LCSD-72946			Batch ID:	72946		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCSD			Run ID:	ICP-MS4_160105A		Analysis Date:	1/5/2016 5:06:00 PM		Prep Date:	12/28/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.186	0.00250	0.200	0	92.8	80	120	0.111	15
Arsenic	0.196	0.00500	0.200	0	98.1	80	120	1.88	15
Barium	0.193	0.0100	0.200	0	96.6	80	120	1.25	15
Beryllium	0.199	0.00100	0.200	0	99.4	80	120	1.11	15
Cadmium	0.191	0.00100	0.200	0	95.7	80	120	1.53	15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID	LCSD-72946	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 5:06:00 PM	Prep Date:	12/28/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.54	0.300	5.00	0	90.9	80	120	1.56	15
Chromium	0.194	0.00500	0.200	0	97.1	80	120	1.39	15
Cobalt	0.202	0.00500	0.200	0	101	80	120	1.06	15
Lead	0.189	0.00100	0.200	0	94.5	80	120	1.56	15
Lithium	0.202	0.0100	0.200	0	101	80	120	0.819	15
Molybdenum	0.185	0.00500	0.200	0	92.6	80	120	0.869	15
Selenium	0.199	0.00500	0.200	0	99.3	80	120	0.446	15

Sample ID	1512236-01A SD			Batch ID:	72946		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD			Run ID:	ICP-MS4_160105A		Analysis Date:	1/5/2016 5:12:00 PM		Prep Date:	12/28/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	<0.00400	0.0125	0	0				0	10
Arsenic	<0.0100	0.0250	0	0				0	10
Barium	0.278	0.0500	0	0.277				0.366	10
Beryllium	<0.00150	0.00500	0	0				0	10
Cadmium	<0.00150	0.00500	0	0				0	10
Chromium	0.0627	0.0250	0	0.0620				1.11	10
Cobalt	<0.0150	0.0250	0	0				0	10
Lead	<0.00150	0.00500	0	0.000542				0	10
Lithium	<0.0250	0.0500	0	0.0202				0	10
Molybdenum	<0.0100	0.0250	0	0.00819				0	10
Selenium	0.0300	0.0250	0	0.0282				6.16	10

Sample ID	1512236-01A PDS	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 5:32:00 PM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.169	0.00250	0.200	0	84.6	80	120		
Arsenic	0.204	0.00500	0.200	0	102	80	120		
Barium	0.460	0.0100	0.200	0.277	91.8	80	120		
Beryllium	0.199	0.00100	0.200	0	99.4	80	120		
Cadmium	0.189	0.00100	0.200	0	94.5	80	120		
Chromium	0.259	0.00500	0.200	0.0620	98.4	80	120		
Cobalt	0.205	0.00500	0.200	0	102	80	120		
Lead	0.197	0.00100	0.200	0.000542	98.2	80	120		
Lithium	0.217	0.0100	0.200	0.0202	98.4	80	120		
Molybdenum	0.194	0.00500	0.200	0.00819	92.8	80	120		
Selenium	0.223	0.00500	0.200	0.0282	97.4	80	120		

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID	1512236-01A MS	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 5:34:00 PM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.185	0.00250	0.200	0	92.6	80	120			
Arsenic	0.200	0.00500	0.200	0	99.9	80	120			
Barium	0.462	0.0100	0.200	0.277	92.6	80	120			
Beryllium	0.196	0.00100	0.200	0	98.2	80	120			
Cadmium	0.184	0.00100	0.200	0	91.8	80	120			
Calcium	159	0.300	5.00	159	2.05	80	120			S
Chromium	0.252	0.00500	0.200	0.0620	94.8	80	120			
Cobalt	0.196	0.00500	0.200	0	97.8	80	120			
Lead	0.189	0.00100	0.200	0.000542	94.4	80	120			
Lithium	0.215	0.0100	0.200	0.0202	97.2	80	120			
Molybdenum	0.191	0.00500	0.200	0.00819	91.6	80	120			
Selenium	0.224	0.00500	0.200	0.0282	97.7	80	120			

Sample ID	1512236-01A MSD	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 5:36:00 PM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.185	0.00250	0.200	0	92.5	80	120	0.080	15	
Arsenic	0.201	0.00500	0.200	0	101	80	120	0.722	15	
Barium	0.461	0.0100	0.200	0.277	92.1	80	120	0.184	15	
Beryllium	0.194	0.00100	0.200	0	97.2	80	120	0.993	15	
Cadmium	0.185	0.00100	0.200	0	92.4	80	120	0.646	15	
Calcium	159	0.300	5.00	159	-4.28	80	120	0.199	15	S
Chromium	0.253	0.00500	0.200	0.0620	95.4	80	120	0.454	15	
Cobalt	0.196	0.00500	0.200	0	98.0	80	120	0.261	15	
Lead	0.192	0.00100	0.200	0.000542	95.5	80	120	1.20	15	
Lithium	0.215	0.0100	0.200	0.0202	97.5	80	120	0.253	15	
Molybdenum	0.191	0.00500	0.200	0.00819	91.5	80	120	0.150	15	
Selenium	0.226	0.00500	0.200	0.0282	98.7	80	120	0.914	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID	ICV-160105	Batch ID:	R83481	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 11:22:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.0949	0.00250	0.100	0	94.9	90	110			
Arsenic	0.103	0.00500	0.100	0	103	90	110			
Barium	0.100	0.0100	0.100	0	100	90	110			
Beryllium	0.101	0.00100	0.100	0	101	90	110			
Cadmium	0.101	0.00100	0.100	0	101	90	110			
Calcium	2.30	0.300	2.50	0	92.1	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.108	0.00500	0.100	0	108	90	110			
Lead	0.102	0.00100	0.100	0	102	90	110			
Lithium	0.0984	0.0100	0.100	0	98.4	90	110			
Molybdenum	0.0966	0.00500	0.100	0	96.6	90	110			
Selenium	0.102	0.00500	0.100	0	102	90	110			

Sample ID	LCVL-160105	Batch ID:	R83481	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 11:26:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00199	0.00250	0.00200	0	99.4	70	130			
Arsenic	0.00495	0.00500	0.00500	0	99.0	70	130			
Barium	0.00489	0.0100	0.00500	0	97.7	70	130			
Beryllium	0.000790	0.00100	0.00100	0	79.0	70	130			
Cadmium	0.000992	0.00100	0.00100	0	99.2	70	130			
Calcium	0.0944	0.300	0.100	0	94.4	70	130			
Chromium	0.00499	0.00500	0.00500	0	99.8	70	130			
Cobalt	0.00520	0.00500	0.00500	0	104	70	130			
Lead	0.000899	0.00100	0.00100	0	89.9	70	130			
Lithium	0.00999	0.0100	0.0100	0	99.9	70	130			
Molybdenum	0.00492	0.00500	0.00500	0	98.5	70	130			
Selenium	0.00551	0.00500	0.00500	0	110	70	130			

Sample ID	CCV5-160105	Batch ID:	R83481	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 4:46:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.193	0.00250	0.200	0	96.4	90	110			
Arsenic	0.207	0.00500	0.200	0	104	90	110			
Barium	0.201	0.0100	0.200	0	101	90	110			
Beryllium	0.206	0.00100	0.200	0	103	90	110			
Cadmium	0.199	0.00100	0.200	0	99.3	90	110			
Calcium	4.79	0.300	5.00	0	95.8	90	110			
Chromium	0.204	0.00500	0.200	0	102	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID	CCV5-160105	Batch ID:	R83481	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 4:46:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.210	0.00500	0.200	0	105	90	110			
Lead	0.199	0.00100	0.200	0	99.5	90	110			
Lithium	0.212	0.0100	0.200	0	106	90	110			
Molybdenum	0.193	0.00500	0.200	0	96.6	90	110			
Selenium	0.210	0.00500	0.200	0	105	90	110			

Sample ID	LCVL5-160105	Batch ID:	R83481	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 4:56:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00189	0.00250	0.00200	0	94.3	70	130			
Arsenic	0.00501	0.00500	0.00500	0	100	70	130			
Barium	0.00490	0.0100	0.00500	0	97.9	70	130			
Beryllium	0.000974	0.00100	0.00100	0	97.4	70	130			
Cadmium	0.000940	0.00100	0.00100	0	94.0	70	130			
Calcium	0.0993	0.300	0.100	0	99.3	70	130			
Chromium	0.00500	0.00500	0.00500	0	100	70	130			
Cobalt	0.00516	0.00500	0.00500	0	103	70	130			
Lead	0.000807	0.00100	0.00100	0	80.7	70	130			
Lithium	0.0117	0.0100	0.0100	0	117	70	130			
Molybdenum	0.00471	0.00500	0.00500	0	94.2	70	130			
Selenium	0.00519	0.00500	0.00500	0	104	70	130			

Sample ID	CCV6-160105	Batch ID:	R83481	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 5:54:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.196	0.00250	0.200	0	98.1	90	110			
Arsenic	0.212	0.00500	0.200	0	106	90	110			
Barium	0.204	0.0100	0.200	0	102	90	110			
Beryllium	0.213	0.00100	0.200	0	106	90	110			
Cadmium	0.203	0.00100	0.200	0	102	90	110			
Calcium	4.84	0.300	5.00	0	96.7	90	110			
Chromium	0.208	0.00500	0.200	0	104	90	110			
Cobalt	0.214	0.00500	0.200	0	107	90	110			
Lead	0.202	0.00100	0.200	0	101	90	110			
Lithium	0.213	0.0100	0.200	0	106	90	110			
Molybdenum	0.197	0.00500	0.200	0	98.5	90	110			
Selenium	0.213	0.00500	0.200	0	106	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID	LCVL6-160105	Batch ID:	R83481	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 6:04:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00189	0.00250	0.00200	0	94.6	70	130			
Arsenic	0.00500	0.00500	0.00500	0	99.9	70	130			
Barium	0.00486	0.0100	0.00500	0	97.2	70	130			
Beryllium	0.000767	0.00100	0.00100	0	76.7	70	130			
Cadmium	0.00100	0.00100	0.00100	0	100	70	130			
Calcium	0.0950	0.300	0.100	0	95.0	70	130			
Chromium	0.00506	0.00500	0.00500	0	101	70	130			
Cobalt	0.00520	0.00500	0.00500	0	104	70	130			
Lead	0.000806	0.00100	0.00100	0	80.6	70	130			
Lithium	0.0107	0.0100	0.0100	0	107	70	130			
Molybdenum	0.00463	0.00500	0.00500	0	92.6	70	130			
Selenium	0.00496	0.00500	0.00500	0	99.2	70	130			

Sample ID	CCV7-160105	Batch ID:	R83481	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 6:30:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.192	0.00250	0.200	0	95.8	90	110			
Arsenic	0.209	0.00500	0.200	0	105	90	110			
Barium	0.199	0.0100	0.200	0	99.5	90	110			
Beryllium	0.207	0.00100	0.200	0	104	90	110			
Cadmium	0.198	0.00100	0.200	0	98.8	90	110			
Calcium	4.70	0.300	5.00	0	94.1	90	110			
Chromium	0.202	0.00500	0.200	0	101	90	110			
Cobalt	0.208	0.00500	0.200	0	104	90	110			
Lead	0.196	0.00100	0.200	0	98.0	90	110			
Lithium	0.204	0.0100	0.200	0	102	90	110			
Molybdenum	0.190	0.00500	0.200	0	94.8	90	110			
Selenium	0.210	0.00500	0.200	0	105	90	110			

Sample ID	LCVL7-160105	Batch ID:	R83481	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 6:41:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00187	0.00250	0.00200	0	93.5	70	130			
Arsenic	0.00520	0.00500	0.00500	0	104	70	130			
Barium	0.00495	0.0100	0.00500	0	98.9	70	130			
Beryllium	0.00113	0.00100	0.00100	0	112	70	130			
Cadmium	0.000975	0.00100	0.00100	0	97.5	70	130			
Calcium	0.0960	0.300	0.100	0	96.0	70	130			
Chromium	0.00500	0.00500	0.00500	0	99.9	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160105A

Sample ID	LCVL7-160105	Batch ID:	R83481	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160105A	Analysis Date:	1/5/2016 6:41:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.00517	0.00500	0.00500	0	103	70	130			
Lead	0.000802	0.00100	0.00100	0	80.2	70	130			
Lithium	0.0113	0.0100	0.0100	0	113	70	130			
Molybdenum	0.00450	0.00500	0.00500	0	90.0	70	130			
Selenium	0.00496	0.00500	0.00500	0	99.2	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160106A

The QC data in batch 72946 applies to the following samples: 1512236-01A, 1512236-02A, 1512236-03A, 1512236-04A, 1512236-05A, 1512236-06A, 1512236-07A, 1512236-08A, 1512236-09A, 1512236-10A, 1512236-11A, 1512236-12A, 1512236-13A, 1512236-14A, 1512236-15A, 1512236-16A, 1512236-17A

Sample ID	MB-72946	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	MBLK	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 3:09:00 PM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium <0.000500 0.00150

Sample ID	LCS-72946		Batch ID:	72946		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS		Run ID:	ICP-MS4_160106A		Analysis Date:	1/6/2016 3:11:00 PM		Prep Date:	12/28/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium 0.194 0.00150 0.200 0 97.2 80 120

Sample ID	LCSD-72946	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 3:13:00 PM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium 0.190 0.00150 0.200 0 94.9 80 120 2.47 15

Sample ID	1512236-01A SD		Batch ID:	72946		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD		Run ID:	ICP-MS4_160106A		Analysis Date:	1/6/2016 3:19:00 PM		Prep Date:	12/28/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium <0.00250 0.00750 0 0 0 0 10

Sample ID	1512236-01A PDS			Batch ID:	72946		TestNo:	SW6020A		Units:	mg/L	
SampType:	PDS			Run ID:	ICP-MS4_160106A		Analysis Date:	1/6/2016 3:39:00 PM		Prep Date:	12/28/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Thallium 0.208 0.00150 0.200 0 104 80 120

Sample ID	1512236-01A MS	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 3:41:00 PM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium 0.190 0.00150 0.200 0 94.9 80 120

Sample ID	1512236-01A MSD	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 3:43:00 PM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Thallium 0.190 0.00150 0.200 0 95.2 80 120 0.259 15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160106A

Sample ID	1512236-01A SD	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 4:24:00 PM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	166	75.0	0	165				0.704	10	

Sample ID	1512236-01A PDS	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 4:26:00 PM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	393	15.0	250	165	91.4	80	120			

LUMINANT

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160106A

Sample ID	ICV-160106	Batch ID:	R83505	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 2:25:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0975	0.0300	0.100	0	97.5	90	110			
Calcium	2.33	0.300	2.50	0	93.1	90	110			
Thallium	0.0942	0.00150	0.100	0	94.2	90	110			

Sample ID	LCVL-160106	Batch ID:	R83505	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 2:30:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0238	0.0300	0.0200	0	119	70	130			
Calcium	0.0992	0.300	0.100	0	99.2	70	130			
Thallium	0.000864	0.00150	0.00100	0	86.4	70	130			

Sample ID	CCV1-160106	Batch ID:	R83505	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 3:00:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.190	0.0300	0.200	0	94.9	90	110			
Calcium	4.84	0.300	5.00	0	96.7	90	110			
Thallium	0.198	0.00150	0.200	0	98.9	90	110			

Sample ID	LCVL1-160106	Batch ID:	R83505	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 3:04:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0237	0.0300	0.0200	0	119	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			
Thallium	0.000908	0.00150	0.00100	0	90.8	70	130			

Sample ID	CCV2-160106	Batch ID:	R83505	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 3:57:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.76	0.300	5.00	0	95.3	90	110			
Thallium	0.196	0.00150	0.200	0	97.9	90	110			

Sample ID	LCVL2-160106	Batch ID:	R83505	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 4:18:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.104	0.300	0.100	0	104	70	130			
Thallium	0.000909	0.00150	0.00100	0	90.9	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160106A

Sample ID	CCV3-160106	Batch ID:	R83505	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 4:36:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.89	0.300	5.00	0	97.8	90	110			
Thallium	0.202	0.00150	0.200	0	101	90	110			

Sample ID	LCVL3-160106	Batch ID:	R83505	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160106A	Analysis Date:	1/6/2016 4:40:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium		0.100	0.300	0.100	0	100	70	130			
Thallium		0.000920	0.00150	0.00100	0	92.0	70	130			

LUMINANT

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160107A

The QC data in batch 72946 applies to the following samples: 1512236-01A, 1512236-02A, 1512236-03A, 1512236-04A, 1512236-05A, 1512236-06A, 1512236-07A, 1512236-08A, 1512236-09A, 1512236-10A, 1512236-11A, 1512236-12A, 1512236-13A, 1512236-14A, 1512236-15A, 1512236-16A, 1512236-17A

Sample ID	MB-72946	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	MBLK	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 11:03:00 AM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.0132 0.0300

Sample ID	LCS-72946		Batch ID:	72946		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS		Run ID:	ICP-MS4_160107A		Analysis Date:	1/7/2016 11:05:00 AM		Prep Date:	12/28/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.206 0.0300 0.200 0 103 80 120

Sample ID	LCSD-72946	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 11:07:00 AM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.200 0.0300 0.200 0 100 80 120 2.88 15

Sample ID	1512236-13A SD	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 11:13:00 AM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron <0.0500 0.150 0 0.0429 0 10

Sample ID	1512236-13A PDS	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 11:33:00 AM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.248 0.0300 0.200 0.0429 103 80 120

Sample ID	1512236-01A MS	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 11:35:00 AM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.478 0.0300 0.200 0.290 93.8 80 120

Sample ID	1512236-01A MSD	Batch ID:	72946	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 11:37:00 AM	Prep Date:	12/28/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.502 0.0300 0.200 0.290 106 80 120 4.89 15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160107A

Sample ID	ICV-160107	Batch ID:	R83509	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 10:44:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.103	0.0300	0.100	0	103	90	110			
Calcium	2.38	0.300	2.50	0	95.3	90	110			

Sample ID	LCVL-160107	Batch ID:	R83509	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 10:57:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0225	0.0300	0.0200	0	113	70	130			
Calcium	0.107	0.300	0.100	0	107	70	130			

Sample ID	CCV1-160107	Batch ID:	R83509	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 11:47:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.205	0.0300	0.200	0	103	90	110			
Calcium	5.03	0.300	5.00	0	101	90	110			

Sample ID	LCVL1-160107		Batch ID:	R83509		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCVL		Run ID:	ICP-MS4_160107A		Analysis Date:	1/7/2016 12:06:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0229	0.0300	0.0200	0	115	70	130			
Calcium	0.113	0.300	0.100	0	113	70	130			

Sample ID	CCV2-160107	Batch ID:	R83509	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 12:25:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.205	0.0300	0.200	0	103	90	110			
Calcium	4.97	0.300	5.00	0	99.4	90	110			

Sample ID	LCVL2-160107	Batch ID:	R83509	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160107A	Analysis Date:	1/7/2016 12:37:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0258	0.0300	0.0200	0	129	70	130			
Calcium	0.110	0.300	0.100	0	110	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160107D

Sample ID	ICV2-160107	Batch ID:	R83517	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160107D	Analysis Date:	1/7/2016 3:16:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.102	0.00150	0.100	0	102	90	110			

Sample ID	ILCVL2-160107			Batch ID:	R83517		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCVL			Run ID:	ICP-MS4_160107D		Analysis Date:	1/7/2016 3:22:00 PM		Prep Date:		
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.000999			0.00150	0.00100	0	99.9	70	130			

Sample ID	CCV5-160107	Batch ID:	R83517	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160107D	Analysis Date:	1/7/2016 4:03:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.206	0.00150	0.200	0	103	90	110			

Sample ID	LCVL5-160107	Batch ID:	R83517	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160107D	Analysis Date:	1/7/2016 4:07:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_151222B

The QC data in batch 72897 applies to the following samples: 1512236-01D, 1512236-02D, 1512236-03D, 1512236-04D, 1512236-05D, 1512236-06D, 1512236-07D, 1512236-08D, 1512236-09D, 1512236-10D, 1512236-11D, 1512236-12D, 1512236-13D, 1512236-14D, 1512236-15D, 1512236-16D, 1512236-17D

Sample ID	MB-72897		Batch ID:	72897		TestNo:	E300		Units:	mg/L	
SampType:	MBLK		Run ID:	IC2_151222B		Analysis Date:	12/22/2015 12:38:49 P		Prep Date:	12/22/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-72897	Batch ID:	72897	TestNo:	E300	Units:	mg/L			
SampType:	LCS	Run ID:	IC2_151222B	Analysis Date:	12/22/2015 12:53:26 P	Prep Date:	12/22/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.94	1.00	10.00	0	99.4	90	110			
Fluoride	4.08	0.400	4.000	0	102	90	110			
Sulfate	29.0	3.00	30.00	0	96.7	90	110			

Sample ID	LCSD-72897	Batch ID:	72897	TestNo:	E300	Units:	mg/L			
SampType:	LCSD	Run ID:	IC2_151222B	Analysis Date:	12/22/2015 1:08:02 PM	Prep Date:	12/22/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.97	1.00	10.00	0	99.7	90	110	0.397	20	
Fluoride	4.10	0.400	4.000	0	103	90	110	0.547	20	
Sulfate	29.0	3.00	30.00	0	96.7	90	110	0.005	20	

Sample ID	1512236-08DMS	Batch ID:	72897	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC2_151222B	Analysis Date:	12/23/2015 8:58:40 AM	Prep Date:	12/22/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	261	10.0	200.0	59.58	101	90	110			
Fluoride	191	4.00	200.0	0	95.5	90	110			
Sulfate	308	30.0	200.0	113.1	97.5	90	110			

Sample ID	1512236-08DMSD	Batch ID:	72897	TestNo:	E300	Units:	mg/L			
SampType:	MSD	Run ID:	IC2_151222B	Analysis Date:	12/23/2015 9:13:17 AM	Prep Date:	12/22/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	261	10.0	200.0	59.58	101	90	110	0.005	20	
Fluoride	198	4.00	200.0	0	98.8	90	110	3.40	20	
Sulfate	309	30.0	200.0	113.1	97.7	90	110	0.173	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_151222B

Sample ID	1512236-10DMS	Batch ID:	72897	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC2_151222B	Analysis Date:	12/23/2015 9:27:53 AM	Prep Date:	12/22/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	223	10.0	200.0	21.04	101	90	110			
Fluoride	201	4.00	200.0	0	101	90	110			
Sulfate	398	30.0	200.0	201.9	98.1	90	110			

Sample ID	1512236-10DMSD	Batch ID:	72897	TestNo:	E300	Units:	mg/L			
SampType:	MSD	Run ID:	IC2_151222B	Analysis Date:	12/23/2015 9:42:30 AM	Prep Date:	12/22/2015			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	222	10.0	200.0	21.04	101	90	110	0.369	20	
Fluoride	201	4.00	200.0	0	101	90	110	0.112	20	
Sulfate	400	30.0	200.0	201.9	99.0	90	110	0.430	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_151222B

Sample ID	ICV-151222	Batch ID:	R83318	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC2_151222B	Analysis Date:	12/22/2015 9:02:57 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.5	1.00	25.00	0	97.9	90	110			
Fluoride	9.97	0.400	10.00	0	99.7	90	110			
Sulfate	71.9	3.00	75.00	0	95.8	90	110			

Sample ID	CCV1-151222	Batch ID:	R83318	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_151222B	Analysis Date:	12/22/2015 12:03:35 P	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.96	1.00	10.00	0	99.6	90	110			
Fluoride	4.08	0.400	4.000	0	102	90	110			
Sulfate	29.0	3.00	30.00	0	96.8	90	110			

Sample ID	CCV2-151222	Batch ID:	R83318	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_151222B	Analysis Date:	12/22/2015 3:56:03 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.83	1.00	10.00	0	98.3	90	110			
Fluoride	4.07	0.400	4.000	0	102	90	110			
Sulfate	29.1	3.00	30.00	0	97.0	90	110			

Sample ID	CCV3-151222	Batch ID:	R83318	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_151222B	Analysis Date:	12/22/2015 6:49:08 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.80	1.00	10.00	0	98.0	90	110			
Fluoride	4.08	0.400	4.000	0	102	90	110			
Sulfate	28.9	3.00	30.00	0	96.3	90	110			

Sample ID	CCV4-151222	Batch ID:	R83318	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_151222B	Analysis Date:	12/23/2015 10:17:03 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.94	1.00	10.00	0	99.4	90	110			
Fluoride	4.00	0.400	4.000	0	100	90	110			
Sulfate	29.5	3.00	30.00	0	98.2	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_151218A

The QC data in batch 72710 applies to the following samples: 1512236-01D, 1512236-02D, 1512236-03D, 1512236-04D, 1512236-05D, 1512236-06D, 1512236-07D, 1512236-08D, 1512236-09D, 1512236-10D, 1512236-11D, 1512236-12D, 1512236-13D, 1512236-14D, 1512236-15D, 1512236-16D, 1512236-17D

Sample ID	1512236-01D DUP	Batch ID:	72710	TestNo:	M4500-H+ B	Units:	pH Units@18.4°C
SampType:	DUP	Run ID:	TITRATOR_151218A	Analysis Date:	12/18/2015 3:58:00 PM	Prep Date:	12/18/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	11.9	0	0	11.87				0.084		5

Sample ID	1512236-17D DUP	Batch ID:	72710	TestNo:	M4500-H+ B	Units:	pH Units@21.2°C
SampType:	DUP	Run ID:	TITRATOR_151218A	Analysis Date:	12/18/2015 4:41:00 PM	Prep Date:	12/18/2015

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.40	0	0	6.280				1.89		5

LUMINANT

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_151218A

Sample ID	ICV-151218	Batch ID:	R83249	TestNo:	M4500-H+ B	Units:	pH Units@21.2°C
SampType:	ICV	Run ID:	TITRATOR_151218A	Analysis Date:	12/18/2015 2:48:00 PM	Prep Date:	12/18/2015
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

pH 9.96 0 10.00 0 99.6 99 101

Sample ID	CCV-151218-PH12	Batch ID:	R83249	TestNo:	M4500-H+ B	Units:	pH Units@21.2°C
SampType:	CCV	Run ID:	TITRATOR_151218A	Analysis Date:	12/18/2015 3:50:00 PM	Prep Date:	12/18/2015
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

pH 12.0 0 12.00 0 100 97.1 102.9

Sample ID	CCV4-151218	Batch ID:	R83249	TestNo:	M4500-H+ B	Units:	pH Units@19.8°C
SampType:	CCV	Run ID:	TITRATOR_151218A	Analysis Date:	12/18/2015 4:14:00 PM	Prep Date:	12/18/2015
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

pH 6.98 0 7.000 0 99.7 97.1 102.9

Sample ID	CCV5-151218	Batch ID:	R83249	TestNo:	M4500-H+ B	Units:	pH Units@19.8°C
SampType:	CCV	Run ID:	TITRATOR_151218A	Analysis Date:	12/18/2015 4:39:00 PM	Prep Date:	12/18/2015
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

pH 6.96 0 7.000 0 99.4 97.1 102.9

Sample ID	CCV6-151218	Batch ID:	R83249	TestNo:	M4500-H+ B	Units:	pH Units@20.8°C
SampType:	CCV	Run ID:	TITRATOR_151218A	Analysis Date:	12/18/2015 4:45:00 PM	Prep Date:	12/18/2015
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

pH 6.97 0 7.000 0 99.6 97.1 102.9

Sample ID	CCV-151218-PH12	Batch ID:	R83249	TestNo:	M4500-H+ B	Units:	pH Units@21.4°C
SampType:	CCV	Run ID:	TITRATOR_151218A	Analysis Date:	12/18/2015 4:48:00 PM	Prep Date:	12/18/2015
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

pH 12.0 0 12.00 0 100 97.1 102.9

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: WC_151218C

The QC data in batch 72824 applies to the following samples: 1512236-01D, 1512236-02D, 1512236-03D, 1512236-04D, 1512236-05D, 1512236-06D, 1512236-07D, 1512236-08D, 1512236-09D, 1512236-10D, 1512236-11D, 1512236-12D

Sample ID	MB-72824		Batch ID:	72824		TestNo:	M2540C		Units:	mg/L	
SampType:	MBLK		Run ID:	WC_151218C		Analysis Date:	12/21/2015 8:00:00 AM		Prep Date:	12/18/2015	
Analyte	Result		RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-72824		Batch ID:	72824		TestNo:	M2540C		Units:	mg/L	
SampType:	LCS		Run ID:	WC_151218C		Analysis Date:	12/21/2015 8:00:00 AM		Prep Date:	12/18/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 741 10.0 745.6 0 99.4 90 113

Sample ID	1512226-01G-DUP		Batch ID:	72824		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_151218C		Analysis Date:	12/21/2015 8:00:00 AM		Prep Date:	12/18/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 64.0 10.0 0 63.00 1.57 5

Sample ID	1512236-03D-DUP		Batch ID:	72824		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_151218C		Analysis Date:	12/21/2015 8:00:00 AM		Prep Date:	12/18/2015	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 2260 50.0 0 2245 0.887 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1512236
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: WC_151221A

The QC data in batch 72884 applies to the following samples: 1512236-13D, 1512236-14D, 1512236-15D, 1512236-16D, 1512236-17D

Sample ID	MB-72884	Batch ID:	72884	TestNo:	M2540C	Units:	mg/L				
SampType:	MBLK	Run ID:	WC_151221A	Analysis Date:	12/22/2015 8:00:00 AM	Prep Date:	12/21/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-72884	Batch ID:	72884	TestNo:	M2540C	Units:	mg/L				
SampType:	LCS	Run ID:	WC_151221A	Analysis Date:	12/22/2015 8:00:00 AM	Prep Date:	12/21/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 749 10.0 745.6 0 100 90 113

Sample ID	1512251-01B-DUP	Batch ID:	72884	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_151221A	Analysis Date:	12/22/2015 8:00:00 AM	Prep Date:	12/21/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 340 10.0 0 338.0 0.590 5

Sample ID	1512237-07D-DUP	Batch ID:	72884	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_151221A	Analysis Date:	12/22/2015 8:00:00 AM	Prep Date:	12/21/2015				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1900 50.0 0 1875 1.32 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified



January 14, 2016

Mr. John DuPont
DHL Analytical
2300 Double Creek Drive
Round Rock, Texas 78664

Re: Routine Analysis
Work Order: 387924
SDG: 1512236

Dear Mr. DuPont:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on December 22, 2015. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4707.

Sincerely,

Anna Day
Project Manager

Purchase Order: 14090
Enclosures



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis Report for

DHLA002 DHL Analytical

Client SDG: 1512236 GEL Work Order: 387924

The Qualifiers in this report are defined as follows:

- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Anna Day.

Reviewed by

Anna C Day

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-29
Sample ID: 387924001
Matrix: Water
Collect Date: 14-DEC-15 09:05
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.669	+/-0.748	1.25	3.00	pCi/L		AXM6	01/08/16	1516	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.230	+/-0.308	0.530	1.00	pCi/L		CXP3	01/14/16	0730	1533728	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery	Test					Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"							93.4	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-30
Sample ID: 387924002
Matrix: Water
Collect Date: 14-DEC-15 09:50
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.956	+/-1.24	2.11	3.00	pCi/L		AXM6	01/08/16	1516	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.93	+/-0.624	0.638	1.00	pCi/L		CXP3	01/14/16	0730	1533728	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						92.1	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-31
Sample ID: 387924003
Matrix: Water
Collect Date: 14-DEC-15 10:40
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.453	+/-0.737	1.29	3.00	pCi/L		AXM6	01/08/16	1516	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.61	+/-0.562	0.604	1.00	pCi/L		CXP3	01/14/16	0730	1533728	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			104	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-32
Sample ID: 387924004
Matrix: Water
Collect Date: 14-DEC-15 11:30
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.120	+/-1.22	2.21	3.00	pCi/L		AXM6	01/08/16	1516	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.712	+/-0.379	0.500	1.00	pCi/L		CXP3	01/14/16	0730	1533728	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			93.4	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-27
Sample ID: 387924005
Matrix: Water
Collect Date: 14-DEC-15 12:20
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.354	+/-0.941	1.68	3.00	pCi/L		AXM6	01/08/16	1516	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.468	+/-0.291	0.397	1.00	pCi/L		CXP3	01/14/16	0730	1533728	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						96.1	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-28
Sample ID: 387924006
Matrix: Water
Collect Date: 14-DEC-15 13:15
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.136	+/-0.625	1.18	3.00	pCi/L		AXM6	01/08/16	1516	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.707	+/-0.388	0.519	1.00	pCi/L		CXP3	01/14/16	0730	1533728	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						89.6	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-26
Sample ID: 387924007
Matrix: Water
Collect Date: 14-DEC-15 14:05
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.936	+/-1.15	1.95	3.00	pCi/L		AXM6	01/08/16	1517	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.619	+/-0.356	0.469	1.00	pCi/L		CXP3	01/14/16	0800	1533728	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			104	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-33
Sample ID: 387924008
Matrix: Water
Collect Date: 14-DEC-15 14:55
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	-0.663	+/-0.754	1.79	3.00	pCi/L		AXM6	01/12/16	1124	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.94	+/-0.604	0.604	1.00	pCi/L		CXP3	01/14/16	0800	1533728	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			87.1	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-20A
Sample ID: 387924009
Matrix: Water
Collect Date: 14-DEC-15 17:00
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.112	+/-1.21	2.20	3.00	pCi/L		AXM6	01/08/16	1517	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.939	+/-0.459	0.584	1.00	pCi/L		CXP3	01/14/16	0800	1533728	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			92.2	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-22
Sample ID: 387924010
Matrix: Water
Collect Date: 14-DEC-15 17:50
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.14	+/-1.10	1.59	3.00	pCi/L		AXM6	01/08/16	1517	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		2.12	+/-0.622	0.600	1.00	pCi/L		CXP3	01/14/16	0800	1533728	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						85.6	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-19
Sample ID: 387924011
Matrix: Water
Collect Date: 14-DEC-15 18:40
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.462	+/-0.687	1.19	3.00	pCi/L		AXM6	01/08/16	1517	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.194	+/-0.261	0.448	1.00	pCi/L		CXP3	01/14/16	0800	1533728	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						90.9	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-23
Sample ID: 387924012
Matrix: Water
Collect Date: 14-DEC-15 19:30
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.865	+/-0.704	1.11	3.00	pCi/L		AXM6	01/08/16	1517	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.320	+/-0.274	0.419	1.00	pCi/L		CXP3	01/14/16	0800	1533728	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			100	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-26
Sample ID: 387924013
Matrix: Water
Collect Date: 15-DEC-15 07:50
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	-0.363	+/-0.651	1.35	3.00	pCi/L		AXM6	01/08/16	1517	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.251	+/-0.301	0.506	1.00	pCi/L		CXP3	01/14/16	0830	1533728	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						99.6	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-17A
Sample ID: 387924014
Matrix: Water
Collect Date: 15-DEC-15 08:50
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.315	+/-0.860	1.54	3.00	pCi/L		AXM6	01/08/16	1517	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.459	+/-0.273	0.314	1.00	pCi/L		CXP3	01/14/16	0830	1533728	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						96.9	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-24
Sample ID: 387924015
Matrix: Water
Collect Date: 15-DEC-15 09:40
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.663	+/-1.28	2.23	3.00	pCi/L		AXM6	01/08/16	1518	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.01	+/-0.419	0.494	1.00	pCi/L		CXP3	01/14/16	0830	1533728	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			86	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-18A
Sample ID: 387924016
Matrix: Water
Collect Date: 15-DEC-15 10:30
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.231	+/-1.06	1.90	3.00	pCi/L		AXM6	01/08/16	1518	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.805	+/-0.383	0.482	1.00	pCi/L		CXP3	01/14/16	0830	1533728	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						108	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 14, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-25
Sample ID: 387924017
Matrix: Water
Collect Date: 15-DEC-15 11:35
Receive Date: 22-DEC-15
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.465	+/-0.776	1.36	3.00	pCi/L		AXM6	01/08/16	1518	1534780	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.807	+/-0.394	0.502	1.00	pCi/L		CXP3	01/14/16	0830	1533728	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						95.7	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: January 14, 2016

Page 1 of 2

DHL Analytical
2300 Double Creek Drive
Round Rock, Texas

Contact: Mr. John DuPont

Workorder: 387924

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	1534780										
QC1203462619	387924008	DUP									
Radium-228	U	-0.663	U	-0.512	pCi/L	N/A		N/A	AXM6	01/12/16	11:24
	Uncertainty	+/-0.754		+/-0.808							
QC1203462620	LCS										
Radium-228	28.8			24.6	pCi/L		85.6	(75%-125%)		01/08/16	15:17
	Uncertainty			+/-2.34							
QC1203462618	MB										
Radium-228			U	-0.302	pCi/L					01/08/16	15:17
	Uncertainty			+/-0.708							
Rad Ra-226											
Batch	1533728										
QC1203459854	387939003	DUP									
Radium-226		0.672		1.11	pCi/L	48.8		(0% - 100%)	CXP3	01/14/16	09:40
	Uncertainty	+/-0.358		+/-0.419							
QC1203459856	LCS										
Radium-226	30.5			27.4	pCi/L		89.7	(75%-125%)		01/14/16	10:10
	Uncertainty			+/-1.77							
QC1203459853	MB										
Radium-226			U	0.0947	pCi/L					01/14/16	09:40
	Uncertainty			+/-0.270							
QC1203459855	387939003	MS									
Radium-226	61.0	0.672		54.7	pCi/L		88.6	(75%-125%)		01/14/16	09:40
	Uncertainty	+/-0.358		+/-3.57							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 387924

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N1	See case narrative										
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.										
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.										
UI	Gamma Spectroscopy--Uncertain identification										
UJ	Gamma Spectroscopy--Uncertain identification										
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

There are no "Data Exception Reports" associated with this analytical report.

LUMINANT

DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1512236

CHAIN-OF-CUSTODY RECORD

Page 1 of 2

Subcontractor:

GEL Laboratories
PO Box 30712
Charleston, SC 29417

TEL: (843) 556-8171

FAX:

Acct #:

387924

18-Dec-15

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E903.1	E904.0				
H-29	Aqueous	-01B	12/14/15 09:05 AM	500HDPEHNO3		1				
H-29	Aqueous	-01C	12/14/15 09:05 AM	500HDPEHNO3	1					
H-30	Aqueous	-02B	12/14/15 09:50 AM	500HDPEHNO3		1				
H-30	Aqueous	-02C	12/14/15 09:50 AM	500HDPEHNO3	1					
H-31	Aqueous	-03B	12/14/15 10:40 AM	500HDPEHNO3		1				
H-31	Aqueous	-03C	12/14/15 10:40 AM	500HDPEHNO3	1					
H-32	Aqueous	-04B	12/14/15 11:30 AM	500HDPEHNO3		1				
H-32	Aqueous	-04C	12/14/15 11:30 AM	500HDPEHNO3	1					
H-27	Aqueous	-05B	12/14/15 12:20 PM	500HDPEHNO3		1				
H-27	Aqueous	-05C	12/14/15 12:20 PM	500HDPEHNO3	1					
H-28	Aqueous	-06B	12/14/15 01:15 PM	500HDPEHNO3		1				
H-28	Aqueous	-06C	12/14/15 01:15 PM	500HDPEHNO3	1					
H-26	Aqueous	-07B	12/14/15 02:05 PM	500HDPEHNO3		1				
H-26	Aqueous	-07C	12/14/15 02:05 PM	500HDPEHNO3	1					
H-33	Aqueous	-08B	12/14/15 02:55 PM	500HDPEHNO3		1				
H-33	Aqueous	-08C	12/14/15 02:55 PM	500HDPEHNO3	1					
MW-20A	Aqueous	-09B	12/14/15 05:00 PM	500HDPEHNO3		1				
MW-20A	Aqueous	-09C	12/14/15 05:00 PM	500HDPEHNO3	1					

General Comments:

Please analyze these samples with a Standard Turnaround Time.
Call John DuPont if you have questions.
Quality Control Package Needed: Standard / _____
EMAIL report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

Relinquished by: <u>[Signature]</u>	Date/Time: <u>12/18/15 1730</u>	Received by: <u>[Signature]</u>	Date/Time: <u>12/18/15 1730</u>
Relinquished by: _____	Date/Time: _____	Received by: <u>B. Luthman</u>	Date/Time: <u>12/22/15 0850</u>

DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1512236

CHAIN-OF-CUSTODY RECORD

Page 2 of 2

Subcontractor:

GEL Laboratories
PO Box 30712
Charleston, SC 29417

TEL: (843) 556-8171

FAX:

Acct #:

18-Dec-15

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E903.1	E904.0				
PDP-22	Aqueous	-10B	12/14/15 05:50 PM	500HDPEHNO3		1				
PDP-22	Aqueous	-10C	12/14/15 05:50 PM	500HDPEHNO3	1					
MW-19	Aqueous	-11B	12/14/15 06:40 PM	500HDPEHNO3		1				
MW-19	Aqueous	-11C	12/14/15 06:40 PM	500HDPEHNO3	1					
PDP-23	Aqueous	-12B	12/14/15 07:30 PM	500HDPEHNO3		1				
PDP-23	Aqueous	-12C	12/14/15 07:30 PM	500HDPEHNO3	1					
PDP-26	Aqueous	-13B	12/15/15 07:50 AM	500HDPEHNO3		1				
PDP-26	Aqueous	-13C	12/15/15 07:50 AM	500HDPEHNO3	1					
MW-17A	Aqueous	-14B	12/15/15 08:50 AM	500HDPEHNO3		1				
MW-17A	Aqueous	-14C	12/15/15 08:50 AM	500HDPEHNO3	1					
PDP-24	Aqueous	-15B	12/15/15 09:40 AM	500HDPEHNO3		1				
PDP-24	Aqueous	-15C	12/15/15 09:40 AM	500HDPEHNO3	1					
MW-18A	Aqueous	-16B	12/15/15 10:30 AM	500HDPEHNO3		1				
MW-18A	Aqueous	-16C	12/15/15 10:30 AM	500HDPEHNO3	1					
PDP-25	Aqueous	-17B	12/15/15 11:35 AM	500HDPEHNO3		1				
PDP-25	Aqueous	-17C	12/15/15 11:35 AM	500HDPEHNO3	1					

General Comments:

Please analyze these samples with a Standard Turnaround Time.
Call John DuPont if you have questions.
Quality Control Package Needed: Standard /
EMAIL report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

		Date/Time			Date/Time
Relinquished by:	<u>[Signature]</u>	<u>12/13/15 1730</u>	Received by:	<u>[Signature]</u>	<u>12/13/15 1730</u>
Relinquished by:			Received by:	<u>B. Luthman</u>	<u>12/22/15 0850</u>

SAMPLE RECEIPT & REVIEW FORM

Client: <u>DHLA</u>		SDG/AR/COC/Work Order: <u>387924</u>	
Received By: <u>Brielle Luthman</u>		Date Received: <u>12/22/15</u> <u>08:50</u>	
Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
COC/Samples marked as radioactive?			Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>0</u>
Classified Radioactive II or III by RSO?			If yes, Were swipes taken of sample containers < action levels?
COC/Samples marked containing PCBs?			
Package, COC, and/or Samples marked as beryllium or asbestos containing?			If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.
Shipped as a DOT Hazardous?			Hazard Class Shipped: UN#:
Samples identified as Foreign Soil?			

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	☒			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*				Preservation Method: Ice bags Blue ice Dry ice <u>None</u> Other (describe) *all temperatures are recorded in Celsius <u>18°</u>
2a Daily check performed and passed on IR temperature gun?	☒			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): <u>E5032015830</u>
3 Chain of custody documents included with shipment?	☒			
4 Sample containers intact and sealed?	☒			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	☒			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples have headspace as required?	☒			Sample ID's and containers affected:
7 VOA vials contain acid preservation?	☒			(If unknown, select No)
8 VOA vials free of headspace (defined as < 6mm bubble)?	☒			Sample ID's and containers affected:
9 Are Encore containers present?	☒			(If yes, immediately deliver to Volatiles laboratory)
10 Samples received within holding time?	☒			ID's and tests affected:
11 Sample ID's on COC match ID's on bottles?	☒			Sample ID's and containers affected:
12 Date & time on COC match date & time on bottles?	☒			Sample ID's affected:
13 Number of containers received match number indicated on COC?	☒			Sample ID's affected:
14 Are sample containers identifiable as GEL provided?	☒			
15 COC form is properly signed in relinquished/received sections?	☒			
16 Carrier and tracking number.				Circle Applicable: FedEx Air <u>FedEx Ground</u> UPS Field Services Courier Other <u>7752 4483 5086</u>

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials

BL

Date

12/22/15

Page

1 of 1

GL-CHL-SR-001 Rev 2

List of current GEL Certifications as of 14 January 2016

State	Certification
Alaska	UST-110
Arkansas	88-0651
CLIA	42D0904046
California	2940 Interim
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC000122013-10
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC000122013-10
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA150001
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC000122013-10
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-15-10
Utah NELAP	SC000122015-19
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404



March 29, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Luminant - Martin Lake

Order No.: 1602269

Dear Will Vienne:

DHL Analytical, Inc. received 17 sample(s) on 2/25/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-15-15



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CaseNarrative 1602269	10
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CLIENT: PBW
ADDRESS: 2201 DOUBLE CREEK DR ROUND ROCK, TX 78664
PHONE: 512-671-3434 FAX/E-MAIL: 512-671-3446
DATA REPORTED TO: WILL VIENNE
ADDITIONAL REPORT COPIES TO:

DATE: 2-24-16 PAGE 1 OF 2
PO #: 5164-B **DHL WORK ORDER #:** 11602269
PROJECT LOCATION OR NAME: LUMINANT- MARTIN LAKE
CLIENT PROJECT #: 5164-B **COLLECTOR:** J. BRAYTON/cx

Authorize 5% surcharge for TRRP Report?

☐ Yes ☐ No

S=SOIL
W=WATER
A=AIR
L=LIQUID
SE=SEDIMENT

PRESERVATION

HCl
HNO ₃
H ₂ SO ₄ □ NaOH
CE
UNPRESERVED

ANALYSES	BTEX	☐	MTBE	☐	METHOD 80211	☐
	TPH	1005	☐	TPH	1006	☐
	GRO	METHOD 80151	☐	DRO	METHOD 81051	☐
	VOC	8260	☐	VOC	624	☐
	SVOC	8270	☐	PAH	8270	☐
	8270	PEST	☐	623	PEST/PCB	☐
	8270	O-P	PEST	☐	8082	PCB
	8321	HERB	☐	T	PHOS	AMMONIA
	METALS	6020	☐	METALS	2008	☐
	RCRA	TX11	☐	HEX	CHROM	☐
TEL	SVOC	☐	ANIONS	ALKALINITY	☐	
TEL	METALS	☐	VOC	PEST	☐	
RGD	FLASHPOINT	☐	RCRA	80	☐	
TDS	TSS	☐	%	MOISTURE	☐	
CYANIDE						☐
SEE ATTACHED						
FIELD NOTES						

FIELD NOTES

MW-19	01	2-24-16	1210 W	P	4		X
PDP-22	02		1115 W	P	4		X
MW-18A	03		1015 W	P	4		X
PDP-26	04		0910 W	P	4		X
MW-20A	05	↓	0810 W	P	4		X
H-30	06	2-23-16	1220 W	P	4		X
H-33	07		1125 W	P	4		X
H-26	08		1035 W	P	4		X
H-31	09		1125 W	P	4		X
H-32	10		1235 W	P	4		X
H-28	11		1530 W	P	4		X
H-29	12		1620 W	P	4		X
H-27	13	↓	1730 W	P	4		X
PDP-23	14	Z/24/16	945 W	P	4		X
PDP-25	15	↓	1055 W	P	4		X

RELINQUISHED BY: (Signature)

DATE/TIME
2-24-76

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

RELINQUISHED BY: (Signature)

DATE/TIME

RECEIVED BY: (Signature)

TURN AROUND TIME

RUSH ☐ CALL FIRST

1 DAY ☐ CALL FIRST

2 DAY ☐

NORMAL

OTHER ☐

LABORATORY USE ONLY:

RECEIVING TEMP: 5.3, 1.5 THERM #: 15

CUSTODY SEALS: ☐ BROKEN ☐ INTACT ☒ NOT USED

CARRIER: ☐ ONE STAR ☒ FEDEX ☐ UPS ☐ OTHER☐ COURIER DELIVERY☐ HAND DELIVERED

☐ DHL DISPOSAL @ \$5.00 each

☐ *Return*

John Dupont

From: Sara Taube [Sara.Taube@pbw/fc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

ORIGIN ID:GGGA (903) 794-0625
PASTOR, BEHLING & WHEELER, LLC
2201 DOUBLE CREEK DR,STE 4004
ROUND ROCK, TX 786643843
UNITED STATES US

SHIP
ACTWG
CAD:
DIMS:
BILL SENDER

TO

DHL ANALYTICAL
2300 DOUBLE CREEK DR

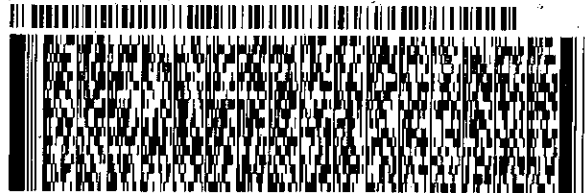
ROUND ROCK TX 78664

(512) 388-8222

REF:

INU:
PO:

DEPT:



FedEx
Express



3 of 4

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Mstr# 8083 7896 6268

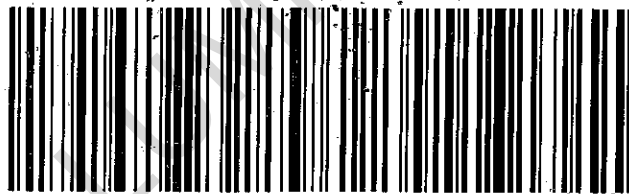
C200

THU - 25 FEB 10:30A
PRIORITY OVERNIGHT

A8 BSMA

78664

TX-US AUS



ORIGIN ID:G6GA (903) 794-0625
PASTOR, BEHLING & WHEELER, LLC
2201 DOUBLE CREEK DR STE 4004
ROUND ROCK, TX 786643843
UNITED STATES US

FZ
AL: /POS1cc
DIMS: 24x13x13 IN
BILL SENDER

10:30

C
3179
02.25

TO

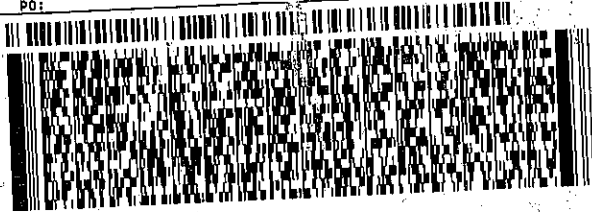
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664

(512) 388-8222
INU:
PO:

REF:

DEPT:



FedEx
Express



4 of 4

MPS# 7824 5489 3179

Mstr# 8083 7896 6268

10200

A8 BSMA

THU - 25 FEB 10:30A
PRIORITY OVERNIGHT

78664

TX-US AUS



ORIGIN ID:GGGA (903) 794-0625
PASTOR, BEHLING & WHEELER, LLC
2201 DOUBLE CREEK DR STE 4004
ROUND ROCK, TX 786643843
UNITED STATES US

SHIP DATE: 24FEB16
ACTWST: 31.90 LB
CAD: /POS1621
DIMS: 20x13x13 IN
BILL SENDER

Part # 156297-435 R112 12/15 96
JCLL/2497/1095 54/24 5387876

TO

DHL ANALYTICAL
2300 DOUBLE CREEK DR

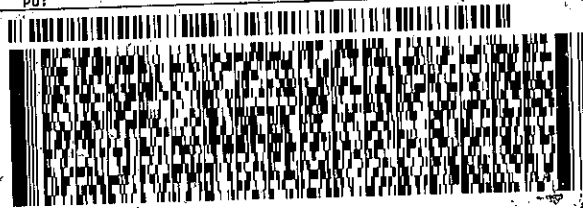
ROUND ROCK TX 78664

(512) 388-8222

REF:

INU:
PO:

DEPT:



FedEx
Express



1 of 4

TRK# 8083 7896 6268
0200

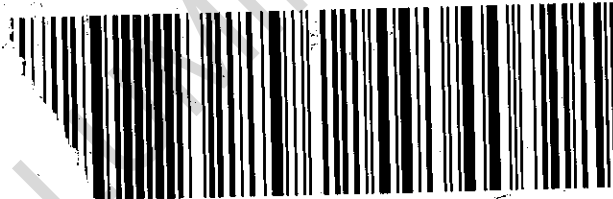
MASTER

A8 BSMA

THU - 25 FEB 10:30A
PRIORITY OVERNIGHT

78664

TX-US AUS



Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 2/25/2016

Work Order Number 1602269

Received by JB

Checklist completed by: [Signature] 2/25/2016

Signature

Date

Reviewed by [Signature] 2/25/2016

Initials

Date

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☒
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	1.9 °C, 5.3.1.8
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH<2 acceptable upon receipt?	Yes ☒	No ☐	NA ☐ LOT # 8086
	Adjusted? <u>no</u>		Checked by <u>[Signature]</u>
Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☒ LOT #
	Adjusted? _____		Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Lab Order: 1602269

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis
Sub-contract - Radium-228 and Radium-226 analyses by methods E904.0/SW8469320 Modified and E903.1 Modified. Analyzed at GEL Laboratory.

LOG IN

The samples were received and log-in performed on 2/25/16. A total of 17 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 3/7/16 (batches 73869 & 73881) Boron was detected below the reporting limit in the method blanks (MB-73869 & 73878). All associated samples may be biased high for this analyte. No further corrective actions were taken.

For Metals analysis performed on 3/7/16 (batch 73869) the matrix spike and matrix spike duplicate recoveries were above control limits for Boron. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was not from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 3/4/16 (batch 73869) the RPD for the serial dilution was above control limits for Lead. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 3/3/16 (batch 73881) the PDS recovery was slightly below control limits for Calcium. This is flagged accordingly. The serial dilution was within control limits for this analyte. No further corrective actions were taken.

MERCURY ANALYSIS

For Mercury analysis performed on 3/8/16 (batch 73953) the LCS/LCSD had the RPD slightly above control limits. This is flagged accordingly in the QC summary report. The percent recoveries were within control limits. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Lab Order: 1602269

CASE NARRATIVE

ANIONS ANALYSIS

For Anions analysis performed on 3/3/16 (batch 73960) the matrix spike and matrix spike duplicate recoveries (1602269-01 MS/MSD) were slightly above control limits for Sulfate. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

TDS ANALYSIS

For TDS analysis performed on 2/26/16 (batch 73878) TDS was detected below the reporting limit in the method blank (MB-73878). All associated samples were detected greater than 10 times the amount in the blank. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Lab Order: 1602269

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1602269-01	MW-19		02/24/16 12:10 PM	2/25/2016
1602269-02	PDP-22		02/24/16 11:15 AM	2/25/2016
1602269-03	MW-18A		02/24/16 10:15 AM	2/25/2016
1602269-04	PDP-26		02/24/16 09:10 AM	2/25/2016
1602269-05	MW-20A		02/24/16 08:10 AM	2/25/2016
1602269-06	H-30		02/23/16 12:20 PM	2/25/2016
1602269-07	H-33		02/23/16 11:25 AM	2/25/2016
1602269-08	H-26		02/23/16 10:35 AM	2/25/2016
1602269-09	H-31		02/23/16 11:25 AM	2/25/2016
1602269-10	H-32		02/23/16 12:35 PM	2/25/2016
1602269-11	H-28		02/23/16 03:30 PM	2/25/2016
1602269-12	H-29		02/23/16 04:20 PM	2/25/2016
1602269-13	H-27		02/23/16 05:30 PM	2/25/2016
1602269-14	PDP-23		02/24/16 09:45 AM	2/25/2016
1602269-15	PDP-25		02/24/16 10:55 AM	2/25/2016
1602269-16	MW-17A		02/24/16 12:00 PM	2/25/2016
1602269-17	PDP-24		02/24/16 02:30 PM	2/25/2016

Lab Order: 1602269
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1602269-01A	MW-19	02/24/16 12:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	MW-19	02/24/16 12:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	MW-19	02/24/16 12:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	MW-19	02/24/16 12:10 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 01:57 PM	73953
1602269-01D	MW-19	02/24/16 12:10 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	MW-19	02/24/16 12:10 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	MW-19	02/24/16 12:10 PM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	MW-19	02/24/16 12:10 PM	Aqueous	M2540C	TDS Preparation	02/26/16 10:17 AM	73878
1602269-02A	PDP-22	02/24/16 11:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	PDP-22	02/24/16 11:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	PDP-22	02/24/16 11:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	PDP-22	02/24/16 11:15 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 09:00 AM	73940
1602269-02D	PDP-22	02/24/16 11:15 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	PDP-22	02/24/16 11:15 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	PDP-22	02/24/16 11:15 AM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	PDP-22	02/24/16 11:15 AM	Aqueous	M2540C	TDS Preparation	02/26/16 10:17 AM	73878
1602269-03A	MW-18A	02/24/16 10:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	MW-18A	02/24/16 10:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	MW-18A	02/24/16 10:15 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 09:00 AM	73940
1602269-03D	MW-18A	02/24/16 10:15 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	MW-18A	02/24/16 10:15 AM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	MW-18A	02/24/16 10:15 AM	Aqueous	M2540C	TDS Preparation	02/26/16 10:17 AM	73878
1602269-04A	PDP-26	02/24/16 09:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	PDP-26	02/24/16 09:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	PDP-26	02/24/16 09:10 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 09:00 AM	73940
1602269-04D	PDP-26	02/24/16 09:10 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	PDP-26	02/24/16 09:10 AM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	PDP-26	02/24/16 09:10 AM	Aqueous	M2540C	TDS Preparation	02/26/16 10:17 AM	73878

Lab Order: 1602269
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1602269-05A	MW-20A	02/24/16 08:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	MW-20A	02/24/16 08:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	MW-20A	02/24/16 08:10 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 09:00 AM	73940
1602269-05D	MW-20A	02/24/16 08:10 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	MW-20A	02/24/16 08:10 AM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	MW-20A	02/24/16 08:10 AM	Aqueous	M2540C	TDS Preparation	02/26/16 10:17 AM	73878
1602269-06A	H-30	02/23/16 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	H-30	02/23/16 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	H-30	02/23/16 12:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 09:00 AM	73940
1602269-06D	H-30	02/23/16 12:20 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-30	02/23/16 12:20 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-30	02/23/16 12:20 PM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	H-30	02/23/16 12:20 PM	Aqueous	M2540C	TDS Preparation	02/26/16 10:17 AM	73878
	H-30	02/23/16 12:20 PM	Aqueous	M2540C	TDS Preparation	02/26/16 10:17 AM	73878
1602269-07A	H-33	02/23/16 11:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	H-33	02/23/16 11:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 08:39 AM	73869
	H-33	02/23/16 11:25 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 09:00 AM	73940
1602269-07D	H-33	02/23/16 11:25 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-33	02/23/16 11:25 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-33	02/23/16 11:25 AM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	H-33	02/23/16 11:25 AM	Aqueous	M2540C	TDS Preparation	02/26/16 10:17 AM	73878
	H-33	02/23/16 11:25 AM	Aqueous	M2540C	TDS Preparation	02/26/16 10:17 AM	73878
1602269-08A	H-26	02/23/16 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-26	02/23/16 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-26	02/23/16 10:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 09:00 AM	73940
1602269-08D	H-26	02/23/16 10:35 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-26	02/23/16 10:35 AM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	H-26	02/23/16 10:35 AM	Aqueous	M2540C	TDS Preparation	02/26/16 10:17 AM	73878
1602269-09A	H-31	02/23/16 11:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-31	02/23/16 11:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881

Lab Order: 1602269
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1602269-09A	H-31	02/23/16 11:25 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 01:57 PM	73953
1602269-09D	H-31	02/23/16 11:25 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-31	02/23/16 11:25 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-31	02/23/16 11:25 AM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	H-31	02/23/16 11:25 AM	Aqueous	M2540C	TDS Preparation	02/29/16 09:40 AM	73900
1602269-10A	H-32	02/23/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-32	02/23/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-32	02/23/16 12:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-32	02/23/16 12:35 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 01:57 PM	73953
1602269-10D	H-32	02/23/16 12:35 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-32	02/23/16 12:35 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-32	02/23/16 12:35 PM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	H-32	02/23/16 12:35 PM	Aqueous	M2540C	TDS Preparation	02/29/16 09:40 AM	73900
1602269-11A	H-28	02/23/16 03:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-28	02/23/16 03:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-28	02/23/16 03:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 01:57 PM	73953
1602269-11D	H-28	02/23/16 03:30 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-28	02/23/16 03:30 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-28	02/23/16 03:30 PM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	H-28	02/23/16 03:30 PM	Aqueous	M2540C	TDS Preparation	02/29/16 09:40 AM	73900
1602269-12A	H-29	02/23/16 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-29	02/23/16 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-29	02/23/16 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-29	02/23/16 04:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 01:57 PM	73953
1602269-12D	H-29	02/23/16 04:20 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-29	02/23/16 04:20 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-29	02/23/16 04:20 PM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	H-29	02/23/16 04:20 PM	Aqueous	M2540C	TDS Preparation	02/29/16 09:40 AM	73900

Lab Order: 1602269
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1602269-13A	H-27	02/23/16 05:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-27	02/23/16 05:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-27	02/23/16 05:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	H-27	02/23/16 05:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 01:57 PM	73953
1602269-13D	H-27	02/23/16 05:30 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-27	02/23/16 05:30 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	H-27	02/23/16 05:30 PM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 08:07 AM	73868
	H-27	02/23/16 05:30 PM	Aqueous	M2540C	TDS Preparation	02/29/16 09:40 AM	73900
1602269-14A	PDP-23	02/24/16 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	PDP-23	02/24/16 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	PDP-23	02/24/16 09:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 01:57 PM	73953
1602269-14D	PDP-23	02/24/16 09:45 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	PDP-23	02/24/16 09:45 AM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 10:40 AM	73880
	PDP-23	02/24/16 09:45 AM	Aqueous	M2540C	TDS Preparation	02/29/16 09:40 AM	73900
1602269-15A	PDP-25	02/24/16 10:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	PDP-25	02/24/16 10:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	PDP-25	02/24/16 10:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	PDP-25	02/24/16 10:55 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 01:57 PM	73953
1602269-15D	PDP-25	02/24/16 10:55 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	PDP-25	02/24/16 10:55 AM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	PDP-25	02/24/16 10:55 AM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 10:40 AM	73880
	PDP-25	02/24/16 10:55 AM	Aqueous	M2540C	TDS Preparation	02/29/16 09:40 AM	73900
1602269-16A	MW-17A	02/24/16 12:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	MW-17A	02/24/16 12:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	MW-17A	02/24/16 12:00 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 01:57 PM	73953
1602269-16D	MW-17A	02/24/16 12:00 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	MW-17A	02/24/16 12:00 PM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 10:40 AM	73880
	MW-17A	02/24/16 12:00 PM	Aqueous	M2540C	TDS Preparation	02/29/16 09:40 AM	73900

Lab Order: 1602269
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1602269-17A	PDP-24	02/24/16 02:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	PDP-24	02/24/16 02:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	02/26/16 11:11 AM	73881
	PDP-24	02/24/16 02:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	03/02/16 01:57 PM	73953
1602269-17D	PDP-24	02/24/16 02:30 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	PDP-24	02/24/16 02:30 PM	Aqueous	E300	Anion Preparation	03/03/16 08:45 AM	73960
	PDP-24	02/24/16 02:30 PM	Aqueous	M4500-H+ B	pH Preparation	02/26/16 10:40 AM	73880
	PDP-24	02/24/16 02:30 PM	Aqueous	M2540C	TDS Preparation	02/29/16 09:40 AM	73900

Lab Order: 1602269
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1602269-01A	MW-19	Aqueous	SW7470A	Mercury Total: Aqueous	73953	1	03/08/16 10:54 AM	CETAC2_HG_160308C
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/04/16 08:49 PM	ICP-MS4_160304C
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/07/16 06:52 PM	ICP-MS4_160307A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	10	03/07/16 07:38 PM	ICP-MS4_160307A
1602269-01D	MW-19	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 10:07 AM	IC2_160303A
	MW-19	Aqueous	E300	Anions by IC method - Water	73960	10	03/03/16 03:45 PM	IC2_160303A
	MW-19	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:16 AM	TITRATOR_160226A
	MW-19	Aqueous	M2540C	Total Dissolved Solids	73878	1	02/29/16 08:55 AM	WC_160226B
1602269-02A	PDP-22	Aqueous	SW7470A	Mercury Total: Aqueous	73940	1	03/03/16 11:59 AM	CETAC2_HG_160303A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/04/16 08:51 PM	ICP-MS4_160304C
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/07/16 06:53 PM	ICP-MS4_160307A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	10	03/07/16 07:40 PM	ICP-MS4_160307A
1602269-02D	PDP-22	Aqueous	E300	Anions by IC method - Water	73960	10	03/03/16 04:29 PM	IC2_160303A
	PDP-22	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 10:22 AM	IC2_160303A
	PDP-22	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:18 AM	TITRATOR_160226A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	73878	1	02/29/16 08:55 AM	WC_160226B
1602269-03A	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	73940	1	03/03/16 12:10 PM	CETAC2_HG_160303A
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/04/16 08:53 PM	ICP-MS4_160304C
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/07/16 07:42 PM	ICP-MS4_160307A
1602269-03D	MW-18A	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 10:37 AM	IC2_160303A
	MW-18A	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:21 AM	TITRATOR_160226A
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	73878	1	02/29/16 08:55 AM	WC_160226B
1602269-04A	PDP-26	Aqueous	SW7470A	Mercury Total: Aqueous	73940	1	03/03/16 12:12 PM	CETAC2_HG_160303A
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/04/16 08:55 PM	ICP-MS4_160304C
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/07/16 07:44 PM	ICP-MS4_160307A
1602269-04D	PDP-26	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 10:51 AM	IC2_160303A

Lab Order: 1602269
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1602269-04D	PDP-26	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:23 AM	TITRATOR_160226A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	73878	1	02/29/16 08:55 AM	WC_160226B
1602269-05A	MW-20A	Aqueous	SW7470A	Mercury Total: Aqueous	73940	1	03/03/16 12:15 PM	CETAC2_HG_160303A
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/07/16 07:46 PM	ICP-MS4_160307A
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/04/16 08:57 PM	ICP-MS4_160304C
1602269-05D	MW-20A	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 11:06 AM	IC2_160303A
	MW-20A	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:26 AM	TITRATOR_160226A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	73878	1	02/29/16 08:55 AM	WC_160226B
1602269-06A	H-30	Aqueous	SW7470A	Mercury Total: Aqueous	73940	1	03/03/16 12:17 PM	CETAC2_HG_160303A
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/04/16 08:59 PM	ICP-MS4_160304C
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	10	03/07/16 07:48 PM	ICP-MS4_160307A
1602269-06D	H-30	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 11:22 AM	IC2_160303A
	H-30	Aqueous	E300	Anions by IC method - Water	73960	10	03/03/16 05:13 PM	IC2_160303A
	H-30	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:28 AM	TITRATOR_160226A
	H-30	Aqueous	M2540C	Total Dissolved Solids	73878	1	02/29/16 08:55 AM	WC_160226B
1602269-07A	H-33	Aqueous	SW7470A	Mercury Total: Aqueous	73940	1	03/03/16 12:19 PM	CETAC2_HG_160303A
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/07/16 07:50 PM	ICP-MS4_160307A
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73869	1	03/04/16 09:01 PM	ICP-MS4_160304C
1602269-07D	H-33	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 11:37 AM	IC2_160303A
	H-33	Aqueous	E300	Anions by IC method - Water	73960	10	03/03/16 05:42 PM	IC2_160303A
	H-33	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:31 AM	TITRATOR_160226A
	H-33	Aqueous	M2540C	Total Dissolved Solids	73878	1	02/29/16 08:55 AM	WC_160226B
1602269-08A	H-26	Aqueous	SW7470A	Mercury Total: Aqueous	73940	1	03/03/16 12:21 PM	CETAC2_HG_160303A
	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/03/16 07:35 PM	ICP-MS4_160303F
	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/07/16 02:56 PM	ICP-MS4_160307A
1602269-08D	H-26	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 11:51 AM	IC2_160303A

Lab Order: 1602269
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1602269-08D	H-26	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:33 AM	TITRATOR_160226A
	H-26	Aqueous	M2540C	Total Dissolved Solids	73878	1	02/29/16 08:55 AM	WC_160226B
1602269-09A	H-31	Aqueous	SW7470A	Mercury Total: Aqueous	73953	1	03/08/16 10:56 AM	CETAC2_HG_160308 C
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/03/16 07:45 PM	ICP-MS4_160303F
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	50	03/07/16 03:00 PM	ICP-MS4_160307A
1602269-09D	H-31	Aqueous	E300	Anions by IC method - Water	73960	100	03/03/16 05:57 PM	IC2_160303A
	H-31	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 12:06 PM	IC2_160303A
	H-31	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:35 AM	TITRATOR_160226A
	H-31	Aqueous	M2540C	Total Dissolved Solids	73900	1	03/01/16 08:43 AM	WC_160229D
1602269-10A	H-32	Aqueous	SW7470A	Mercury Total: Aqueous	73953	1	03/08/16 10:59 AM	CETAC2_HG_160308 C
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/03/16 07:47 PM	ICP-MS4_160303F
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/07/16 03:02 PM	ICP-MS4_160307A
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	10	03/07/16 04:52 PM	ICP-MS4_160307A
1602269-10D	H-32	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 12:53 PM	IC2_160303A
	H-32	Aqueous	E300	Anions by IC method - Water	73960	10	03/03/16 06:11 PM	IC2_160303A
	H-32	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:37 AM	TITRATOR_160226A
	H-32	Aqueous	M2540C	Total Dissolved Solids	73900	1	03/01/16 08:43 AM	WC_160229D
1602269-11A	H-28	Aqueous	SW7470A	Mercury Total: Aqueous	73953	1	03/08/16 11:01 AM	CETAC2_HG_160308 C
	H-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/03/16 07:49 PM	ICP-MS4_160303F
	H-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	10	03/07/16 03:04 PM	ICP-MS4_160307A
1602269-11D	H-28	Aqueous	E300	Anions by IC method - Water	73960	10	03/03/16 06:26 PM	IC2_160303A
	H-28	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 01:07 PM	IC2_160303A
	H-28	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:38 AM	TITRATOR_160226A
	H-28	Aqueous	M2540C	Total Dissolved Solids	73900	1	03/01/16 08:43 AM	WC_160229D
1602269-12A	H-29	Aqueous	SW7470A	Mercury Total: Aqueous	73953	1	03/08/16 11:03 AM	CETAC2_HG_160308 C
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/03/16 07:51 PM	ICP-MS4_160303F

Lab Order: 1602269
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1602269-12A	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/07/16 03:06 PM	ICP-MS4_160307A
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	10	03/07/16 04:54 PM	ICP-MS4_160307A
1602269-12D	H-29	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 01:22 PM	IC2_160303A
	H-29	Aqueous	E300	Anions by IC method - Water	73960	10	03/03/16 06:55 PM	IC2_160303A
	H-29	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:42 AM	TITRATOR_160226A
	H-29	Aqueous	M2540C	Total Dissolved Solids	73900	1	03/01/16 08:43 AM	WC_160229D
1602269-13A	H-27	Aqueous	SW7470A	Mercury Total: Aqueous	73953	1	03/08/16 11:06 AM	CETAC2_HG_160308 C
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/03/16 07:53 PM	ICP-MS4_160303F
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/07/16 03:08 PM	ICP-MS4_160307A
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	10	03/07/16 04:56 PM	ICP-MS4_160307A
1602269-13D	H-27	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 01:36 PM	IC2_160303A
	H-27	Aqueous	E300	Anions by IC method - Water	73960	10	03/03/16 07:39 PM	IC2_160303A
	H-27	Aqueous	M4500-H+ B	pH	73868	1	02/26/16 09:45 AM	TITRATOR_160226A
	H-27	Aqueous	M2540C	Total Dissolved Solids	73900	1	03/01/16 08:43 AM	WC_160229D
1602269-14A	PDP-23	Aqueous	SW7470A	Mercury Total: Aqueous	73953	1	03/08/16 11:08 AM	CETAC2_HG_160308 C
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/03/16 07:55 PM	ICP-MS4_160303F
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/07/16 03:10 PM	ICP-MS4_160307A
1602269-14D	PDP-23	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 01:51 PM	IC2_160303A
	PDP-23	Aqueous	M4500-H+ B	pH	73880	1	02/26/16 11:02 AM	TITRATOR_160226B
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	73900	1	03/01/16 08:43 AM	WC_160229D
1602269-15A	PDP-25	Aqueous	SW7470A	Mercury Total: Aqueous	73953	1	03/08/16 11:11 AM	CETAC2_HG_160308 C
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/03/16 08:11 PM	ICP-MS4_160303F
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/07/16 03:13 PM	ICP-MS4_160307A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	10	03/07/16 06:49 PM	ICP-MS4_160307A
1602269-15D	PDP-25	Aqueous	E300	Anions by IC method - Water	73960	10	03/03/16 07:53 PM	IC2_160303A
	PDP-25	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 02:06 PM	IC2_160303A

Lab Order: 1602269
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1602269-15D	PDP-25	Aqueous	M4500-H+ B	pH	73880	1	02/26/16 11:07 AM	TITRATOR_160226B
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	73900	1	03/01/16 08:43 AM	WC_160229D
1602269-16A	MW-17A	Aqueous	SW7470A	Mercury Total: Aqueous	73953	1	03/08/16 11:13 AM	CETAC2_HG_160308 C
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/03/16 08:13 PM	ICP-MS4_160303F
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/07/16 03:14 PM	ICP-MS4_160307A
1602269-16D	MW-17A	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 02:20 PM	IC2_160303A
	MW-17A	Aqueous	M4500-H+ B	pH	73880	1	02/26/16 11:09 AM	TITRATOR_160226B
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	73900	1	03/01/16 08:43 AM	WC_160229D
1602269-17A	PDP-24	Aqueous	SW7470A	Mercury Total: Aqueous	73953	1	03/08/16 11:15 AM	CETAC2_HG_160308 C
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	1	03/03/16 08:15 PM	ICP-MS4_160303F
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	73881	10	03/07/16 03:17 PM	ICP-MS4_160307A
1602269-17D	PDP-24	Aqueous	E300	Anions by IC method - Water	73960	1	03/03/16 02:35 PM	IC2_160303A
	PDP-24	Aqueous	E300	Anions by IC method - Water	73960	10	03/03/16 08:08 PM	IC2_160303A
	PDP-24	Aqueous	M4500-H+ B	pH	73880	1	02/26/16 11:10 AM	TITRATOR_160226B
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	73900	1	03/01/16 08:43 AM	WC_160229D

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: MW-19
Lab ID: 1602269-01
Collection Date: 02/24/16 12:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/08/16 10:54 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/04/16 08:49 PM
Arsenic	0.0147	0.00200	0.00500		mg/L	1	03/04/16 08:49 PM
Barium	0.0878	0.00300	0.0100		mg/L	1	03/04/16 08:49 PM
Beryllium	0.000679	0.000300	0.00100	J	mg/L	1	03/04/16 08:49 PM
Boron	0.516	0.0100	0.0300		mg/L	1	03/07/16 06:52 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:49 PM
Calcium	155	1.00	3.00		mg/L	10	03/07/16 07:38 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:49 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	03/04/16 08:49 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:49 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	03/04/16 08:49 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:49 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:49 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/04/16 08:49 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	30.0	0.300	1.00		mg/L	1	03/03/16 10:07 AM
Fluoride	0.144	0.100	0.400	J	mg/L	1	03/03/16 10:07 AM
Sulfate	372	10.0	30.0		mg/L	10	03/03/16 03:45 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.88	0	0		pH Units@13.9°C	1	02/26/16 09:16 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	978	10.0	10.0		mg/L	1	02/29/16 08:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: PDP-22
Lab ID: 1602269-02
Collection Date: 02/24/16 11:15 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/03/16 11:59 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/04/16 08:51 PM
Arsenic	0.00742	0.00200	0.00500		mg/L	1	03/04/16 08:51 PM
Barium	0.332	0.00300	0.0100		mg/L	1	03/04/16 08:51 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:51 PM
Boron	0.250	0.0100	0.0300		mg/L	1	03/07/16 06:53 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:51 PM
Calcium	160	1.00	3.00		mg/L	10	03/07/16 07:40 PM
Chromium	0.0375	0.00200	0.00500		mg/L	1	03/04/16 08:51 PM
Cobalt	0.00608	0.00300	0.00500		mg/L	1	03/04/16 08:51 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:51 PM
Lithium	0.0229	0.00500	0.0100		mg/L	1	03/04/16 08:51 PM
Molybdenum	0.00213	0.00200	0.00500	J	mg/L	1	03/04/16 08:51 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:51 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/04/16 08:51 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	16.5	0.300	1.00		mg/L	1	03/03/16 10:22 AM
Fluoride	0.264	0.100	0.400	J	mg/L	1	03/03/16 10:22 AM
Sulfate	211	10.0	30.0		mg/L	10	03/03/16 04:29 PM
PH		M4500-H+ B		Analyst: BJT			
pH	7.01	0	0		pH Units@14.5°C	1	02/26/16 09:18 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	883	10.0	10.0		mg/L	1	02/29/16 08:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: MW-18A
Lab ID: 1602269-03
Collection Date: 02/24/16 10:15 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	0.00354	0.0000800	0.000200		mg/L	1	03/03/16 12:10 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/04/16 08:53 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:53 PM
Barium	0.0591	0.00300	0.0100		mg/L	1	03/04/16 08:53 PM
Beryllium	0.000344	0.000300	0.00100	J	mg/L	1	03/04/16 08:53 PM
Boron	0.133	0.0100	0.0300		mg/L	1	03/07/16 07:42 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:53 PM
Calcium	1.78	0.100	0.300		mg/L	1	03/04/16 08:53 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:53 PM
Cobalt	0.00318	0.00300	0.00500	J	mg/L	1	03/04/16 08:53 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:53 PM
Lithium	0.00858	0.00500	0.0100	J	mg/L	1	03/04/16 08:53 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:53 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:53 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/04/16 08:53 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	8.10	0.300	1.00		mg/L	1	03/03/16 10:37 AM
Fluoride	0.104	0.100	0.400	J	mg/L	1	03/03/16 10:37 AM
Sulfate	6.44	1.00	3.00		mg/L	1	03/03/16 10:37 AM
PH		M4500-H+ B		Analyst: BJT			
pH	5.43	0	0		pH Units@14.5°C	1	02/26/16 09:21 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	125	10.0	10.0		mg/L	1	02/29/16 08:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: PDP-26
Lab ID: 1602269-04
Collection Date: 02/24/16 09:10 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/03/16 12:12 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/04/16 08:55 PM
Arsenic	0.00334	0.00200	0.00500	J	mg/L	1	03/04/16 08:55 PM
Barium	0.0277	0.00300	0.0100		mg/L	1	03/04/16 08:55 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:55 PM
Boron	0.0446	0.0100	0.0300		mg/L	1	03/07/16 07:44 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:55 PM
Calcium	2.33	0.100	0.300		mg/L	1	03/04/16 08:55 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:55 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	03/04/16 08:55 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:55 PM
Lithium	0.0141	0.00500	0.0100		mg/L	1	03/04/16 08:55 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:55 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:55 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/04/16 08:55 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	5.99	0.300	1.00		mg/L	1	03/03/16 10:51 AM
Fluoride	0.246	0.100	0.400	J	mg/L	1	03/03/16 10:51 AM
Sulfate	10.5	1.00	3.00		mg/L	1	03/03/16 10:51 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.56	0	0		pH Units@14.2°C	1	02/26/16 09:23 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	186	10.0	10.0		mg/L	1	02/29/16 08:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: MW-20A
Lab ID: 1602269-05
Collection Date: 02/24/16 08:10 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	0.000352	0.0000800	0.000200		mg/L	1	03/03/16 12:15 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/04/16 08:57 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:57 PM
Barium	0.0289	0.00300	0.0100		mg/L	1	03/04/16 08:57 PM
Beryllium	0.000632	0.000300	0.00100	J	mg/L	1	03/04/16 08:57 PM
Boron	0.159	0.0100	0.0300		mg/L	1	03/07/16 07:46 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:57 PM
Calcium	15.4	0.100	0.300		mg/L	1	03/04/16 08:57 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:57 PM
Cobalt	0.00539	0.00300	0.00500		mg/L	1	03/04/16 08:57 PM
Lead	0.00166	0.000300	0.00100		mg/L	1	03/04/16 08:57 PM
Lithium	0.0163	0.00500	0.0100		mg/L	1	03/04/16 08:57 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:57 PM
Selenium	0.00680	0.00200	0.00500		mg/L	1	03/04/16 08:57 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/04/16 08:57 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	10.2	0.300	1.00		mg/L	1	03/03/16 11:06 AM
Fluoride	0.608	0.100	0.400		mg/L	1	03/03/16 11:06 AM
Sulfate	107	1.00	3.00		mg/L	1	03/03/16 11:06 AM
PH		M4500-H+ B		Analyst: BJT			
pH	4.64	0	0		pH Units@14.6°C	1	02/26/16 09:26 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	309	10.0	10.0		mg/L	1	02/29/16 08:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: H-30
Lab ID: 1602269-06
Collection Date: 02/23/16 12:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/03/16 12:17 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/04/16 08:59 PM
Arsenic	0.00588	0.00200	0.00500		mg/L	1	03/04/16 08:59 PM
Barium	0.0226	0.00300	0.0100		mg/L	1	03/04/16 08:59 PM
Beryllium	0.00555	0.000300	0.00100		mg/L	1	03/04/16 08:59 PM
Boron	7.28	0.100	0.300		mg/L	10	03/07/16 07:48 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 08:59 PM
Calcium	145	1.00	3.00		mg/L	10	03/07/16 07:48 PM
Chromium	0.00223	0.00200	0.00500	J	mg/L	1	03/04/16 08:59 PM
Cobalt	0.179	0.00300	0.00500		mg/L	1	03/04/16 08:59 PM
Lead	0.00133	0.000300	0.00100		mg/L	1	03/04/16 08:59 PM
Lithium	0.0902	0.00500	0.0100		mg/L	1	03/04/16 08:59 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 08:59 PM
Selenium	0.00937	0.00200	0.00500		mg/L	1	03/04/16 08:59 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/04/16 08:59 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	101	3.00	10.0		mg/L	10	03/03/16 05:13 PM
Fluoride	0.251	0.100	0.400	J	mg/L	1	03/03/16 11:22 AM
Sulfate	1150	10.0	30.0		mg/L	10	03/03/16 05:13 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.32	0	0		pH Units@14.5°C	1	02/26/16 09:28 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2400	50.0	50.0		mg/L	1	02/29/16 08:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: H-33
Lab ID: 1602269-07
Collection Date: 02/23/16 11:25 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/03/16 12:19 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/04/16 09:01 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 09:01 PM
Barium	0.0529	0.00300	0.0100		mg/L	1	03/04/16 09:01 PM
Beryllium	0.000311	0.000300	0.00100	J	mg/L	1	03/04/16 09:01 PM
Boron	0.0656	0.0100	0.0300		mg/L	1	03/07/16 07:50 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 09:01 PM
Calcium	11.2	0.100	0.300		mg/L	1	03/04/16 09:01 PM
Chromium	0.0194	0.00200	0.00500		mg/L	1	03/04/16 09:01 PM
Cobalt	0.0163	0.00300	0.00500		mg/L	1	03/04/16 09:01 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/04/16 09:01 PM
Lithium	0.182	0.00500	0.0100		mg/L	1	03/04/16 09:01 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 09:01 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	03/04/16 09:01 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/04/16 09:01 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	56.1	3.00	10.0		mg/L	10	03/03/16 05:42 PM
Fluoride	0.125	0.100	0.400	J	mg/L	1	03/03/16 11:37 AM
Sulfate	111	1.00	3.00		mg/L	1	03/03/16 11:37 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.59	0	0		pH Units@15.3°C	1	02/26/16 09:31 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	625	10.0	10.0		mg/L	1	02/29/16 08:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: H-26
Lab ID: 1602269-08
Collection Date: 02/23/16 10:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: KL			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/03/16 12:21 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/03/16 07:35 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:35 PM
Barium	0.0423	0.00300	0.0100		mg/L	1	03/03/16 07:35 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:35 PM
Boron	0.206	0.0100	0.0300		mg/L	1	03/07/16 02:56 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:35 PM
Calcium	11.7	0.100	0.300		mg/L	1	03/03/16 07:35 PM
Chromium	0.00770	0.00200	0.00500		mg/L	1	03/03/16 07:35 PM
Cobalt	0.00813	0.00300	0.00500		mg/L	1	03/03/16 07:35 PM
Lead	0.000315	0.000300	0.00100	J	mg/L	1	03/03/16 07:35 PM
Lithium	0.0124	0.00500	0.0100		mg/L	1	03/03/16 07:35 PM
Molybdenum	0.00248	0.00200	0.00500	J	mg/L	1	03/03/16 07:35 PM
Selenium	0.00220	0.00200	0.00500	J	mg/L	1	03/03/16 07:35 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/03/16 07:35 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	17.1	0.300	1.00		mg/L	1	03/03/16 11:51 AM
Fluoride	0.151	0.100	0.400	J	mg/L	1	03/03/16 11:51 AM
Sulfate	54.0	1.00	3.00		mg/L	1	03/03/16 11:51 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.58	0	0		pH Units@16.3°C	1	02/26/16 09:33 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	219	10.0	10.0		mg/L	1	02/29/16 08:55 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: H-31
Lab ID: 1602269-09
Collection Date: 02/23/16 11:25 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/08/16 10:56 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/03/16 07:45 PM
Arsenic	0.00436	0.00200	0.00500	J	mg/L	1	03/03/16 07:45 PM
Barium	0.0243	0.00300	0.0100		mg/L	1	03/03/16 07:45 PM
Beryllium	0.0101	0.000300	0.00100		mg/L	1	03/03/16 07:45 PM
Boron	22.3	0.500	1.50		mg/L	50	03/07/16 03:00 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:45 PM
Calcium	252	5.00	15.0		mg/L	50	03/07/16 03:00 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:45 PM
Cobalt	0.0594	0.00300	0.00500		mg/L	1	03/03/16 07:45 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:45 PM
Lithium	0.146	0.00500	0.0100		mg/L	1	03/03/16 07:45 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:45 PM
Selenium	0.0209	0.00200	0.00500		mg/L	1	03/03/16 07:45 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/03/16 07:45 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	199	30.0	100		mg/L	100	03/03/16 05:57 PM
Fluoride	0.921	0.100	0.400		mg/L	1	03/03/16 12:06 PM
Sulfate	2510	100	300		mg/L	100	03/03/16 05:57 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	5.97	0	0		pH Units@16.3°C	1	02/26/16 09:35 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	4180	50.0	50.0		mg/L	1	03/01/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: H-32
Lab ID: 1602269-10
Collection Date: 02/23/16 12:35 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/08/16 10:59 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/03/16 07:47 PM
Arsenic	0.00712	0.00200	0.00500		mg/L	1	03/03/16 07:47 PM
Barium	0.0277	0.00300	0.0100		mg/L	1	03/03/16 07:47 PM
Beryllium	0.00452	0.000300	0.00100		mg/L	1	03/03/16 07:47 PM
Boron	1.48	0.0100	0.0300		mg/L	1	03/07/16 03:02 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:47 PM
Calcium	45.3	1.00	3.00		mg/L	10	03/07/16 04:52 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:47 PM
Cobalt	0.188	0.00300	0.00500		mg/L	1	03/03/16 07:47 PM
Lead	0.000326	0.000300	0.00100	J	mg/L	1	03/03/16 07:47 PM
Lithium	0.0821	0.00500	0.0100		mg/L	1	03/03/16 07:47 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:47 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:47 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/03/16 07:47 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	123	3.00	10.0		mg/L	10	03/03/16 06:11 PM
Fluoride	0.701	0.100	0.400		mg/L	1	03/03/16 12:53 PM
Sulfate	323	10.0	30.0		mg/L	10	03/03/16 06:11 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.53	0	0		pH Units@16.4°C	1	02/26/16 09:37 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	842	10.0	10.0		mg/L	1	03/01/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: H-28
Lab ID: 1602269-11
Collection Date: 02/23/16 03:30 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/08/16 11:01 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/03/16 07:49 PM
Arsenic	0.00225	0.00200	0.00500	J	mg/L	1	03/03/16 07:49 PM
Barium	0.0202	0.00300	0.0100		mg/L	1	03/03/16 07:49 PM
Beryllium	0.00133	0.000300	0.00100		mg/L	1	03/03/16 07:49 PM
Boron	10.2	0.100	0.300		mg/L	10	03/07/16 03:04 PM
Cadmium	0.00151	0.000300	0.00100		mg/L	1	03/03/16 07:49 PM
Calcium	123	1.00	3.00		mg/L	10	03/07/16 03:04 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:49 PM
Cobalt	0.201	0.00300	0.00500		mg/L	1	03/03/16 07:49 PM
Lead	0.000530	0.000300	0.00100	J	mg/L	1	03/03/16 07:49 PM
Lithium	0.159	0.00500	0.0100		mg/L	1	03/03/16 07:49 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:49 PM
Selenium	0.00222	0.00200	0.00500	J	mg/L	1	03/03/16 07:49 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/03/16 07:49 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	97.4	3.00	10.0		mg/L	10	03/03/16 06:26 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	03/03/16 01:07 PM
Sulfate	1070	10.0	30.0		mg/L	10	03/03/16 06:26 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.25	0	0		pH Units@17°C	1	02/26/16 09:38 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1910	50.0	50.0		mg/L	1	03/01/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: H-29
Lab ID: 1602269-12
Collection Date: 02/23/16 04:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/08/16 11:03 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/03/16 07:51 PM
Arsenic	0.00203	0.00200	0.00500	J	mg/L	1	03/03/16 07:51 PM
Barium	0.151	0.00300	0.0100		mg/L	1	03/03/16 07:51 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:51 PM
Boron	0.268	0.0100	0.0300		mg/L	1	03/07/16 03:06 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:51 PM
Calcium	59.4	1.00	3.00		mg/L	10	03/07/16 04:54 PM
Chromium	0.0190	0.00200	0.00500		mg/L	1	03/03/16 07:51 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	03/03/16 07:51 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:51 PM
Lithium	0.0135	0.00500	0.0100		mg/L	1	03/03/16 07:51 PM
Molybdenum	0.00603	0.00200	0.00500		mg/L	1	03/03/16 07:51 PM
Selenium	0.0148	0.00200	0.00500		mg/L	1	03/03/16 07:51 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/03/16 07:51 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	14.6	0.300	1.00		mg/L	1	03/03/16 01:22 PM
Fluoride	0.239	0.100	0.400	J	mg/L	1	03/03/16 01:22 PM
Sulfate	156	10.0	30.0		mg/L	10	03/03/16 06:55 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	10.7	0	0		pH Units@17.4°C	1	02/26/16 09:42 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	334	10.0	10.0		mg/L	1	03/01/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: H-27
Lab ID: 1602269-13
Collection Date: 02/23/16 05:30 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/08/16 11:06 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/03/16 07:53 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:53 PM
Barium	0.0266	0.00300	0.0100		mg/L	1	03/03/16 07:53 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:53 PM
Boron	0.523	0.0100	0.0300		mg/L	1	03/07/16 03:08 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:53 PM
Calcium	53.8	1.00	3.00		mg/L	10	03/07/16 04:56 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:53 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	03/03/16 07:53 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:53 PM
Lithium	0.0601	0.00500	0.0100		mg/L	1	03/03/16 07:53 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:53 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:53 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/03/16 07:53 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	113	3.00	10.0		mg/L	10	03/03/16 07:39 PM
Fluoride	0.101	0.100	0.400	J	mg/L	1	03/03/16 01:36 PM
Sulfate	344	10.0	30.0		mg/L	10	03/03/16 07:39 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	6.54	0	0		pH Units@17.8°C	1	02/26/16 09:45 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	811	10.0	10.0		mg/L	1	03/01/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: PDP-23
Lab ID: 1602269-14
Collection Date: 02/24/16 09:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/08/16 11:08 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/03/16 07:55 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:55 PM
Barium	0.0433	0.00300	0.0100		mg/L	1	03/03/16 07:55 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:55 PM
Boron	0.0556	0.0100	0.0300		mg/L	1	03/07/16 03:10 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:55 PM
Calcium	1.61	0.100	0.300		mg/L	1	03/03/16 07:55 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:55 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	03/03/16 07:55 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 07:55 PM
Lithium	0.0115	0.00500	0.0100		mg/L	1	03/03/16 07:55 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:55 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 07:55 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/03/16 07:55 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	5.63	0.300	1.00		mg/L	1	03/03/16 01:51 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	03/03/16 01:51 PM
Sulfate	2.52	1.00	3.00	J	mg/L	1	03/03/16 01:51 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.76	0	0		pH Units@16.3°C	1	02/26/16 11:02 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	60.0	10.0	10.0		mg/L	1	03/01/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: PDP-25
Lab ID: 1602269-15
Collection Date: 02/24/16 10:55 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	03/08/16 11:11 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/03/16 08:11 PM
Arsenic	0.00239	0.00200	0.00500	J	mg/L	1	03/03/16 08:11 PM
Barium	0.218	0.00300	0.0100		mg/L	1	03/03/16 08:11 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 08:11 PM
Boron	0.113	0.0100	0.0300		mg/L	1	03/07/16 03:13 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 08:11 PM
Calcium	36.6	1.00	3.00		mg/L	10	03/07/16 06:49 PM
Chromium	0.0231	0.00200	0.00500		mg/L	1	03/03/16 08:11 PM
Cobalt	0.00978	0.00300	0.00500		mg/L	1	03/03/16 08:11 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 08:11 PM
Lithium	0.176	0.00500	0.0100		mg/L	1	03/03/16 08:11 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 08:11 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 08:11 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/03/16 08:11 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	116	3.00	10.0		mg/L	10	03/03/16 07:53 PM
Fluoride	0.151	0.100	0.400	J	mg/L	1	03/03/16 02:06 PM
Sulfate	97.8	1.00	3.00		mg/L	1	03/03/16 02:06 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	6.50	0	0		pH Units@16.7°C	1	02/26/16 11:07 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	602	10.0	10.0		mg/L	1	03/01/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: MW-17A
Lab ID: 1602269-16
Collection Date: 02/24/16 12:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000232	0.0000800	0.000200		mg/L	1	03/08/16 11:13 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/03/16 08:13 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 08:13 PM
Barium	0.111	0.00300	0.0100		mg/L	1	03/03/16 08:13 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 08:13 PM
Boron	0.458	0.0100	0.0300		mg/L	1	03/07/16 03:14 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 08:13 PM
Calcium	4.56	0.100	0.300		mg/L	1	03/03/16 08:13 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 08:13 PM
Cobalt	0.00790	0.00300	0.00500		mg/L	1	03/03/16 08:13 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	03/03/16 08:13 PM
Lithium	0.0146	0.00500	0.0100		mg/L	1	03/03/16 08:13 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 08:13 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 08:13 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/03/16 08:13 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	8.39	0.300	1.00		mg/L	1	03/03/16 02:20 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	03/03/16 02:20 PM
Sulfate	39.5	1.00	3.00		mg/L	1	03/03/16 02:20 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.35	0	0		pH Units@16.3°C	1	02/26/16 11:09 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	118	10.0	10.0		mg/L	1	03/01/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 29-Mar-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1602269

Client Sample ID: PDP-24
Lab ID: 1602269-17
Collection Date: 02/24/16 02:30 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.00152	0.0000800	0.000200		mg/L	1	03/08/16 11:15 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	03/03/16 08:15 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 08:15 PM
Barium	0.0188	0.00300	0.0100		mg/L	1	03/03/16 08:15 PM
Beryllium	0.00486	0.000300	0.00100		mg/L	1	03/03/16 08:15 PM
Boron	3.81	0.100	0.300		mg/L	10	03/07/16 03:17 PM
Cadmium	0.00226	0.000300	0.00100		mg/L	1	03/03/16 08:15 PM
Calcium	35.3	1.00	3.00		mg/L	10	03/07/16 03:17 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 08:15 PM
Cobalt	0.0901	0.00300	0.00500		mg/L	1	03/03/16 08:15 PM
Lead	0.000965	0.000300	0.00100	J	mg/L	1	03/03/16 08:15 PM
Lithium	0.0270	0.00500	0.0100		mg/L	1	03/03/16 08:15 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	03/03/16 08:15 PM
Selenium	0.00294	0.00200	0.00500	J	mg/L	1	03/03/16 08:15 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	03/03/16 08:15 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	19.1	0.300	1.00		mg/L	1	03/03/16 02:35 PM
Fluoride	0.732	0.100	0.400		mg/L	1	03/03/16 02:35 PM
Sulfate	410	10.0	30.0		mg/L	10	03/03/16 08:08 PM
PH		M4500-H+ B		Analyst: BJT			
pH	4.51	0	0		pH Units@16.7°C	1	02/26/16 11:10 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	688	10.0	10.0		mg/L	1	03/01/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler

Work Order: 1602269

Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160303A

The QC data in batch 73940 applies to the following samples: 1602269-02A, 1602269-03A, 1602269-04A, 1602269-05A, 1602269-06A, 1602269-07A, 1602269-08A

Sample ID	MB-73940	Batch ID:	73940	TestNo:	SW7470A	Units:	mg/L			
SampType:	MBLK	Run ID:	CETAC2_HG_160303A	Analysis Date:	3/3/2016 11:52:24 AM	Prep Date:	3/2/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID	LCS-73940	Batch ID:	73940	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCS	Run ID:	CETAC2_HG_160303A	Analysis Date:	3/3/2016 11:54:39 AM	Prep Date:	3/2/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00198 0.000200 0.00200 0 99.0 85 115

Sample ID	LCSD-73940	Batch ID:	73940	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCSD	Run ID:	CETAC2_HG_160303A	Analysis Date:	3/3/2016 11:56:55 AM	Prep Date:	3/2/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00201 0.000200 0.00200 0 101 85 115 1.50 15

Sample ID	1602269-02A SD	Batch ID:	73940	TestNo:	SW7470A	Units:	mg/L			
SampType:	SD	Run ID:	CETAC2_HG_160303A	Analysis Date:	3/3/2016 12:01:28 PM	Prep Date:	3/2/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID	1602269-02A PDS	Batch ID:	73940	TestNo:	SW7470A	Units:	mg/L			
SampType:	PDS	Run ID:	CETAC2_HG_160303A	Analysis Date:	3/3/2016 12:03:43 PM	Prep Date:	3/2/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00218 0.000200 0.00250 0 87.2 85 115

Sample ID	1602269-02A MS	Batch ID:	73940	TestNo:	SW7470A	Units:	mg/L			
SampType:	MS	Run ID:	CETAC2_HG_160303A	Analysis Date:	3/3/2016 12:05:59 PM	Prep Date:	3/2/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00177 0.000200 0.00200 0 88.5 80 120

Sample ID	1602269-02A MSD	Batch ID:	73940	TestNo:	SW7470A	Units:	mg/L			
SampType:	MSD	Run ID:	CETAC2_HG_160303A	Analysis Date:	3/3/2016 12:08:14 PM	Prep Date:	3/2/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00181 0.000200 0.00200 0 90.5 80 120 2.23 15

Qualifiers:

B Analyte detected in the associated Method Blank

J Analyte detected between MDL and RL

ND Not Detected at the Method Detection Limit

RL Reporting Limit

J Analyte detected between SDL and RL

DF Dilution Factor

MDL Method Detection Limit

R RPD outside accepted control limits

S Spike Recovery outside control limits

N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160303A

Sample ID	ICV-160303	Batch ID:	R84495	TestNo:	SW7470A	Units:	mg/L				
SampType:	ICV	Run ID:	CETAC2_HG_160303A	Analysis Date:	3/3/2016 10:37:24 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00395	0.000200	0.00400	0	98.8	90	110			

Sample ID	CCV2-160303			Batch ID:	R84495		TestNo:	SW7470A		Units:	mg/L	
SampType:	CCV			Run ID:	CETAC2_HG_160303A		Analysis Date:	3/3/2016 11:47:50 AM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Mercury	0.00199	0.000200	0.00200	0	99.5	90	110			

Sample ID	CCV3-160303	Batch ID:	R84495	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_160303A	Analysis Date:	3/3/2016 12:30:56 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury	0.00202	0.000200	0.00200	0	101	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160308C

The QC data in batch 73953 applies to the following samples: 1602269-01A, 1602269-09A, 1602269-10A, 1602269-11A, 1602269-12A, 1602269-13A, 1602269-14A, 1602269-15A, 1602269-16A, 1602269-17A

Sample ID	MB-73953	Batch ID:	73953	TestNo:	SW7470A	Units:	mg/L			
SampType:	MBLK	Run ID:	CETAC2_HG_160308C	Analysis Date:	3/8/2016 10:47:52 AM	Prep Date:	3/2/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID	LCS-73953			Batch ID:	73953		TestNo:	SW7470A		Units:	mg/L	
SampType:	LCS			Run ID:	CETAC2_HG_160308C		Analysis Date:	3/8/2016 10:50:07 AM		Prep Date:	3/2/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00172 0.000200 0.00200 0 86.0 85 115

Sample ID	LCSD-73953			Batch ID:	73953		TestNo:	SW7470A		Units:	mg/L	
SampType:	LCSD			Run ID:	CETAC2_HG_160308C		Analysis Date:	3/8/2016 10:52:23 AM		Prep Date:	3/2/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Mercury 0.00207 0.000200 0.00200 0 104 85 115 18.5 15 R

Sample ID	1603013-04C SD			Batch ID:	73953		TestNo:	SW7470A		Units:	mg/L	
SampType:	SD			Run ID:	CETAC2_HG_160308C		Analysis Date:	3/8/2016 11:47:35 AM		Prep Date:	3/2/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID	1603013-04C PDS			Batch ID:	73953		TestNo:	SW7470A		Units:	mg/L	
SampType:	PDS			Run ID:	CETAC2_HG_160308C		Analysis Date:	3/8/2016 11:49:52 AM		Prep Date:	3/2/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Mercury 0.00238 0.000200 0.00250 0 95.2 85 115

Sample ID	1603013-04C MS			Batch ID:	73953		TestNo:	SW7470A		Units:	mg/L	
SampType:	MS			Run ID:	CETAC2_HG_160308C		Analysis Date:	3/8/2016 11:52:09 AM		Prep Date:	3/2/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00210 0.000200 0.00200 0 105 80 120

Sample ID	1603013-04C MSD	Batch ID:	73953	TestNo:	SW7470A	Units:	mg/L			
SampType:	MSD	Run ID:	CETAC2_HG_160308C	Analysis Date:	3/8/2016 11:54:26 AM	Prep Date:	3/2/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00201 0.000200 0.00200 0 101 80 120 4.38 15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160308C

Sample ID	ICV-160308	Batch ID:	R84579		TestNo:	SW7470A		Units:	mg/L		
SampType:	ICV	Run ID:	CETAC2_HG_160308C		Analysis Date:	3/8/2016 10:11:57 AM		Prep Date:			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00394	0.000200	0.00400	0	98.5	90	110			

Sample ID	CCV1-160308	Batch ID:	R84579	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_160308C	Analysis Date:	3/8/2016 10:43:17 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00192	0.000200	0.00200	0	96.0	90	110			

Sample ID	CCV2-160308	Batch ID:	R84579	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_160308C	Analysis Date:	3/8/2016 11:17:58 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00188	0.000200	0.00200	0	94.0	90	110			

Sample ID	CCV3-160308	Batch ID:	R84579	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_160308C	Analysis Date:	3/8/2016 11:59:01 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00195	0.000200	0.00200	0	97.5	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160303F

The QC data in batch 73881 applies to the following samples: 1602269-08A, 1602269-09A, 1602269-10A, 1602269-11A, 1602269-12A, 1602269-13A, 1602269-14A, 1602269-15A, 1602269-16A, 1602269-17A

Sample ID	MB-73881		Batch ID:	73881		TestNo:	SW6020A		Units:	mg/L	
SampType:	MBLK		Run ID:	ICP-MS4_160303F		Analysis Date:	3/3/2016 7:27:00 PM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID	LCS-73881		Batch ID:	73881		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS		Run ID:	ICP-MS4_160303F		Analysis Date:	3/3/2016 7:29:00 PM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.203	0.00250	0.200	0	102	80	120			
Arsenic	0.199	0.00500	0.200	0	99.7	80	120			
Barium	0.206	0.0100	0.200	0	103	80	120			
Beryllium	0.197	0.00100	0.200	0	98.7	80	120			
Cadmium	0.205	0.00100	0.200	0	102	80	120			
Calcium	4.74	0.300	5.00	0	94.9	80	120			
Chromium	0.200	0.00500	0.200	0	100	80	120			
Cobalt	0.201	0.00500	0.200	0	100	80	120			
Lead	0.205	0.00100	0.200	0	103	80	120			
Lithium	0.197	0.0100	0.200	0	98.5	80	120			
Molybdenum	0.200	0.00500	0.200	0	99.9	80	120			
Selenium	0.200	0.00500	0.200	0	100	80	120			
Thallium	0.205	0.00150	0.200	0	102	80	120			

Sample ID	LCSD-73881	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 7:31:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.199	0.00250	0.200	0	99.7	80	120	1.98	15	
Arsenic	0.200	0.00500	0.200	0	100	80	120	0.487	15	
Barium	0.203	0.0100	0.200	0	102	80	120	1.14	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160303F

Sample ID	LCSD-73881	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 7:31:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.196	0.00100	0.200	0	98.2	80	120	0.502	15	
Cadmium	0.203	0.00100	0.200	0	101	80	120	0.771	15	
Calcium	4.70	0.300	5.00	0	94.0	80	120	0.921	15	
Chromium	0.201	0.00500	0.200	0	100	80	120	0.358	15	
Cobalt	0.199	0.00500	0.200	0	99.6	80	120	0.675	15	
Lead	0.206	0.00100	0.200	0	103	80	120	0.258	15	
Lithium	0.202	0.0100	0.200	0	101	80	120	2.55	15	
Molybdenum	0.199	0.00500	0.200	0	99.4	80	120	0.464	15	
Selenium	0.200	0.00500	0.200	0	100	80	120	0.088	15	
Thallium	0.206	0.00150	0.200	0	103	80	120	0.441	15	

Sample ID	1602269-08A SD	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 7:37:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0429	0.0500	0	0.0423				1.42	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Calcium	11.9	1.50	0	11.7				2.04	10	
Chromium	<0.0100	0.0250	0	0.00770				0	10	
Cobalt	<0.0150	0.0250	0	0.00813				0	10	
Lead	<0.00150	0.00500	0	0.000315				0	10	
Lithium	<0.0250	0.0500	0	0.0124				0	10	
Molybdenum	<0.0100	0.0250	0	0.00248				0	10	
Selenium	<0.0100	0.0250	0	0.00220				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID	1602269-08A PDS	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 7:57:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.205	0.00250	0.200	0	102	80	120			
Arsenic	0.191	0.00500	0.200	0	95.3	80	120			
Barium	0.236	0.0100	0.200	0.0423	97.1	80	120			
Beryllium	0.194	0.00100	0.200	0	97.2	80	120			
Cadmium	0.193	0.00100	0.200	0	96.7	80	120			
Calcium	15.5	0.300	5.00	11.7	76.3	80	120			S
Chromium	0.208	0.00500	0.200	0.00770	100	80	120			
Cobalt	0.199	0.00500	0.200	0.00813	95.3	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160303F

Sample ID	1602269-08A PDS			Batch ID:	73881			TestNo:	SW6020A			Units:	mg/L		
SampType:	PDS			Run ID:	ICP-MS4_160303F			Analysis Date:	3/3/2016 7:57:00 PM			Prep Date:	2/26/2016		
Analyte				Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

Lead	0.199	0.00100	0.200	0.000315	99.4	80	120			
Lithium	0.206	0.0100	0.200	0.0124	96.9	80	120			
Molybdenum	0.193	0.00500	0.200	0.00248	95.2	80	120			
Selenium	0.192	0.00500	0.200	0.00220	94.7	80	120			
Thallium	0.195	0.00150	0.200	0	97.7	80	120			

Sample ID	1602269-08A MS	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L				
SampType:	MS	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 7:59:00 PM	Prep Date:	2/26/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.203	0.00250	0.200	0	101	80	120			
Arsenic	0.203	0.00500	0.200	0	102	80	120			
Barium	0.249	0.0100	0.200	0.0423	104	80	120			
Beryllium	0.204	0.00100	0.200	0	102	80	120			
Cadmium	0.205	0.00100	0.200	0	103	80	120			
Calcium	16.6	0.300	5.00	11.7	99.0	80	120			
Chromium	0.213	0.00500	0.200	0.00770	102	80	120			
Cobalt	0.206	0.00500	0.200	0.00813	98.9	80	120			
Lead	0.210	0.00100	0.200	0.000315	105	80	120			
Lithium	0.218	0.0100	0.200	0.0124	103	80	120			
Molybdenum	0.204	0.00500	0.200	0.00248	101	80	120			
Selenium	0.199	0.00500	0.200	0.00220	98.3	80	120			
Thallium	0.210	0.00150	0.200	0	105	80	120			

Sample ID	1602269-08A MSD	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 8:01:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.205	0.00250	0.200	0	103	80	120	1.02	15	
Arsenic	0.201	0.00500	0.200	0	101	80	120	0.950	15	
Barium	0.252	0.0100	0.200	0.0423	105	80	120	0.866	15	
Beryllium	0.203	0.00100	0.200	0	102	80	120	0.589	15	
Cadmium	0.206	0.00100	0.200	0	103	80	120	0.141	15	
Calcium	16.7	0.300	5.00	11.7	100	80	120	0.444	15	
Chromium	0.211	0.00500	0.200	0.00770	101	80	120	0.961	15	
Cobalt	0.205	0.00500	0.200	0.00813	98.7	80	120	0.196	15	
Lead	0.207	0.00100	0.200	0.000315	103	80	120	1.47	15	
Lithium	0.212	0.0100	0.200	0.0124	99.8	80	120	2.82	15	
Molybdenum	0.205	0.00500	0.200	0.00248	101	80	120	0.819	15	
Selenium	0.201	0.00500	0.200	0.00220	99.6	80	120	1.28	15	
Thallium	0.206	0.00150	0.200	0	103	80	120	2.03	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160303F

Sample ID	ICV-160303	Batch ID:	R84524	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 11:22:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.0989	0.00250	0.100	0	98.9	90	110			
Arsenic	0.0988	0.00500	0.100	0	98.8	90	110			
Barium	0.0991	0.0100	0.100	0	99.1	90	110			
Beryllium	0.0997	0.00100	0.100	0	99.7	90	110			
Cadmium	0.0995	0.00100	0.100	0	99.5	90	110			
Calcium	2.32	0.300	2.50	0	92.8	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.102	0.00500	0.100	0	102	90	110			
Lead	0.102	0.00100	0.100	0	102	90	110			
Lithium	0.0978	0.0100	0.100	0	97.8	90	110			
Molybdenum	0.0976	0.00500	0.100	0	97.6	90	110			
Selenium	0.101	0.00500	0.100	0	101	90	110			
Thallium	0.101	0.00150	0.100	0	101	90	110			

Sample ID	LCVL-160303	Batch ID:	R84524	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 11:29:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00209	0.00250	0.00200	0	105	70	130			
Arsenic	0.00531	0.00500	0.00500	0	106	70	130			
Barium	0.00531	0.0100	0.00500	0	106	70	130			
Beryllium	0.000991	0.00100	0.00100	0	99.1	70	130			
Cadmium	0.00109	0.00100	0.00100	0	109	70	130			
Calcium	0.107	0.300	0.100	0	107	70	130			
Chromium	0.00539	0.00500	0.00500	0	108	70	130			
Cobalt	0.00533	0.00500	0.00500	0	107	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Lithium	0.0104	0.0100	0.0100	0	104	70	130			
Molybdenum	0.00523	0.00500	0.00500	0	105	70	130			
Selenium	0.00567	0.00500	0.00500	0	113	70	130			
Thallium	0.00106	0.00150	0.00100	0	106	70	130			

Sample ID	CCV9-160303	Batch ID:	R84524	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 7:19:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.205	0.00250	0.200	0	102	90	110			
Arsenic	0.202	0.00500	0.200	0	101	90	110			
Barium	0.207	0.0100	0.200	0	103	90	110			
Beryllium	0.198	0.00100	0.200	0	98.8	90	110			
Cadmium	0.207	0.00100	0.200	0	103	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160303F

Sample ID	CCV9-160303	Batch ID:	R84524	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 7:19:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	5.12	0.300	5.00	0	102	90	110			
Chromium	0.210	0.00500	0.200	0	105	90	110			
Cobalt	0.201	0.00500	0.200	0	101	90	110			
Lead	0.206	0.00100	0.200	0	103	90	110			
Lithium	0.197	0.0100	0.200	0	98.3	90	110			
Molybdenum	0.202	0.00500	0.200	0	101	90	110			
Selenium	0.206	0.00500	0.200	0	103	90	110			
Thallium	0.205	0.00150	0.200	0	103	90	110			

Sample ID	LCVL9-160303	Batch ID:	R84524	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 7:23:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00217	0.00250	0.00200	0	108	70	130			
Arsenic	0.00515	0.00500	0.00500	0	103	70	130			
Barium	0.00524	0.0100	0.00500	0	105	70	130			
Beryllium	0.000979	0.00100	0.00100	0	97.9	70	130			
Cadmium	0.00103	0.00100	0.00100	0	103	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00512	0.00500	0.00500	0	102	70	130			
Cobalt	0.00500	0.00500	0.00500	0	99.9	70	130			
Lead	0.000985	0.00100	0.00100	0	98.5	70	130			
Lithium	0.0110	0.0100	0.0100	0	110	70	130			
Molybdenum	0.00506	0.00500	0.00500	0	101	70	130			
Selenium	0.00600	0.00500	0.00500	0	120	70	130			
Thallium	0.00102	0.00150	0.00100	0	102	70	130			

Sample ID	CCV10-160303	Batch ID:	R84524	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 8:03:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.208	0.00250	0.200	0	104	90	110			
Arsenic	0.203	0.00500	0.200	0	101	90	110			
Barium	0.210	0.0100	0.200	0	105	90	110			
Beryllium	0.204	0.00100	0.200	0	102	90	110			
Cadmium	0.210	0.00100	0.200	0	105	90	110			
Calcium	4.90	0.300	5.00	0	98.1	90	110			
Chromium	0.211	0.00500	0.200	0	105	90	110			
Cobalt	0.202	0.00500	0.200	0	101	90	110			
Lead	0.206	0.00100	0.200	0	103	90	110			
Lithium	0.209	0.0100	0.200	0	104	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160303F

Sample ID	CCV10-160303	Batch ID:	R84524	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 8:03:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.203	0.00500	0.200	0	102	90	110			
Selenium	0.205	0.00500	0.200	0	103	90	110			
Thallium	0.206	0.00150	0.200	0	103	90	110			

Sample ID	LCVL10-160303	Batch ID:	R84524	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 8:07:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00215	0.00250	0.00200	0	107	70	130			
Arsenic	0.00522	0.00500	0.00500	0	104	70	130			
Barium	0.00535	0.0100	0.00500	0	107	70	130			
Beryllium	0.00130	0.00100	0.00100	0	130	70	130			
Cadmium	0.00107	0.00100	0.00100	0	107	70	130			
Calcium	0.103	0.300	0.100	0	103	70	130			
Chromium	0.00523	0.00500	0.00500	0	105	70	130			
Cobalt	0.00509	0.00500	0.00500	0	102	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Lithium	0.0115	0.0100	0.0100	0	115	70	130			
Molybdenum	0.00495	0.00500	0.00500	0	98.9	70	130			
Selenium	0.00572	0.00500	0.00500	0	114	70	130			
Thallium	0.00106	0.00150	0.00100	0	106	70	130			

Sample ID	CCV11-160303	Batch ID:	R84524	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 8:31:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.206	0.00250	0.200	0	103	90	110			
Arsenic	0.203	0.00500	0.200	0	102	90	110			
Barium	0.209	0.0100	0.200	0	104	90	110			
Beryllium	0.207	0.00100	0.200	0	103	90	110			
Cadmium	0.207	0.00100	0.200	0	104	90	110			
Calcium	4.88	0.300	5.00	0	97.6	90	110			
Chromium	0.211	0.00500	0.200	0	105	90	110			
Cobalt	0.203	0.00500	0.200	0	102	90	110			
Lead	0.210	0.00100	0.200	0	105	90	110			
Lithium	0.207	0.0100	0.200	0	104	90	110			
Molybdenum	0.202	0.00500	0.200	0	101	90	110			
Selenium	0.205	0.00500	0.200	0	102	90	110			
Thallium	0.210	0.00150	0.200	0	105	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160303F

Sample ID	LCVL11-160303	Batch ID:	R84524	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160303F	Analysis Date:	3/3/2016 8:35:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00209	0.00250	0.00200	0	105	70	130			
Arsenic	0.00509	0.00500	0.00500	0	102	70	130			
Barium	0.00528	0.0100	0.00500	0	106	70	130			
Beryllium	0.000994	0.00100	0.00100	0	99.4	70	130			
Cadmium	0.00103	0.00100	0.00100	0	103	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00522	0.00500	0.00500	0	104	70	130			
Cobalt	0.00511	0.00500	0.00500	0	102	70	130			
Lead	0.00100	0.00100	0.00100	0	100	70	130			
Lithium	0.0109	0.0100	0.0100	0	109	70	130			
Molybdenum	0.00496	0.00500	0.00500	0	99.2	70	130			
Selenium	0.00620	0.00500	0.00500	0	124	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler

Work Order: 1602269

Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160304C

The QC data in batch 73869 applies to the following samples: 1602269-01A, 1602269-02A, 1602269-03A, 1602269-04A, 1602269-05A, 1602269-06A, 1602269-07A

Sample ID	MB-73869	Batch ID:	73869	TestNo:	SW6020A	Units:	mg/L
SampType:	MBLK	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 8:36:00 PM	Prep Date:	2/26/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID	LCS-73869	Batch ID:	73869	TestNo:	SW6020A	Units:	mg/L
SampType:	LCS	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 8:38:00 PM	Prep Date:	2/26/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	98.8	80	120			
Arsenic	0.201	0.00500	0.200	0	101	80	120			
Barium	0.200	0.0100	0.200	0	100	80	120			
Beryllium	0.210	0.00100	0.200	0	105	80	120			
Cadmium	0.202	0.00100	0.200	0	101	80	120			
Calcium	4.80	0.300	5.00	0	96.0	80	120			
Chromium	0.206	0.00500	0.200	0	103	80	120			
Cobalt	0.210	0.00500	0.200	0	105	80	120			
Lead	0.203	0.00100	0.200	0	101	80	120			
Lithium	0.211	0.0100	0.200	0	106	80	120			
Molybdenum	0.199	0.00500	0.200	0	99.7	80	120			
Selenium	0.202	0.00500	0.200	0	101	80	120			
Thallium	0.204	0.00150	0.200	0	102	80	120			

Sample ID	LCSD-73869	Batch ID:	73869	TestNo:	SW6020A	Units:	mg/L
SampType:	LCSD	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 8:40:00 PM	Prep Date:	2/26/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.194	0.00250	0.200	0	96.9	80	120	1.92	15	
Arsenic	0.202	0.00500	0.200	0	101	80	120	0.158	15	
Barium	0.200	0.0100	0.200	0	100	80	120	0.014	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160304C

Sample ID	LCSD-73869	Batch ID:	73869	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 8:40:00 PM	Prep Date:	2/26/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.209	0.00100	0.200	0	105	80	120	0.197	15	
Cadmium	0.202	0.00100	0.200	0	101	80	120	0.080	15	
Calcium	4.82	0.300	5.00	0	96.4	80	120	0.428	15	
Chromium	0.205	0.00500	0.200	0	103	80	120	0.584	15	
Cobalt	0.211	0.00500	0.200	0	105	80	120	0.480	15	
Lead	0.203	0.00100	0.200	0	101	80	120	0.065	15	
Lithium	0.210	0.0100	0.200	0	105	80	120	0.784	15	
Molybdenum	0.198	0.00500	0.200	0	98.9	80	120	0.823	15	
Selenium	0.204	0.00500	0.200	0	102	80	120	0.985	15	
Thallium	0.204	0.00150	0.200	0	102	80	120	0.218	15	

Sample ID	1602265-08A SD			Batch ID:	73869		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD			Run ID:	ICP-MS4_160304C		Analysis Date:	3/4/2016 8:47:00 PM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0466	0.0500	0	0.0460				1.24	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0				0	10	
Lead	0.00272	0.00500	0	0.00338				21.5	10	R
Lithium	0.144	0.0500	0	0.135				6.58	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID	1602265-08A PDS	Batch ID:	73869	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 9:07:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.204	0.00250	0.200	0	102	80	120			
Arsenic	0.195	0.00500	0.200	0	97.6	80	120			
Barium	0.241	0.0100	0.200	0.0460	97.3	80	120			
Beryllium	0.199	0.00100	0.200	0	99.4	80	120			
Cadmium	0.191	0.00100	0.200	0	95.3	80	120			
Chromium	0.199	0.00500	0.200	0	99.6	80	120			
Cobalt	0.198	0.00500	0.200	0	99.0	80	120			
Lead	0.203	0.00100	0.200	0.00338	99.8	80	120			
Lithium	0.320	0.0100	0.200	0.135	92.8	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160304C

Sample ID	1602265-08A PDS	Batch ID:	73869	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 9:07:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.198	0.00500	0.200	0	98.9	80	120			
Selenium	0.194	0.00500	0.200	0	97.2	80	120			
Thallium	0.199	0.00150	0.200	0	99.3	80	120			

Sample ID	1602265-08AMS	Batch ID:	73869	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 9:08:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.6	80	120			
Arsenic	0.201	0.00500	0.200	0	100	80	120			
Barium	0.244	0.0100	0.200	0.0460	98.9	80	120			
Beryllium	0.204	0.00100	0.200	0	102	80	120			
Cadmium	0.194	0.00100	0.200	0	97.2	80	120			
Calcium	207	0.300	5.00	203	87.0	80	120			
Chromium	0.200	0.00500	0.200	0	99.8	80	120			
Cobalt	0.200	0.00500	0.200	0	99.8	80	120			
Lead	0.207	0.00100	0.200	0.00338	102	80	120			
Lithium	0.334	0.0100	0.200	0.135	99.4	80	120			
Molybdenum	0.202	0.00500	0.200	0	101	80	120			
Selenium	0.200	0.00500	0.200	0	100	80	120			
Thallium	0.203	0.00150	0.200	0	101	80	120			

Sample ID	1602265-08AMSD	Batch ID:	73869	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 9:10:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.5	80	120	1.95	15	
Arsenic	0.199	0.00500	0.200	0	99.7	80	120	0.635	15	
Barium	0.249	0.0100	0.200	0.0460	101	80	120	1.90	15	
Beryllium	0.202	0.00100	0.200	0	101	80	120	1.33	15	
Cadmium	0.198	0.00100	0.200	0	98.9	80	120	1.74	15	
Calcium	208	0.300	5.00	203	107	80	120	0.478	15	
Chromium	0.200	0.00500	0.200	0	100	80	120	0.215	15	
Cobalt	0.199	0.00500	0.200	0	99.5	80	120	0.315	15	
Lead	0.202	0.00100	0.200	0.00338	99.5	80	120	2.10	15	
Lithium	0.337	0.0100	0.200	0.135	101	80	120	1.13	15	
Molybdenum	0.205	0.00500	0.200	0	102	80	120	1.26	15	
Selenium	0.194	0.00500	0.200	0	97.2	80	120	2.95	15	
Thallium	0.200	0.00150	0.200	0	100	80	120	1.16	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160304C

Sample ID	ICV2-160304	Batch ID:	R84540	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 7:22:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.0990	0.00250	0.100	0	99.0	90	110			
Arsenic	0.101	0.00500	0.100	0	101	90	110			
Barium	0.0993	0.0100	0.100	0	99.3	90	110			
Beryllium	0.101	0.00100	0.100	0	101	90	110			
Cadmium	0.0986	0.00100	0.100	0	98.6	90	110			
Calcium	2.30	0.300	2.50	0	92.1	90	110			
Chromium	0.104	0.00500	0.100	0	104	90	110			
Cobalt	0.105	0.00500	0.100	0	105	90	110			
Lead	0.101	0.00100	0.100	0	101	90	110			
Lithium	0.102	0.0100	0.100	0	102	90	110			
Molybdenum	0.0968	0.00500	0.100	0	96.8	90	110			
Selenium	0.101	0.00500	0.100	0	101	90	110			
Thallium	0.0988	0.00150	0.100	0	98.8	90	110			

Sample ID	ILCVL2-160304	Batch ID:	R84540	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 7:27:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00199	0.00250	0.00200	0	99.4	70	130			
Arsenic	0.00514	0.00500	0.00500	0	103	70	130			
Barium	0.00517	0.0100	0.00500	0	103	70	130			
Beryllium	0.000955	0.00100	0.00100	0	95.5	70	130			
Cadmium	0.00104	0.00100	0.00100	0	104	70	130			
Calcium	0.107	0.300	0.100	0	107	70	130			
Chromium	0.00527	0.00500	0.00500	0	105	70	130			
Cobalt	0.00540	0.00500	0.00500	0	108	70	130			
Lead	0.000898	0.00100	0.00100	0	89.8	70	130			
Lithium	0.0113	0.0100	0.0100	0	113	70	130			
Molybdenum	0.00507	0.00500	0.00500	0	101	70	130			
Selenium	0.00580	0.00500	0.00500	0	116	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Sample ID	CCV2-160304	Batch ID:	R84540	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 8:28:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.198	0.00250	0.200	0	99.1	90	110			
Arsenic	0.202	0.00500	0.200	0	101	90	110			
Barium	0.203	0.0100	0.200	0	101	90	110			
Beryllium	0.210	0.00100	0.200	0	105	90	110			
Cadmium	0.204	0.00100	0.200	0	102	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160304C

Sample ID	CCV2-160304	Batch ID:	R84540	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 8:28:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.82	0.300	5.00	0	96.4	90	110			
Chromium	0.208	0.00500	0.200	0	104	90	110			
Cobalt	0.209	0.00500	0.200	0	104	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Lithium	0.213	0.0100	0.200	0	107	90	110			
Molybdenum	0.200	0.00500	0.200	0	99.8	90	110			
Selenium	0.201	0.00500	0.200	0	100	90	110			
Thallium	0.204	0.00150	0.200	0	102	90	110			

Sample ID	LCVL2-160304	Batch ID:	R84540	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 8:32:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00205	0.00250	0.00200	0	102	70	130			
Arsenic	0.00515	0.00500	0.00500	0	103	70	130			
Barium	0.00503	0.0100	0.00500	0	101	70	130			
Beryllium	0.00104	0.00100	0.00100	0	104	70	130			
Cadmium	0.00106	0.00100	0.00100	0	106	70	130			
Calcium	0.101	0.300	0.100	0	101	70	130			
Chromium	0.00522	0.00500	0.00500	0	104	70	130			
Cobalt	0.00536	0.00500	0.00500	0	107	70	130			
Lead	0.000910	0.00100	0.00100	0	91.0	70	130			
Lithium	0.0111	0.0100	0.0100	0	111	70	130			
Molybdenum	0.00490	0.00500	0.00500	0	98.0	70	130			
Selenium	0.00547	0.00500	0.00500	0	109	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Sample ID	CCV3-160304	Batch ID:	R84540	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 9:12:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.197	0.00250	0.200	0	98.7	90	110			
Arsenic	0.202	0.00500	0.200	0	101	90	110			
Barium	0.202	0.0100	0.200	0	101	90	110			
Beryllium	0.211	0.00100	0.200	0	105	90	110			
Cadmium	0.203	0.00100	0.200	0	101	90	110			
Calcium	4.82	0.300	5.00	0	96.4	90	110			
Chromium	0.209	0.00500	0.200	0	105	90	110			
Cobalt	0.212	0.00500	0.200	0	106	90	110			
Lead	0.207	0.00100	0.200	0	104	90	110			
Lithium	0.216	0.0100	0.200	0	108	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160304C

Sample ID	CCV3-160304	Batch ID:	R84540	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 9:12:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum		0.199	0.00500	0.200	0	99.6	90	110			
Selenium		0.203	0.00500	0.200	0	102	90	110			
Thallium		0.208	0.00150	0.200	0	104	90	110			

Sample ID	LCVL3-160304	Batch ID:	R84540	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160304C	Analysis Date:	3/4/2016 9:16:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00205	0.00250	0.00200	0	103	70	130			
Arsenic	0.00507	0.00500	0.00500	0	101	70	130			
Barium	0.00522	0.0100	0.00500	0	104	70	130			
Beryllium	0.00112	0.00100	0.00100	0	112	70	130			
Cadmium	0.000999	0.00100	0.00100	0	99.9	70	130			
Calcium	0.100	0.300	0.100	0	100	70	130			
Chromium	0.00528	0.00500	0.00500	0	106	70	130			
Cobalt	0.00536	0.00500	0.00500	0	107	70	130			
Lead	0.000897	0.00100	0.00100	0	89.7	70	130			
Lithium	0.0112	0.0100	0.0100	0	112	70	130			
Molybdenum	0.00512	0.00500	0.00500	0	102	70	130			
Selenium	0.00535	0.00500	0.00500	0	107	70	130			
Thallium	0.00100	0.00150	0.00100	0	100	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160307A

The QC data in batch 73869 applies to the following samples: 1602269-01A, 1602269-02A, 1602269-03A, 1602269-04A, 1602269-05A, 1602269-06A, 1602269-07A

Sample ID	MB-73869		Batch ID:	73869		TestNo:	SW6020A		Units:	mg/L	
SampType:	MBLK		Run ID:	ICP-MS4_160307A		Analysis Date:	3/7/2016 7:26:00 PM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.0214 0.0300

Sample ID	LCS-73869		Batch ID:	73869		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS		Run ID:	ICP-MS4_160307A		Analysis Date:	3/7/2016 7:28:00 PM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.218 0.0300 0.200 0 109 80 120

Sample ID	LCSD-73869			Batch ID:	73869		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCSD			Run ID:	ICP-MS4_160307A		Analysis Date:	3/7/2016 7:30:00 PM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Boron 0.229 0.0300 0.200 0 115 80 120 5.28 15

Sample ID	1602265-08A SD			Batch ID:	73869		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD			Run ID:	ICP-MS4_160307A		Analysis Date:	3/7/2016 7:36:00 PM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Boron <2.50 7.50 0 1.18 0 10

Calcium 207 75.0 0 207 0.002 10

Sample ID	1602265-08A PDS			Batch ID:	73869		TestNo:	SW6020A		Units:	mg/L	
SampType:	PDS			Run ID:	ICP-MS4_160307A		Analysis Date:	3/7/2016 7:57:00 PM		Prep Date:	2/26/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 12.0 1.50 10.0 1.18 108 80 120

Calcium 438 15.0 250 207 92.1 80 120

Sample ID: 1602265-08AMS	Batch ID: 73869	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160307A	Analysis Date: 3/7/2016 7:59:00 PM	Prep Date: 2/26/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 1.88 1.50 0.200 1.18 347 80 120 S

Sample ID	1602265-08AMSD			Batch ID:	73869		TestNo:	SW6020A		Units:	mg/L	
SampType:	MSD			Run ID:	ICP-MS4_160307A		Analysis Date:	3/7/2016 8:01:00 PM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Boron 1.96 1.50 0.200 1.18 389 80 120 4.42 15 S

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160307A

The QC data in batch 73881 applies to the following samples: 1602269-08A, 1602269-09A, 1602269-10A, 1602269-11A, 1602269-12A, 1602269-13A, 1602269-14A, 1602269-15A, 1602269-16A, 1602269-17A

Sample ID	MB-73881	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	MBLK	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 2:46:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.0276 0.0300

Sample ID	LCS-73881		Batch ID:	73881		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS		Run ID:	ICP-MS4_160307A		Analysis Date:	3/7/2016 2:48:00 PM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.224 0.0300 0.200 0 112 80 120

Sample ID	LCSD-73881	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 2:50:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.223 0.0300 0.200 0 111 80 120 0.504 15

Sample ID	1602269-08A SD	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 2:58:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.228 0.150 0 0.206 10.0 10

Sample ID	1602269-08A PDS	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 3:19:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.398 0.0300 0.200 0.206 96.0 80 120

Sample ID	1602269-08A MS	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 3:21:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.405 0.0300 0.200 0.206 99.5 80 120

Sample ID	1602269-08A MSD	Batch ID:	73881	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 3:23:00 PM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.419 0.0300 0.200 0.206 106 80 120 3.37 15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160307A

Sample ID	ICV-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 11:53:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.103	0.0300	0.100	0	103	90	110			
Calcium	2.32	0.300	2.50	0	93.0	90	110			

Sample ID	LCVL-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 11:58:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0240	0.0300	0.0200	0	120	70	130			
Calcium	0.101	0.300	0.100	0	101	70	130			

Sample ID	CCV3-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 2:27:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.190	0.0300	0.200	0	95.0	90	110			
Calcium	4.70	0.300	5.00	0	94.0	90	110			

Sample ID	LCVL3-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 2:41:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0246	0.0300	0.0200	0	123	70	130			
Calcium	0.0986	0.300	0.100	0	98.6	70	130			

Sample ID	CCV4-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 3:33:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.216	0.0300	0.200	0	108	90	110			
Calcium	4.81	0.300	5.00	0	96.2	90	110			

Sample ID	LCVL4-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 4:33:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0249	0.0300	0.0200	0	125	70	130			
Calcium	0.0916	0.300	0.100	0	91.6	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160307A

Sample ID	CCV5-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 5:10:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.76	0.300	5.00	0	95.1	90	110			

Sample ID	LCVL5-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 5:24:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.103	0.300	0.100	0	103	70	130			

Sample ID	CCV6-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 6:17:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.204	0.0300	0.200	0	102	90	110			
Calcium	4.87	0.300	5.00	0	97.5	90	110			

Sample ID	LCVL6-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 6:31:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0211	0.0300	0.0200	0	106	70	130			
Calcium	0.100	0.300	0.100	0	100	70	130			

Sample ID	CCV7-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 7:08:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.194	0.0300	0.200	0	97.2	90	110			
Calcium	4.77	0.300	5.00	0	95.4	90	110			

Sample ID	LCVL7-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 7:22:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0228	0.0300	0.0200	0	114	70	130			
Calcium	0.103	0.300	0.100	0	103	70	130			

Sample ID	CCV8-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 8:15:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.206	0.0300	0.200	0	103	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160307A

Sample ID	CCV8-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 8:15:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.78	0.300	5.00	0	95.7	90	110			

Sample ID	LCVL8-160307	Batch ID:	R84569	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160307A	Analysis Date:	3/7/2016 8:29:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0222	0.0300	0.0200	0	111	70	130			
Calcium	0.101	0.300	0.100	0	101	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_160303A

The QC data in batch 73960 applies to the following samples: 1602269-01D, 1602269-02D, 1602269-03D, 1602269-04D, 1602269-05D, 1602269-06D, 1602269-07D, 1602269-08D, 1602269-09D, 1602269-10D, 1602269-11D, 1602269-12D, 1602269-13D, 1602269-14D, 1602269-15D, 1602269-16D, 1602269-17D

Sample ID	MB-73960		Batch ID:	73960		TestNo:	E300		Units:	mg/L	
SampType:	MBLK		Run ID:	IC2_160303A		Analysis Date:	3/3/2016 9:06:25 AM		Prep Date:	3/3/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-73960		Batch ID:	73960		TestNo:	E300		Units:	mg/L		
SampType:	LCS		Run ID:	IC2_160303A		Analysis Date:	3/3/2016 9:21:02 AM		Prep Date:	3/3/2016		
Analyte		Result	RL	SPK value	Ref Val		%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.36	1.00	10.00	0	93.6	90	110			
Fluoride	3.80	0.400	4.000	0	95.1	90	110			
Sulfate	29.9	3.00	30.00	0	99.5	90	110			

Sample ID	LCSD-73960	Batch ID:	73960	TestNo:	E300	Units:	mg/L			
SampType:	LCSD	Run ID:	IC2_160303A	Analysis Date:	3/3/2016 9:35:38 AM	Prep Date:	3/3/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.30	1.00	10.00	0	93.0	90	110	0.670	20	
Fluoride	3.80	0.400	4.000	0	95.1	90	110	0.001	20	
Sulfate	29.8	3.00	30.00	0	99.5	90	110	0.087	20	

Sample ID	1602269-01DMS			Batch ID:	73960		TestNo:	E300		Units:	mg/L	
SampType:	MS			Run ID:	IC2_160303A		Analysis Date:	3/3/2016 4:00:14 PM		Prep Date:	3/3/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	227	10.0	200.0	27.67	99.5	90	110			
Fluoride	201	4.00	200.0	0	101	90	110			
Sulfate	599	30.0	200.0	372.5	113	90	110			S

Sample ID	1602269-01DMSD		Batch ID:	73960		TestNo:	E300		Units:	mg/L	
SampType:	MSD		Run ID:	IC2_160303A		Analysis Date:	3/3/2016 4:14:50 PM		Prep Date:	3/3/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	225	10.0	200.0	27.67	98.4	90	110	0.916	20	
Fluoride	200	4.00	200.0	0	100	90	110	0.529	20	
Sulfate	595	30.0	200.0	372.5	111	90	110	0.732	20	S

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_160303A

Sample ID	1602269-02DMS	Batch ID:	73960	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC2_160303A	Analysis Date:	3/3/2016 4:44:03 PM	Prep Date:	3/3/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	211	10.0	200.0	15.89	97.6	90	110			
Fluoride	199	4.00	200.0	1.001	98.9	90	110			
Sulfate	419	30.0	200.0	210.6	104	90	110			

Sample ID	1602269-02DMSD	Batch ID:	73960	TestNo:	E300	Units:	mg/L			
SampType:	MSD	Run ID:	IC2_160303A	Analysis Date:	3/3/2016 4:58:40 PM	Prep Date:	3/3/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	213	10.0	200.0	15.89	98.3	90	110	0.650	20	
Fluoride	200	4.00	200.0	1.001	99.4	90	110	0.483	20	
Sulfate	419	30.0	200.0	210.6	104	90	110	0.161	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_160303A

Sample ID	ICV-160303	Batch ID:	R84523	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC2_160303A	Analysis Date:	3/3/2016 8:30:12 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	23.9	1.00	25.00	0	95.8	90	110			
Fluoride	9.55	0.400	10.00	0	95.5	90	110			
Sulfate	75.5	3.00	75.00	0	101	90	110			

Sample ID	CCV1-160303	Batch ID:	R84523	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_160303A	Analysis Date:	3/3/2016 12:20:50 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.22	1.00	10.00	0	92.2	90	110			
Fluoride	3.67	0.400	4.000	0	91.8	90	110			
Sulfate	32.1	3.00	30.00	0	107	90	110			

Sample ID	CCV2-160303	Batch ID:	R84523	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_160303A	Analysis Date:	3/3/2016 3:09:01 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.26	1.00	10.00	0	92.6	90	110			
Fluoride	3.88	0.400	4.000	0	97.1	90	110			
Sulfate	29.8	3.00	30.00	0	99.2	90	110			

Sample ID	CCV3-160303	Batch ID:	R84523	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_160303A	Analysis Date:	3/3/2016 7:10:09 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.44	1.00	10.00	0	94.4	90	110			
Fluoride	3.96	0.400	4.000	0	99.1	90	110			
Sulfate	30.0	3.00	30.00	0	99.9	90	110			

Sample ID	CCV4-160303	Batch ID:	R84523	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_160303A	Analysis Date:	3/3/2016 8:23:12 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.39	1.00	10.00	0	93.9	90	110			
Sulfate	30.0	3.00	30.00	0	99.8	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160226A

The QC data in batch 73868 applies to the following samples: 1602269-01D, 1602269-02D, 1602269-03D, 1602269-04D, 1602269-05D, 1602269-06D, 1602269-07D, 1602269-08D, 1602269-09D, 1602269-10D, 1602269-11D, 1602269-12D, 1602269-13D

Sample ID	1602239-01D-DUP	Batch ID:	73868	TestNo:	M4500-H+ B	Units:	pH Units@11.1°C
SampType:	DUP	Run ID:	TITRATOR_160226A	Analysis Date:	2/26/2016 8:48:00 AM	Prep Date:	2/26/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		7.71	0	0	7.720		0.130 5

Sample ID	1602269-04D-DUP	Batch ID:	73868	TestNo:	M4500-H+ B	Units:	pH Units@14.3°C
SampType:	DUP	Run ID:	TITRATOR_160226A	Analysis Date:	2/26/2016 9:25:00 AM	Prep Date:	2/26/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		6.71	0	0	6.560		2.26 5

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160226A

Sample ID	ICV-160226	Batch ID:	R84382	TestNo:	M4500-H+ B	Units:	pH	Units@20.9°C			
SampType:	ICV	Run ID:	TITRATOR_160226A	Analysis Date:	2/26/2016 8:43:00 AM	Prep Date:	2/26/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH 10.0 0 10.00 0 100 99 101

Sample ID	CCV1-160226	Batch ID:	R84382		TestNo:	M4500-H+ B		Units:	pH Units@20.5°C		
SampType:	CCV	Run ID:	TITRATOR_160226A		Analysis Date:	2/26/2016 9:19:00 AM		Prep Date:	2/26/2016		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH 7.04 0 7.000 0 101 97.1 102.9

Sample ID	CCV2-160226	Batch ID:	R84382	TestNo:	M4500-H+ B	Units:	pH Units@20.4°C			
SampType:	CCV	Run ID:	TITRATOR_160226A	Analysis Date:	2/26/2016 9:40:00 AM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH 7.02 0 7.000 0 100 97.1 102.9

Sample ID	CCV3-160226	Batch ID:	R84382	TestNo:	M4500-H+ B	Units:	pH Units@20.3°C			
SampType:	CCV	Run ID:	TITRATOR_160226A	Analysis Date:	2/26/2016 9:46:00 AM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH 7.03 0 7.000 0 100 97.1 102.9

Sample ID	CCV4-160226-PH12	Batch ID:	R84382	TestNo:	M4500-H+ B	Units:	pH	Units@21.3°C		
SampType:	CCV	Run ID:	TITRATOR_160226A	Analysis Date:	2/26/2016 9:49:00 AM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH 12.0 0 12.00 0 99.6 97.1 102.9

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160226B

The QC data in batch 73880 applies to the following samples: 1602269-14D, 1602269-15D, 1602269-16D, 1602269-17D

Sample ID	1602269-14D-DUP	Batch ID:	73880	TestNo:	M4500-H+ B	Units:	pH Units@16.2°C
SampType:	DUP	Run ID:	TITRATOR_160226B	Analysis Date:	2/26/2016 11:04:00 AM	Prep Date:	2/26/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		5.75	0	0	5.760		0.174 5

Sample ID	1602270-07D-DUP	Batch ID:	73880	TestNo:	M4500-H+ B	Units:	pH Units@17°C
SampType:	DUP	Run ID:	TITRATOR_160226B	Analysis Date:	2/26/2016 11:29:00 AM	Prep Date:	2/26/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		5.47	0	0	5.490		0.365 5

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160226B

Sample ID	ICV-160226	Batch ID:	R84386	TestNo:	M4500-H+ B	Units:	pH Units@20.9°C			
SampType:	ICV	Run ID:	TITRATOR_160226B	Analysis Date:	2/26/2016 8:43:00 AM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	10.0	0	10.00	0	100	99	101			

Sample ID	CCV5-160226	Batch ID:	R84386	TestNo:	M4500-H+ B	Units:	pH Units@20.6°C			
SampType:	CCV	Run ID:	TITRATOR_160226B	Analysis Date:	2/26/2016 11:23:00 AM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.03	0	7.000	0	100	97.1	102.9			

Sample ID	CCV6-160226	Batch ID:	R84386	TestNo:	M4500-H+ B	Units:	pH Units@20.6°C			
SampType:	CCV	Run ID:	TITRATOR_160226B	Analysis Date:	2/26/2016 11:30:00 AM	Prep Date:	2/26/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.02	0	7.000	0	100	97.1	102.9			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160226B

The QC data in batch 73878 applies to the following samples: 1602269-01D, 1602269-02D, 1602269-03D, 1602269-04D, 1602269-05D, 1602269-06D, 1602269-07D, 1602269-08D

Sample ID	MB-73878		Batch ID:	73878		TestNo:	M2540C		Units:	mg/L	
SampType:	MBLK		Run ID:	WC_160226B		Analysis Date:	2/29/2016 8:55:00 AM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 10.0 10.0

Sample ID	LCS-73878		Batch ID:	73878		TestNo:	M2540C		Units:	mg/L	
SampType:	LCS		Run ID:	WC_160226B		Analysis Date:	2/29/2016 8:55:00 AM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 802 10.0 745.6 0 108 90 113

Sample ID	1602262-01D-DUP		Batch ID:	73878		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_160226B		Analysis Date:	2/29/2016 8:55:00 AM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 2010 50.0 0 2025 0.743 5

Sample ID	1602270-01D-DUP		Batch ID:	73878		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_160226B		Analysis Date:	2/29/2016 8:55:00 AM		Prep Date:	2/26/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1610 50.0 0 1570 2.52 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1602269
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160229D

The QC data in batch 73900 applies to the following samples: 1602269-09D, 1602269-10D, 1602269-11D, 1602269-12D, 1602269-13D, 1602269-14D, 1602269-15D, 1602269-16D, 1602269-17D

Sample ID	MB-73900		Batch ID:	73900		TestNo:	M2540C		Units:	mg/L	
SampType:	MBLK		Run ID:	WC_160229D		Analysis Date:	3/1/2016 8:43:00 AM		Prep Date:	2/29/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-73900		Batch ID:	73900		TestNo:	M2540C		Units:	mg/L	
SampType:	LCS		Run ID:	WC_160229D		Analysis Date:	3/1/2016 8:43:00 AM		Prep Date:	2/29/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 760 10.0 745.6 0 102 90 113

Sample ID	1602269-09D-DUP		Batch ID:	73900		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_160229D		Analysis Date:	3/1/2016 8:43:00 AM		Prep Date:	2/29/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 4190 50.0 0 4175 0.239 5

Sample ID	1602278-01E-DUP		Batch ID:	73900		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_160229D		Analysis Date:	3/1/2016 8:43:00 AM		Prep Date:	2/29/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1920 50.0 0 1895 1.05 5

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified



March 23, 2016

Mr. John DuPont
DHL Analytical
2300 Double Creek Drive
Round Rock, Texas 78664

Re: Routine Analysis
Work Order: 392232
SDG: 1602269

Dear Mr. DuPont:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on March 01, 2016. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4707.

Sincerely,

Hope Taylor for
Anna Day
Project Manager

Purchase Order: 14273
Chain of Custody: 1602269
Enclosures



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 – (843) 556-8171 – www.gel.com

Certificate of Analysis Report for

DHLA002 DHL Analytical

Client SDG: 1602269 GEL Work Order: 392232

The Qualifiers in this report are defined as follows:

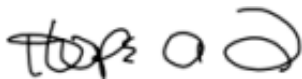
- * A quality control analyte recovery is outside of specified acceptance criteria
- ** Analyte is a Tracer compound
- ** Analyte is a surrogate compound
- U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Anna Day.

Reviewed by



GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-19
Sample ID: 392232001
Matrix: Water
Collect Date: 24-FEB-16 12:10
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	1.07	+/-0.980	1.60	3.00	pCi/L		AXM6	03/22/16	1658	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.49	+/-0.459	0.456	1.00	pCi/L		CXP3	03/22/16	0735	1549017	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			99.7	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-22
Sample ID: 392232002
Matrix: Water
Collect Date: 24-FEB-16 11:15
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.945	+/-0.966	1.60	3.00	pCi/L		AXM6	03/22/16	1658	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.27	+/-0.427	0.383	1.00	pCi/L		CXP3	03/22/16	0735	1549017	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery	Test					Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"							95.7	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-18A
Sample ID: 392232003
Matrix: Water
Collect Date: 24-FEB-16 10:15
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.680	+/-1.05	1.82	3.00	pCi/L		AXM6	03/22/16	1658	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.419	+/-0.340	0.521	1.00	pCi/L		CXP3	03/22/16	0735	1549017	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			99.5	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-26
Sample ID: 392232004
Matrix: Water
Collect Date: 24-FEB-16 09:10
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.354	+/-0.907	1.64	3.00	pCi/L		AXM6	03/22/16	1658	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.793	+/-0.388	0.493	1.00	pCi/L		CXP3	03/22/16	0735	1549017	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			88.8	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-20A
Sample ID: 392232005
Matrix: Water
Collect Date: 24-FEB-16 08:10
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.21	+/-0.996	1.31	3.00	pCi/L		AXM6	03/22/16	1658	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.643	+/-0.314	0.400	1.00	pCi/L		CXP3	03/22/16	0735	1549017	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						95.6	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-30
Sample ID: 392232006
Matrix: Water
Collect Date: 23-FEB-16 12:20
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.946	+/-1.39	2.38	3.00	pCi/L		AXM6	03/22/16	1659	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.585	+/-0.321	0.430	1.00	pCi/L		CXP3	03/22/16	0735	1549017	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			91.3	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-33
Sample ID: 392232007
Matrix: Water
Collect Date: 23-FEB-16 11:25
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	2.26	+/-1.48	2.32	3.00	pCi/L		AXM6	03/22/16	1659	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.906	+/-0.393	0.472	1.00	pCi/L		CXP3	03/22/16	0810	1549017	2
The following Analytical Methods were performed:												
Method	Description							Analyst Comments				
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery	Test					Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"							94.2	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-26
Sample ID: 392232008
Matrix: Water
Collect Date: 23-FEB-16 10:35
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.212	+/-1.10	2.06	3.00	pCi/L		AXM6	03/22/16	1659	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.372	+/-0.243	0.297	1.00	pCi/L		CXP3	03/22/16	0810	1549017	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			100	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-31
Sample ID: 392232009
Matrix: Water
Collect Date: 23-FEB-16 11:25
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.746	+/-0.963	1.64	3.00	pCi/L		AXM6	03/22/16	1659	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.311	+/-0.269	0.419	1.00	pCi/L		CXP3	03/22/16	0810	1549017	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						90.2	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-32
Sample ID: 392232010
Matrix: Water
Collect Date: 23-FEB-16 12:35
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		1.60	+/-0.969	1.45	3.00	pCi/L		AXM6	03/22/16	1659	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.12	+/-0.450	0.519	1.00	pCi/L		CXP3	03/22/16	0810	1549017	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						101	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-28
Sample ID: 392232011
Matrix: Water
Collect Date: 23-FEB-16 15:30
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		2.24	+/-1.14	1.65	3.00	pCi/L		AXM6	03/22/16	1659	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.294	+/-0.254	0.396	1.00	pCi/L		CXP3	03/22/16	0810	1549017	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						93.6	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID:	H-29	Project:	DHLA00112
Sample ID:	392232012	Client ID:	DHLA002
Matrix:	Water		
Collect Date:	23-FEB-16 16:20		
Receive Date:	01-MAR-16		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	1.49	+/-1.35	2.22	3.00	pCi/L		AXM6	03/22/16	1659	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.337	+/-0.254	0.374	1.00	pCi/L		CXP3	03/22/16	0810	1549017	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						90.5	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: H-27
Sample ID: 392232013
Matrix: Water
Collect Date: 23-FEB-16 17:30
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.533	+/-0.924	1.62	3.00	pCi/L		AXM6	03/22/16	1659	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.921	+/-0.383	0.451	1.00	pCi/L		CXP3	03/22/16	0840	1549017	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			84.9	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-23
Sample ID: 392232014
Matrix: Water
Collect Date: 24-FEB-16 09:45
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	-0.208	+/-0.825	1.61	3.00	pCi/L		AXM6	03/22/16	1659	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		1.06	+/-0.440	0.519	1.00	pCi/L		CXP3	03/22/16	0840	1549017	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			102	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID:	PDP-25	Project:	DHLA00112
Sample ID:	392232015	Client ID:	DHLA002
Matrix:	Water		
Collect Date:	24-FEB-16 10:55		
Receive Date:	01-MAR-16		
Collector:	Client		

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	2.13	+/-1.44	2.28	3.00	pCi/L		AXM6	03/22/16	1703	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.613	+/-0.274	0.223	1.00	pCi/L		CXP3	03/22/16	0840	1549017	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			102	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: MW-17A
Sample ID: 392232016
Matrix: Water
Collect Date: 24-FEB-16 12:00
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228		3.07	+/-1.12	1.42	3.00	pCi/L		AXM6	03/22/16	1703	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226	U	0.436	+/-0.302	0.440	1.00	pCi/L		CXP3	03/22/16	0840	1549017	2
The following Analytical Methods were performed:												
Method	Description						Analyst Comments					
1	EPA 904.0/SW846 9320 Modified											
2	EPA 903.1 Modified											
Surrogate/Tracer Recovery		Test				Result	Nominal	Recovery%	Acceptable Limits			
Barium-133 Tracer		GFPC, Ra228, Liquid "As Received"						103	(15%-125%)			

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: March 23, 2016

Company : DHL Analytical
Address : 2300 Double Creek Drive

Round Rock, Texas 78664

Contact: Mr. John DuPont
Project: Routine Analysis

Client Sample ID: PDP-24
Sample ID: 392232017
Matrix: Water
Collect Date: 24-FEB-16 14:30
Receive Date: 01-MAR-16
Collector: Client

Project: DHLA00112
Client ID: DHLA002

Parameter	Qualifier	Result	Uncertainty	MDC	RL	Units	DF	Analyst	Date	Time	Batch	Method
Rad Gas Flow Proportional Counting												
GFPC, Ra228, Liquid "As Received"												
Radium-228	U	0.498	+/-1.04	1.83	3.00	pCi/L		AXM6	03/22/16	1703	1550814	1
Rad Radium-226												
Lucas Cell, Ra226, liquid "As Received"												
Radium-226		0.622	+/-0.353	0.479	1.00	pCi/L		CXP3	03/22/16	0840	1549017	2

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 904.0/SW846 9320 Modified	
2	EPA 903.1 Modified	

Surrogate/Tracer Recovery	Test	Result	Nominal	Recovery%	Acceptable Limits
Barium-133 Tracer	GFPC, Ra228, Liquid "As Received"			94.2	(15%-125%)

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Report Date: March 23, 2016

Page 1 of 2

DHL Analytical
2300 Double Creek Drive
Round Rock, Texas

Contact: Mr. John DuPont

Workorder: 392232

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
Rad Gas Flow											
Batch	1550814										
QC1203504569	392232008	DUP									
Radium-228	U	0.212	U	0.772	pCi/L	N/A			N/A AXM6	03/22/16	17:03
	Uncertainty	+/-1.10		+/-1.04							
QC1203504570	LCS										
Radium-228	47.0			44.9	pCi/L		95.5	(75%-125%)		03/22/16	17:03
	Uncertainty			+/-3.39							
QC1203504568	MB										
Radium-228			U	0.687	pCi/L					03/22/16	17:03
	Uncertainty			+/-0.831							
Rad Ra-226											
Batch	1549017										
QC1203499953	392929001	DUP									
Radium-226		1.82		1.56	pCi/L	15.5		(0% - 100%)	CXP3	03/22/16	09:15
	Uncertainty	+/-0.560		+/-0.507							
QC1203499955	LCS										
Radium-226	24.4			19.7	pCi/L		80.9	(75%-125%)		03/22/16	09:15
	Uncertainty			+/-1.41							
QC1203499952	MB										
Radium-226			U	0.398	pCi/L					03/22/16	09:15
	Uncertainty			+/-0.290							
QC1203499954	392929001	MS									
Radium-226	122	1.82		97.3	pCi/L		78.2	(75%-125%)		03/22/16	09:15
	Uncertainty	+/-0.560		+/-7.24							

Notes:

Counting Uncertainty is calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

- ** Analyte is a Tracer compound
- < Result is less than value reported
- > Result is greater than value reported
- BD Results are either below the MDC or tracer recovery is low
- FA Failed analysis.
- H Analytical holding time was exceeded
- J Value is estimated
- K Analyte present. Reported value may be biased high. Actual value is expected to be lower.
- L Analyte present. Reported value may be biased low. Actual value is expected to be higher.
- M M if above MDC and less than LLD
- M REMP Result > MDC/CL and < RDL
- N/A RPD or %Recovery limits do not apply.

GEL LABORATORIES LLC

2040 Savage Road Charleston, SC 29407 - (843) 556-8171 - www.gel.com

QC Summary

Workorder: 392232

Page 2 of 2

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
N1	See case narrative										
ND	Analyte concentration is not detected above the detection limit										
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.										
R	Sample results are rejected										
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.										
UI	Gamma Spectroscopy--Uncertain identification										
UJ	Gamma Spectroscopy--Uncertain identification										
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.										
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier										
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.										
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.										
h	Preparation or preservation holding time was exceeded										

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.

^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.

* Indicates that a Quality Control parameter was not within specifications.

For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

There are no "Data Exception Reports" associated with this analytical report.

LUMINANT

392232

DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1602269

CHAIN-OF-CUSTODY RECORD

Page 1 of 2

Subcontractor:

GEL Laboratories
PO Box 30712
Charleston, SC 29417

TEL: (843) 556-8171

FAX:

Acct #:

25-Feb-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E903.1	E904.0				
MW-19	Aqueous	-01B	02/24/16 12:10 PM	500HDPEHNO3		1				
MW-19	Aqueous	-01C	02/24/16 12:10 PM	500HDPEHNO3	1					
PDP-22	Aqueous	-02B	02/24/16 11:15 AM	500HDPEHNO3		1				
PDP-22	Aqueous	-02C	02/24/16 11:15 AM	500HDPEHNO3	1					
MW-18A	Aqueous	-03B	02/24/16 10:15 AM	500HDPEHNO3		1				
MW-18A	Aqueous	-03C	02/24/16 10:15 AM	500HDPEHNO3	1					
PDP-26	Aqueous	-04B	02/24/16 09:10 AM	500HDPEHNO3		1				
PDP-26	Aqueous	-04C	02/24/16 09:10 AM	500HDPEHNO3	1					
MW-20A	Aqueous	-05B	02/24/16 08:10 AM	500HDPEHNO3		1				
MW-20A	Aqueous	-05C	02/24/16 08:10 AM	500HDPEHNO3	1					
H-30	Aqueous	-06B	02/23/16 12:20 PM	500HDPEHNO3		1				
H-30	Aqueous	-06C	02/23/16 12:20 PM	500HDPEHNO3	1					
H-33	Aqueous	-07B	02/23/16 11:25 AM	500HDPEHNO3		1				
H-33	Aqueous	-07C	02/23/16 11:25 AM	500HDPEHNO3	1					
H-26	Aqueous	-08B	02/23/16 10:35 AM	500HDPEHNO3		1				
H-26	Aqueous	-08C	02/23/16 10:35 AM	500HDPEHNO3	1					
H-31	Aqueous	-09B	02/23/16 11:25 AM	500HDPEHNO3		1				
H-31	Aqueous	-09C	02/23/16 11:25 AM	500HDPEHNO3	1					

General Comments:

Please analyze these samples with a Standard Turnaround Time.
 Call John DuPont if you have questions.
 Quality Control Package Needed: Standard / _____
 EMAIL report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

Date/Time		Date/Time	
Relinquished by: <u>[Signature]</u>	<u>2/25/16 1730</u>	Received by: <u>[Signature]</u>	<u>2/23/16 1730</u>
Relinquished by: _____	_____	Received by: <u>[Signature]</u>	<u>3-1-16 8:50</u>

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1602269

CHAIN-OF-CUSTODY RECORD

Page 2 of 2

Subcontractor:

GEL Laboratories

PO Box 30712

Charleston, SC 29417

TEL: (843) 556-8171

FAX:

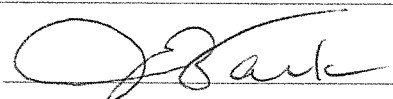
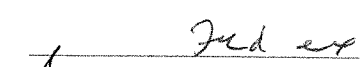
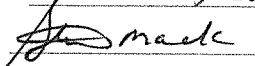
Acct #:

25-Feb-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E903.1	E904.0				
H-32	Aqueous	-10B	02/23/16 12:35 PM	500HDPEHNO3		1				
H-32	Aqueous	-10C	02/23/16 12:35 PM	500HDPEHNO3	1					
H-28	Aqueous	-11B	02/23/16 03:30 PM	500HDPEHNO3		1				
H-28	Aqueous	-11C	02/23/16 03:30 PM	500HDPEHNO3	1					
H-29	Aqueous	-12B	02/23/16 04:20 PM	500HDPEHNO3		1				
H-29	Aqueous	-12C	02/23/16 04:20 PM	500HDPEHNO3	1					
H-27	Aqueous	-13B	02/23/16 05:30 PM	500HDPEHNO3		1				
H-27	Aqueous	-13C	02/23/16 05:30 PM	500HDPEHNO3	1					
PDP-23	Aqueous	-14B	02/24/16 09:45 AM	500HDPEHNO3		1				
PDP-23	Aqueous	-14C	02/24/16 09:45 AM	500HDPEHNO3	1					
PDP-25	Aqueous	-15B	02/24/16 10:55 AM	500HDPEHNO3		1				
PDP-25	Aqueous	-15C	02/24/16 10:55 AM	500HDPEHNO3	1					
MW-17A	Aqueous	-16B	02/24/16 12:00 PM	500HDPEHNO3		1				
MW-17A	Aqueous	-16C	02/24/16 12:00 PM	500HDPEHNO3	1					
PDP-24	Aqueous	-17B	02/24/16 02:30 PM	500HDPEHNO3		1				
PDP-24	Aqueous	-17C	02/24/16 02:30 PM	500HDPEHNO3	1					

General Comments:

Please analyze these samples with a Standard Turnaround Time.
 Call John DuPont if you have questions.
 Quality Control Package Needed: Standard / _____
 EMAIL report to both cac@dhlanalytical.com & dupont@dhlanalytical.com

Date/Time		Date/Time	
Relinquished by: 	2/25/16 1730	Received by: 	2/25/16 1730
Relinquished by: _____	_____	Received by: 	3-1-16 8:50



Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: <u>DHLA</u>			SDG/AR/COC/Work Order: <u>372232</u>		
Received By: <u>Shanta Mack</u>			Date Received: <u>3-1-16 8:50</u>		
Suspected Hazard Information	Yes	No	*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.		
COC/Samples marked as radioactive?		☒	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): <u>0.64m</u>		
Classified Radioactive II or III by RSO?		☒	If yes, Were swipes taken of sample containers < action levels?		
COC/Samples marked containing PCBs?		☒			
Package, COC, and/or Samples marked as beryllium or asbestos containing?		☒	If yes, samples are to be segregated as Safety Controlled Samples, and opened by the GEL Safety Group.		
Shipped as a DOT Hazardous?		☒	Hazard Class Shipped: UN#:		
Samples identified as Foreign Soil?		☒			

Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1 Shipping containers received intact and sealed?	☒			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2 Samples requiring cold preservation within (0 ≤ 6 deg. C)?*		☒		Preservation Method: Ice bags Blue ice Dry ice None Other (describe) *all temperatures are recorded in Celsius <u>16C</u>
2a Daily check performed and passed on IR temperature gun?	☒			Temperature Device Serial #: Secondary Temperature Device Serial # (If Applicable): <u>65032015835</u>
3 Chain of custody documents included with shipment?	☒			
4 Sample containers intact and sealed?	☒			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
5 Samples requiring chemical preservation at proper pH?	☒			Sample ID's, containers affected and observed pH: If Preservation added, Lot#:
6 Do Low Level Perchlorate samples have headspace as required?		☒		Sample ID's and containers affected:
7 VOA vials contain acid preservation?		☒		(If unknown, select No)
8 VOA vials free of headspace (defined as < 6mm bubble)?		☒		Sample ID's and containers affected:
9 Are Encore containers present?			☒	(If yes, immediately deliver to Volatiles laboratory)
10 Samples received within holding time?	☒			ID's and tests affected:
11 Sample ID's on COC match ID's on bottles?	☒			Sample ID's and containers affected:
12 Date & time on COC match date & time on bottles?	☒			Sample ID's affected:
13 Number of containers received match number indicated on COC?	☒			Sample ID's affected:
14 Are sample containers identifiable as GEL provided?			☒	
15 COC form is properly signed in relinquished/received sections?	☒			
16 Carrier and tracking number.				Circle Applicable: FedEx Air <u>FedEx Ground</u> UPS Field Services Courier Other <u>7757 3717 4367</u> <u>7757 3716 0138</u>

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials

AUD

Date

3/2/16

Page

1 of 1

GL-CHL-SR-001 Rev 2

List of current GEL Certifications as of 23 March 2016

State	Certification
Alaska	UST-0110
Arkansas	88-0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH-0169
Delaware	SC00012
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330-15-00283, P330-15-00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho Chemistry	SC00012
Idaho Radiochemistry	SC00012
Illinois NELAP	200029
Indiana	C-SC-01
Kansas NELAP	E-10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana NELAP	03046 (AI33904)
Louisiana SDWA	LA160006
Maryland	270
Massachusetts	M-SC012
Michigan	9976
Mississippi	SC00012
Nebraska	NE-OS-26-13
Nevada	SC000122016-1
New Hampshire NELAP	205415
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R-158
Oklahoma	9904
Pennsylvania NELAP	68-00485
S.Carolina Radchem	10120002
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235-16-11
Utah NELAP	SC000122016-20
Vermont	VT87156
Virginia NELAP	460202
Washington	C780
West Virginia	997404



May 09, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Luminant-Martin Lake

Order No.: 1604071

Dear Will Vienne:

DHL Analytical, Inc. received 12 sample(s) on 4/7/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-16



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John Dupont

From: Sara Taube [Sara.Taube@pbw/lc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

ORIGIN ID:GGGA (555) 555-5555

PBW
2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 06APR16
ACTWGT: 55.00 LB
CAD: 006994166/SSFE1
DIMS: 24x13x13 IN

BILL THIRD PARTY

TO DHL ANALYTICAL
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664

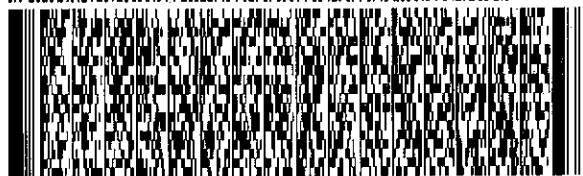
(512) 388-8222

REF:

DEPT:

INU:

PO:



FedEx
Express



TRK# 7827 6477 3276
0201

THU - 07 APR 10:30A
PRIORITY OVERNIGHT

A8 BSMA

78664
TX-US AUS



ORIGIN ID:GGGA (555) 555-5555

PBW
2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE
ACTWGT
CAD
DIMS

BIL

TO DHL ANALYTICAL
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664

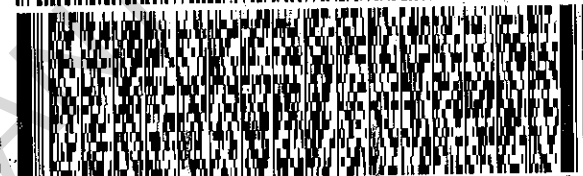
(512) 388-8222

REF:

DEPT:

INU:

PO:



FedEx
Express

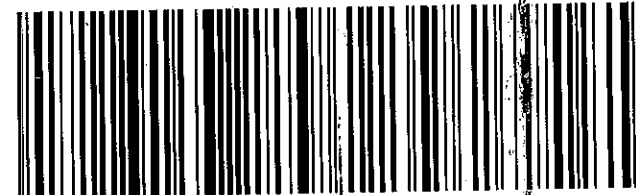


TRK# 7827 6476 0817
0201

THU - 07 APR 10:30A
PRIORITY OVERNIGHT

A8 BSMA

78664
TX-US AUS



Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 4/7/2016

Work Order Number 1604071

Received by JB

Checklist completed by: [Signature] 4/7/2016
Signature Date

Reviewed by: [Initials] 4/7/2016
Initials Date

Carrier name FedEx 1day

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
Chain of custody present? Yes ☒ No ☐
Chain of custody signed when relinquished and received? Yes ☒ No ☐
Chain of custody agrees with sample labels? Yes ☒ No ☐
Samples in proper container/bottle? Yes ☒ No ☐
Sample containers intact? Yes ☒ No ☐
Sufficient sample volume for indicated test? Yes ☒ No ☐
All samples received within holding time? Yes ☒ No ☐
Container/Temp Blank temperature in compliance? Yes ☒ No ☐ 1.6 °C
Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒
Water - pH<2 acceptable upon receipt? Yes ☒ No ☐ NA ☐ LOT # 8086
Adjusted? no Checked by [Signature]
Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes ☐ No ☐ NA ☒ LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Lab Order: 1604071

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis
Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B
M. Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 4/7/16. A total of 12 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 4/11/16, 4/15/16 and 4/20/16 (batches 74482 & 74505) the matrix spikes and/or matrix spike duplicate recoveries were out of control limits for Boron and/or Calcium. These are flagged accordingly in the QC summary report. The samples selected for the matrix spikes and matrix spike duplicates (batches 74482 & 74505) were not from this work order. The LCSs were within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 4/15/16 (batch 74482) the RPD for the serial dilution was slightly above control limits for Boron. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Lab Order: 1604071**Work Order Sample Summary**

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1604071-01	H-26		04/05/16 01:05 PM	4/7/2016
1604071-02	H-33		04/05/16 02:45 PM	4/7/2016
1604071-03	MW-17A		04/05/16 04:55 PM	4/7/2016
1604071-04	PDP-24		04/05/16 05:45 PM	4/7/2016
1604071-05	MW-19		04/06/16 07:40 AM	4/7/2016
1604071-06	PDP-22		04/06/16 08:35 AM	4/7/2016
1604071-07	PDP-23		04/06/16 09:30 AM	4/7/2016
1604071-08	MW-20A		04/06/16 10:20 AM	4/7/2016
1604071-09	PDP-26		04/06/16 11:15 AM	4/7/2016
1604071-10	PDP-25		04/06/16 12:00 PM	4/7/2016
1604071-11	MW-18A		04/06/16 12:55 PM	4/7/2016
1604071-12	EB-1		04/06/16 01:15 PM	4/7/2016

Lab Order: 1604071
Client: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1604071-01A	H-26	04/05/16 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/07/16 11:20 AM	74482
	H-26	04/05/16 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/07/16 11:20 AM	74482
	H-26	04/05/16 01:05 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-01D	H-26	04/05/16 01:05 PM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	H-26	04/05/16 01:05 PM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	H-26	04/05/16 01:05 PM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-02A	H-33	04/05/16 02:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/07/16 11:20 AM	74482
	H-33	04/05/16 02:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/07/16 11:20 AM	74482
	H-33	04/05/16 02:45 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-02D	H-33	04/05/16 02:45 PM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	H-33	04/05/16 02:45 PM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	H-33	04/05/16 02:45 PM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	H-33	04/05/16 02:45 PM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-03A	MW-17A	04/05/16 04:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/07/16 11:20 AM	74482
	MW-17A	04/05/16 04:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/07/16 11:20 AM	74482
	MW-17A	04/05/16 04:55 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-03D	MW-17A	04/05/16 04:55 PM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	MW-17A	04/05/16 04:55 PM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	MW-17A	04/05/16 04:55 PM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-04A	PDP-24	04/05/16 05:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/07/16 11:20 AM	74482
	PDP-24	04/05/16 05:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/07/16 11:20 AM	74482
	PDP-24	04/05/16 05:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/07/16 11:20 AM	74482
	PDP-24	04/05/16 05:45 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-04D	PDP-24	04/05/16 05:45 PM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	PDP-24	04/05/16 05:45 PM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	PDP-24	04/05/16 05:45 PM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	PDP-24	04/05/16 05:45 PM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-05A	MW-19	04/06/16 07:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505

Lab Order: 1604071
Client: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1604071-05A	MW-19	04/06/16 07:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	MW-19	04/06/16 07:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	MW-19	04/06/16 07:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-05D	MW-19	04/06/16 07:40 AM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	MW-19	04/06/16 07:40 AM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	MW-19	04/06/16 07:40 AM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	MW-19	04/06/16 07:40 AM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-06A	PDP-22	04/06/16 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	PDP-22	04/06/16 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	PDP-22	04/06/16 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	PDP-22	04/06/16 08:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-06D	PDP-22	04/06/16 08:35 AM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	PDP-22	04/06/16 08:35 AM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	PDP-22	04/06/16 08:35 AM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	PDP-22	04/06/16 08:35 AM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-07A	PDP-23	04/06/16 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	PDP-23	04/06/16 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	PDP-23	04/06/16 09:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-07D	PDP-23	04/06/16 09:30 AM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	PDP-23	04/06/16 09:30 AM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	PDP-23	04/06/16 09:30 AM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-08A	MW-20A	04/06/16 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	MW-20A	04/06/16 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	MW-20A	04/06/16 10:20 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-08D	MW-20A	04/06/16 10:20 AM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	MW-20A	04/06/16 10:20 AM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	MW-20A	04/06/16 10:20 AM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-09A	PDP-26	04/06/16 11:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505

Lab Order: 1604071
Client: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1604071-09A	PDP-26	04/06/16 11:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	PDP-26	04/06/16 11:15 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-09D	PDP-26	04/06/16 11:15 AM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	PDP-26	04/06/16 11:15 AM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	PDP-26	04/06/16 11:15 AM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-10A	PDP-25	04/06/16 12:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	PDP-25	04/06/16 12:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	PDP-25	04/06/16 12:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	PDP-25	04/06/16 12:00 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-10D	PDP-25	04/06/16 12:00 PM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	PDP-25	04/06/16 12:00 PM	Aqueous	E300	Anion Preparation	04/14/16 10:21 AM	74597
	PDP-25	04/06/16 12:00 PM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	PDP-25	04/06/16 12:00 PM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-11A	MW-18A	04/06/16 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	MW-18A	04/06/16 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	MW-18A	04/06/16 12:55 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-11D	MW-18A	04/06/16 12:55 PM	Aqueous	E300	Anion Preparation	04/14/16 09:11 AM	74589
	MW-18A	04/06/16 12:55 PM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	MW-18A	04/06/16 12:55 PM	Aqueous	M2540C	TDS Preparation	04/11/16 09:22 AM	74527
1604071-12A	EB-1	04/06/16 01:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	EB-1	04/06/16 01:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	04/08/16 10:16 AM	74505
	EB-1	04/06/16 01:15 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	04/07/16 01:49 PM	74488
1604071-12D	EB-1	04/06/16 01:15 PM	Aqueous	E300	Anion Preparation	04/14/16 09:11 AM	74589
	EB-1	04/06/16 01:15 PM	Aqueous	M4500-H+ B	pH Preparation	04/11/16 08:50 AM	74521
	EB-1	04/06/16 01:15 PM	Aqueous	M2540C	TDS Preparation	04/12/16 10:57 AM	74560

Lab Order: 1604071
Client: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1604071-01A	H-26	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 01:48 PM	CETAC2_HG_160412A
	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74482	1	04/11/16 02:54 PM	ICP-MS4_160411D
	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74482	1	04/15/16 10:43 AM	ICP-MS4_160415A
1604071-01D	H-26	Aqueous	E300	Anions by IC method - Water	74597	1	04/14/16 12:06 PM	IC3_160414A
	H-26	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 09:54 AM	TITRATOR_160411A
	H-26	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-02A	H-33	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 01:50 PM	CETAC2_HG_160412A
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74482	1	04/11/16 02:56 PM	ICP-MS4_160411D
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74482	1	04/15/16 10:45 AM	ICP-MS4_160415A
1604071-02D	H-33	Aqueous	E300	Anions by IC method - Water	74597	1	04/14/16 12:27 PM	IC3_160414A
	H-33	Aqueous	E300	Anions by IC method - Water	74597	10	04/14/16 05:10 PM	IC3_160414A
	H-33	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 09:59 AM	TITRATOR_160411A
	H-33	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-03A	MW-17A	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 01:57 PM	CETAC2_HG_160412A
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74482	1	04/11/16 02:58 PM	ICP-MS4_160411D
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74482	1	04/15/16 10:47 AM	ICP-MS4_160415A
1604071-03D	MW-17A	Aqueous	E300	Anions by IC method - Water	74597	1	04/14/16 12:47 PM	IC3_160414A
	MW-17A	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 10:01 AM	TITRATOR_160411A
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-04A	PDP-24	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 01:59 PM	CETAC2_HG_160412A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74482	10	04/15/16 10:49 AM	ICP-MS4_160415A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74482	10	04/13/16 12:24 PM	ICP-MS4_160413A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74482	1	04/11/16 03:14 PM	ICP-MS4_160411D
1604071-04D	PDP-24	Aqueous	E300	Anions by IC method - Water	74597	1	04/14/16 01:08 PM	IC3_160414A
	PDP-24	Aqueous	E300	Anions by IC method - Water	74597	10	04/14/16 06:12 PM	IC3_160414A
	PDP-24	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 10:02 AM	TITRATOR_160411A

Lab Order: 1604071
Client: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1604071-04D	PDP-24	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-05A	MW-19	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 02:01 PM	CETAC2_HG_160412A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	10	04/20/16 12:55 PM	ICP-MS4_160420A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/20/16 01:01 PM	ICP-MS4_160420A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/11/16 01:34 PM	ICP-MS4_160411D
1604071-05D	MW-19	Aqueous	E300	Anions by IC method - Water	74597	10	04/14/16 07:14 PM	IC3_160414A
	MW-19	Aqueous	E300	Anions by IC method - Water	74597	1	04/14/16 01:28 PM	IC3_160414A
	MW-19	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 10:05 AM	TITRATOR_160411A
	MW-19	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-06A	PDP-22	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 02:04 PM	CETAC2_HG_160412A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/11/16 01:36 PM	ICP-MS4_160411D
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	10	04/20/16 12:57 PM	ICP-MS4_160420A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/20/16 01:03 PM	ICP-MS4_160420A
1604071-06D	PDP-22	Aqueous	E300	Anions by IC method - Water	74597	10	04/14/16 07:35 PM	IC3_160414A
	PDP-22	Aqueous	E300	Anions by IC method - Water	74597	1	04/14/16 01:52 PM	IC3_160414A
	PDP-22	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 10:08 AM	TITRATOR_160411A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-07A	PDP-23	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 02:06 PM	CETAC2_HG_160412A
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/11/16 01:58 PM	ICP-MS4_160411D
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/20/16 01:05 PM	ICP-MS4_160420A
1604071-07D	PDP-23	Aqueous	E300	Anions by IC method - Water	74597	1	04/14/16 02:16 PM	IC3_160414A
	PDP-23	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 10:11 AM	TITRATOR_160411A
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-08A	MW-20A	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 02:08 PM	CETAC2_HG_160412A
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/11/16 02:00 PM	ICP-MS4_160411D
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/20/16 01:07 PM	ICP-MS4_160420A

Lab Order: 1604071
Client: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1604071-08D	MW-20A	Aqueous	E300	Anions by IC method - Water	74597	1	04/14/16 02:36 PM	IC3_160414A
	MW-20A	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 10:12 AM	TITRATOR_160411A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-09A	PDP-26	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 02:10 PM	CETAC2_HG_160412A
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/11/16 02:02 PM	ICP-MS4_160411D
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/20/16 01:09 PM	ICP-MS4_160420A
1604071-09D	PDP-26	Aqueous	E300	Anions by IC method - Water	74597	1	04/14/16 08:16 PM	IC3_160414A
	PDP-26	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 10:13 AM	TITRATOR_160411A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-10A	PDP-25	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 02:13 PM	CETAC2_HG_160412A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/11/16 02:04 PM	ICP-MS4_160411D
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	10	04/20/16 12:59 PM	ICP-MS4_160420A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/20/16 01:11 PM	ICP-MS4_160420A
1604071-10D	PDP-25	Aqueous	E300	Anions by IC method - Water	74597	1	04/14/16 08:57 PM	IC3_160414A
	PDP-25	Aqueous	E300	Anions by IC method - Water	74597	10	04/14/16 09:18 PM	IC3_160414A
	PDP-25	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 10:18 AM	TITRATOR_160411A
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-11A	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 02:15 PM	CETAC2_HG_160412A
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/11/16 02:06 PM	ICP-MS4_160411D
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/20/16 01:58 PM	ICP-MS4_160420A
1604071-11D	MW-18A	Aqueous	E300	Anions by IC method - Water	74589	1	04/14/16 03:00 PM	IC2_160414A
	MW-18A	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 10:20 AM	TITRATOR_160411A
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	74527	1	04/12/16 08:45 AM	WC_160411C
1604071-12A	EB-1	Aqueous	SW7470A	Mercury Total: Aqueous	74488	1	04/12/16 02:17 PM	CETAC2_HG_160412A
	EB-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/11/16 02:08 PM	ICP-MS4_160411D
	EB-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	74505	1	04/20/16 02:00 PM	ICP-MS4_160420A

Lab Order: 1604071
Client: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1604071-12D	EB-1	Aqueous	E300	Anions by IC method - Water	74589	1	04/14/16 03:15 PM	IC2_160414A
	EB-1	Aqueous	M4500-H+ B	pH	74521	1	04/11/16 10:23 AM	TITRATOR_160411A
	EB-1	Aqueous	M2540C	Total Dissolved Solids	74560	1	04/13/16 08:45 AM	WC_160412B

LUMINANT

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: H-26
Lab ID: 1604071-01
Collection Date: 04/05/16 01:05 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/12/16 01:48 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 02:54 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:54 PM
Barium	0.0408	0.00300	0.0100		mg/L	1	04/11/16 02:54 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:54 PM
Boron	0.289	0.0100	0.0300		mg/L	1	04/15/16 10:43 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:54 PM
Calcium	11.8	0.100	0.300		mg/L	1	04/11/16 02:54 PM
Chromium	0.00798	0.00200	0.00500		mg/L	1	04/11/16 02:54 PM
Cobalt	0.0125	0.00300	0.00500		mg/L	1	04/11/16 02:54 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:54 PM
Lithium	0.0121	0.00500	0.0100		mg/L	1	04/11/16 02:54 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:54 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:54 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 02:54 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	27.8	0.300	1.00		mg/L	1	04/14/16 12:06 PM
Fluoride	0.199	0.100	0.400	J	mg/L	1	04/14/16 12:06 PM
Sulfate	56.8	1.00	3.00		mg/L	1	04/14/16 12:06 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	6.22	0	0		pH Units@19.3°C	1	04/11/16 09:54 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	213	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: H-33
Lab ID: 1604071-02
Collection Date: 04/05/16 02:45 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/12/16 01:50 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 02:56 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:56 PM
Barium	0.0576	0.00300	0.0100		mg/L	1	04/11/16 02:56 PM
Beryllium	0.000302	0.000300	0.00100	J	mg/L	1	04/11/16 02:56 PM
Boron	0.0659	0.0100	0.0300		mg/L	1	04/15/16 10:45 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:56 PM
Calcium	14.9	0.100	0.300		mg/L	1	04/11/16 02:56 PM
Chromium	0.0171	0.00200	0.00500		mg/L	1	04/11/16 02:56 PM
Cobalt	0.0160	0.00300	0.00500		mg/L	1	04/11/16 02:56 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:56 PM
Lithium	0.160	0.00500	0.0100		mg/L	1	04/11/16 02:56 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:56 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:56 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 02:56 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	58.3	3.00	10.0		mg/L	10	04/14/16 05:10 PM
Fluoride	0.140	0.100	0.400	J	mg/L	1	04/14/16 12:27 PM
Sulfate	113	1.00	3.00		mg/L	1	04/14/16 12:27 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.72	0	0		pH Units@19.3°C	1	04/11/16 09:59 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	589	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: MW-17A
Lab ID: 1604071-03
Collection Date: 04/05/16 04:55 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000196	0.0000800	0.000200	J	mg/L	1	04/12/16 01:57 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 02:58 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:58 PM
Barium	0.103	0.00300	0.0100		mg/L	1	04/11/16 02:58 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:58 PM
Boron	0.459	0.0100	0.0300		mg/L	1	04/15/16 10:47 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:58 PM
Calcium	4.64	0.100	0.300		mg/L	1	04/11/16 02:58 PM
Chromium	0.00550	0.00200	0.00500		mg/L	1	04/11/16 02:58 PM
Cobalt	0.00829	0.00300	0.00500		mg/L	1	04/11/16 02:58 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:58 PM
Lithium	0.0137	0.00500	0.0100		mg/L	1	04/11/16 02:58 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:58 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:58 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 02:58 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	7.82	0.300	1.00		mg/L	1	04/14/16 12:47 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/14/16 12:47 PM
Sulfate	41.4	1.00	3.00		mg/L	1	04/14/16 12:47 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.47	0	0		pH Units@19.5°C	1	04/11/16 10:01 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	132	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: PDP-24
Lab ID: 1604071-04
Collection Date: 04/05/16 05:45 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000469	0.0000800	0.000200		mg/L	1	04/12/16 01:59 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 03:14 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 03:14 PM
Barium	0.0186	0.00300	0.0100		mg/L	1	04/11/16 03:14 PM
Beryllium	0.00485	0.000300	0.00100		mg/L	1	04/11/16 03:14 PM
Boron	3.99	0.100	0.300		mg/L	10	04/15/16 10:49 AM
Cadmium	0.00207	0.000300	0.00100		mg/L	1	04/11/16 03:14 PM
Calcium	34.5	1.00	3.00		mg/L	10	04/13/16 12:24 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 03:14 PM
Cobalt	0.0894	0.00300	0.00500		mg/L	1	04/11/16 03:14 PM
Lead	0.000769	0.000300	0.00100	J	mg/L	1	04/11/16 03:14 PM
Lithium	0.0261	0.00500	0.0100		mg/L	1	04/11/16 03:14 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 03:14 PM
Selenium	0.00276	0.00200	0.00500	J	mg/L	1	04/11/16 03:14 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 03:14 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	18.0	0.300	1.00		mg/L	1	04/14/16 01:08 PM
Fluoride	0.817	0.100	0.400		mg/L	1	04/14/16 01:08 PM
Sulfate	416	10.0	30.0		mg/L	10	04/14/16 06:12 PM
PH		M4500-H+ B		Analyst: BJT			
pH	4.31	0	0		pH Units@20.1°C	1	04/11/16 10:02 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	711	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: MW-19
Lab ID: 1604071-05
Collection Date: 04/06/16 07:40 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/12/16 02:01 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 01:34 PM
Arsenic	0.00689	0.00200	0.00500		mg/L	1	04/11/16 01:34 PM
Barium	0.0517	0.00300	0.0100		mg/L	1	04/11/16 01:34 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 01:34 PM
Boron	0.473	0.0100	0.0300		mg/L	1	04/20/16 01:01 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 01:34 PM
Calcium	134	1.00	3.00		mg/L	10	04/20/16 12:55 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 01:34 PM
Cobalt	0.00434	0.00300	0.00500	J	mg/L	1	04/11/16 01:34 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 01:34 PM
Lithium	0.00622	0.00500	0.0100	J	mg/L	1	04/11/16 01:34 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 01:34 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 01:34 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 01:34 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	31.3	0.300	1.00		mg/L	1	04/14/16 01:28 PM
Fluoride	0.221	0.100	0.400	J	mg/L	1	04/14/16 01:28 PM
Sulfate	362	10.0	30.0		mg/L	10	04/14/16 07:14 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.70	0	0		pH Units@19.8°C	1	04/11/16 10:05 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	836	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: PDP-22
Lab ID: 1604071-06
Collection Date: 04/06/16 08:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/12/16 02:04 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 01:36 PM
Arsenic	0.00536	0.00200	0.00500		mg/L	1	04/11/16 01:36 PM
Barium	0.146	0.00300	0.0100		mg/L	1	04/11/16 01:36 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 01:36 PM
Boron	0.218	0.0100	0.0300		mg/L	1	04/20/16 01:03 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 01:36 PM
Calcium	97.9	1.00	3.00		mg/L	10	04/20/16 12:57 PM
Chromium	0.0170	0.00200	0.00500		mg/L	1	04/11/16 01:36 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	04/11/16 01:36 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 01:36 PM
Lithium	0.0874	0.00500	0.0100		mg/L	1	04/11/16 01:36 PM
Molybdenum	0.00205	0.00200	0.00500	J	mg/L	1	04/11/16 01:36 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 01:36 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 01:36 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	13.7	0.300	1.00		mg/L	1	04/14/16 01:52 PM
Fluoride	0.349	0.100	0.400	J	mg/L	1	04/14/16 01:52 PM
Sulfate	209	10.0	30.0		mg/L	10	04/14/16 07:35 PM
PH		M4500-H+ B		Analyst: BJT			
pH	7.20	0	0		pH Units@19.9°C	1	04/11/16 10:08 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	767	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: PDP-23
Lab ID: 1604071-07
Collection Date: 04/06/16 09:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/12/16 02:06 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 01:58 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 01:58 PM
Barium	0.0375	0.00300	0.0100		mg/L	1	04/11/16 01:58 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 01:58 PM
Boron	0.0476	0.0100	0.0300		mg/L	1	04/20/16 01:05 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 01:58 PM
Calcium	1.57	0.100	0.300		mg/L	1	04/11/16 01:58 PM
Chromium	0.00200	0.00200	0.00500	J	mg/L	1	04/11/16 01:58 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	04/11/16 01:58 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 01:58 PM
Lithium	0.0126	0.00500	0.0100		mg/L	1	04/11/16 01:58 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 01:58 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 01:58 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 01:58 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	4.17	0.300	1.00		mg/L	1	04/14/16 02:16 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/14/16 02:16 PM
Sulfate	1.46	1.00	3.00	J	mg/L	1	04/14/16 02:16 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.04	0	0		pH Units@20.3°C	1	04/11/16 10:11 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	88.0	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: MW-20A
Lab ID: 1604071-08
Collection Date: 04/06/16 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000371	0.0000800	0.000200		mg/L	1	04/12/16 02:08 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 02:00 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:00 PM
Barium	0.0300	0.00300	0.0100		mg/L	1	04/11/16 02:00 PM
Beryllium	0.000519	0.000300	0.00100	J	mg/L	1	04/11/16 02:00 PM
Boron	0.150	0.0100	0.0300		mg/L	1	04/20/16 01:07 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:00 PM
Calcium	17.1	0.100	0.300		mg/L	1	04/11/16 02:00 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:00 PM
Cobalt	0.00575	0.00300	0.00500		mg/L	1	04/11/16 02:00 PM
Lead	0.00209	0.000300	0.00100		mg/L	1	04/11/16 02:00 PM
Lithium	0.0166	0.00500	0.0100		mg/L	1	04/11/16 02:00 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:00 PM
Selenium	0.00739	0.00200	0.00500		mg/L	1	04/11/16 02:00 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 02:00 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	9.65	0.300	1.00		mg/L	1	04/14/16 02:36 PM
Fluoride	0.804	0.100	0.400		mg/L	1	04/14/16 02:36 PM
Sulfate	118	1.00	3.00		mg/L	1	04/14/16 02:36 PM
PH		M4500-H+ B		Analyst: BJT			
pH	4.65	0	0		pH Units@19.8°C	1	04/11/16 10:12 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	313	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: PDP-26
Lab ID: 1604071-09
Collection Date: 04/06/16 11:15 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/12/16 02:10 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 02:02 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:02 PM
Barium	0.0242	0.00300	0.0100		mg/L	1	04/11/16 02:02 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:02 PM
Boron	0.0441	0.0100	0.0300		mg/L	1	04/20/16 01:09 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:02 PM
Calcium	2.62	0.100	0.300		mg/L	1	04/11/16 02:02 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:02 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	04/11/16 02:02 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:02 PM
Lithium	0.0138	0.00500	0.0100		mg/L	1	04/11/16 02:02 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:02 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:02 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 02:02 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	5.26	0.300	1.00		mg/L	1	04/14/16 08:16 PM
Fluoride	0.187	0.100	0.400	J	mg/L	1	04/14/16 08:16 PM
Sulfate	8.55	1.00	3.00		mg/L	1	04/14/16 08:16 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	6.52	0	0		pH Units@20°C	1	04/11/16 10:13 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	126	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: PDP-25
Lab ID: 1604071-10
Collection Date: 04/06/16 12:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/12/16 02:13 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 02:04 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:04 PM
Barium	0.197	0.00300	0.0100		mg/L	1	04/11/16 02:04 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:04 PM
Boron	0.100	0.0100	0.0300		mg/L	1	04/20/16 01:11 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:04 PM
Calcium	38.3	1.00	3.00		mg/L	10	04/20/16 12:59 PM
Chromium	0.0165	0.00200	0.00500		mg/L	1	04/11/16 02:04 PM
Cobalt	0.0103	0.00300	0.00500		mg/L	1	04/11/16 02:04 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:04 PM
Lithium	0.171	0.00500	0.0100		mg/L	1	04/11/16 02:04 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:04 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:04 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 02:04 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	124	3.00	10.0		mg/L	10	04/14/16 09:18 PM
Fluoride	0.149	0.100	0.400	J	mg/L	1	04/14/16 08:57 PM
Sulfate	102	1.00	3.00		mg/L	1	04/14/16 08:57 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.48	0	0		pH Units@20.4°C	1	04/11/16 10:18 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	646	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: MW-18A
Lab ID: 1604071-11
Collection Date: 04/06/16 12:55 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.00252	0.0000800	0.000200		mg/L	1	04/12/16 02:15 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 02:06 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:06 PM
Barium	0.0487	0.00300	0.0100		mg/L	1	04/11/16 02:06 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:06 PM
Boron	0.0961	0.0100	0.0300		mg/L	1	04/20/16 01:58 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:06 PM
Calcium	1.45	0.100	0.300		mg/L	1	04/11/16 02:06 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:06 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	04/11/16 02:06 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:06 PM
Lithium	0.00907	0.00500	0.0100	J	mg/L	1	04/11/16 02:06 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:06 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:06 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 02:06 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	7.07	0.300	1.00		mg/L	1	04/14/16 03:00 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/14/16 03:00 PM
Sulfate	5.26	1.00	3.00		mg/L	1	04/14/16 03:00 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.49	0	0		pH Units@20.6°C	1	04/11/16 10:20 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	79.0	10.0	10.0		mg/L	1	04/12/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 09-May-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant-Martin Lake
Project No: 5164-B
Lab Order: 1604071

Client Sample ID: EB-1
Lab ID: 1604071-12
Collection Date: 04/06/16 01:15 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	04/12/16 02:17 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	04/11/16 02:08 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:08 PM
Barium	0.0641	0.00300	0.0100		mg/L	1	04/11/16 02:08 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:08 PM
Boron	0.0324	0.0100	0.0300		mg/L	1	04/20/16 02:00 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:08 PM
Calcium	2.98	0.100	0.300		mg/L	1	04/11/16 02:08 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:08 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	04/11/16 02:08 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	04/11/16 02:08 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	04/11/16 02:08 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:08 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	04/11/16 02:08 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	04/11/16 02:08 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	7.93	0.300	1.00		mg/L	1	04/14/16 03:15 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	04/14/16 03:15 PM
Sulfate	1.66	1.00	3.00	J	mg/L	1	04/14/16 03:15 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	5.94	0	0		pH Units@20.7°C	1	04/11/16 10:23 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	13.0	10.0	10.0		mg/L	1	04/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler

Work Order: 1604071

Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160412A

The QC data in batch 74488 applies to the following samples: 1604071-01A, 1604071-02A, 1604071-03A, 1604071-04A, 1604071-05A, 1604071-06A, 1604071-07A, 1604071-08A, 1604071-09A, 1604071-10A, 1604071-11A, 1604071-12A

Sample ID	MB-74488	Batch ID:	74488	TestNo:	SW7470A	Units:	mg/L			
SampType:	MBLK	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 1:23:16 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID	LCS-74488	Batch ID:	74488	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCS	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 1:25:31 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00203 0.000200 0.00200 0 102 85 115

Sample ID	LCSD-74488	Batch ID:	74488	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCSD	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 1:27:48 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00201 0.000200 0.00200 0 101 85 115 0.990 15

Sample ID	1604071-12A SD	Batch ID:	74488	TestNo:	SW7470A	Units:	mg/L			
SampType:	SD	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 2:20:00 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID	1604071-12A PDS	Batch ID:	74488	TestNo:	SW7470A	Units:	mg/L			
SampType:	PDS	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 2:22:16 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00242 0.000200 0.00250 0 96.8 85 115

Sample ID	1604071-12A MS	Batch ID:	74488	TestNo:	SW7470A	Units:	mg/L			
SampType:	MS	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 2:24:33 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00201 0.000200 0.00200 0 101 80 120

Sample ID	1604071-12A MSD	Batch ID:	74488	TestNo:	SW7470A	Units:	mg/L			
SampType:	MSD	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 2:26:49 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00198 0.000200 0.00200 0 99.0 80 120 1.50 15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160412A

Sample ID	ICV-160412	Batch ID:	R85189	TestNo:	SW7470A	Units:	mg/L			
SampType:	ICV	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 10:31:03 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00395	0.000200	0.00400	0	98.8	90	110			

Sample ID	CCV4-160412	Batch ID:	R85189	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 1:18:41 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00202	0.000200	0.00200	0	101	90	110			

Sample ID	CCV5-160412	Batch ID:	R85189	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 1:52:44 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00199	0.000200	0.00200	0	99.5	90	110			

Sample ID	CCV6-160412	Batch ID:	R85189	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_160412A	Analysis Date:	4/12/2016 2:29:07 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00203	0.000200	0.00200	0	102	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

The QC data in batch 74482 applies to the following samples: 1604071-01A, 1604071-02A, 1604071-03A, 1604071-04A

Sample ID	MB-74482			Batch ID:	74482			TestNo:	SW6020A			Units:	mg/L		
SampType:	MBLK			Run ID:	ICP-MS4_160411D			Analysis Date:	4/11/2016 2:30:00 PM			Prep Date:	4/7/2016		
Analyte	Result			RL	SPK value		Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

Antimony	<0.000800	0.00250
Arsenic	<0.00200	0.00500
Barium	<0.00300	0.0100
Beryllium	<0.000300	0.00100
Cadmium	<0.000300	0.00100
Calcium	<0.100	0.300
Chromium	<0.00200	0.00500
Cobalt	<0.00300	0.00500
Lead	<0.000300	0.00100
Lithium	<0.00500	0.0100
Molybdenum	<0.00200	0.00500
Selenium	<0.00200	0.00500
Thallium	<0.000500	0.00150

Sample ID	LCS-74482			Batch ID:	74482		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS			Run ID:	ICP-MS4_160411D		Analysis Date:	4/11/2016 2:32:00 PM		Prep Date:	4/7/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.188	0.00250	0.200	0	94.1	80	120
Arsenic	0.165	0.00500	0.200	0	82.5	80	120
Barium	0.186	0.0100	0.200	0	93.2	80	120
Beryllium	0.194	0.00100	0.200	0	96.9	80	120
Cadmium	0.190	0.00100	0.200	0	94.8	80	120
Calcium	4.98	0.300	5.00	0	99.5	80	120
Chromium	0.190	0.00500	0.200	0	94.9	80	120
Cobalt	0.203	0.00500	0.200	0	101	80	120
Lead	0.192	0.00100	0.200	0	96.0	80	120
Lithium	0.194	0.0100	0.200	0	96.9	80	120
Molybdenum	0.170	0.00500	0.200	0	85.2	80	120
Selenium	0.189	0.00500	0.200	0	94.5	80	120
Thallium	0.194	0.00150	0.200	0	97.2	80	120

Sample ID	LCSD-74482	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 2:34:00 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.190	0.00250	0.200	0	94.9	80	120	0.895	15
Arsenic	0.175	0.00500	0.200	0	87.6	80	120	5.95	15
Barium	0.187	0.0100	0.200	0	93.6	80	120	0.445	15
Beryllium	0.193	0.00100	0.200	0	96.4	80	120	0.525	15

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

Sample ID	LCSD-74482	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 2:34:00 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Cadmium	0.192	0.00100	0.200	0	95.8	80	120	1.03	15
Calcium	4.96	0.300	5.00	0	99.2	80	120	0.351	15
Chromium	0.193	0.00500	0.200	0	96.4	80	120	1.49	15
Cobalt	0.204	0.00500	0.200	0	102	80	120	0.761	15
Lead	0.193	0.00100	0.200	0	96.6	80	120	0.589	15
Lithium	0.193	0.0100	0.200	0	96.5	80	120	0.486	15
Molybdenum	0.176	0.00500	0.200	0	87.9	80	120	3.17	15
Selenium	0.193	0.00500	0.200	0	96.5	80	120	2.07	15
Thallium	0.198	0.00150	0.200	0	98.9	80	120	1.75	15

Sample ID	1604052-03A SD	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 2:40:00 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.00400	0.0125	0	0				0	10
Arsenic	<0.0100	0.0250	0	0.00648				0	10
Barium	0.0229	0.0500	0	0.0237				3.71	10
Beryllium	0.00542	0.00500	0	0.00527				2.83	10
Cadmium	<0.00150	0.00500	0	0.00128				0	10
Chromium	<0.0100	0.0250	0	0				0	10
Cobalt	0.210	0.0250	0	0.208				0.962	10
Lead	0.00181	0.00500	0	0.00182				0.825	10
Lithium	0.0862	0.0500	0	0.0818				5.33	10
Molybdenum	<0.0100	0.0250	0	0				0	10
Selenium	<0.0100	0.0250	0	0				0	10
Thallium	<0.00250	0.00750	0	0				0	10

Sample ID	1604052-03A PDS	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 3:00:00 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.182	0.00250	0.200	0	91.0	80	120		
Arsenic	0.197	0.00500	0.200	0.00648	95.4	80	120		
Barium	0.202	0.0100	0.200	0.0237	88.9	80	120		
Beryllium	0.188	0.00100	0.200	0.00527	91.4	80	120		
Cadmium	0.177	0.00100	0.200	0.00128	87.6	80	120		
Chromium	0.183	0.00500	0.200	0	91.4	80	120		
Cobalt	0.382	0.00500	0.200	0.208	87.5	80	120		
Lead	0.186	0.00100	0.200	0.00182	92.0	80	120		
Lithium	0.252	0.0100	0.200	0.0818	85.1	80	120		
Molybdenum	0.178	0.00500	0.200	0	88.8	80	120		

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

Sample ID	1604052-03A PDS			Batch ID:	74482			TestNo:	SW6020A			Units:	mg/L		
SampType:	PDS			Run ID:	ICP-MS4_160411D			Analysis Date:	4/11/2016 3:00:00 PM			Prep Date:	4/7/2016		
Analyte				Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

Selenium	0.195	0.00500	0.200	0	97.6	80	120			
Thallium	0.185	0.00150	0.200	0	92.6	80	120			

Sample ID	1604052-03A MS			Batch ID:	74482		TestNo:	SW6020A		Units:	mg/L	
SampType:	MS			Run ID:	ICP-MS4_160411D		Analysis Date:	4/11/2016 3:02:00 PM		Prep Date:	4/7/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.189	0.00250	0.200	0	94.7	80	120			
Arsenic	0.199	0.00500	0.200	0.00648	96.3	80	120			
Barium	0.205	0.0100	0.200	0.0237	90.6	80	120			
Beryllium	0.188	0.00100	0.200	0.00527	91.5	80	120			
Cadmium	0.179	0.00100	0.200	0.00128	89.0	80	120			
Calcium	48.4	0.300	5.00	46.3	43.1	80	120			S
Chromium	0.179	0.00500	0.200	0	89.3	80	120			
Cobalt	0.393	0.00500	0.200	0.208	92.6	80	120			
Lead	0.187	0.00100	0.200	0.00182	92.6	80	120			
Lithium	0.257	0.0100	0.200	0.0818	87.4	80	120			
Molybdenum	0.180	0.00500	0.200	0	90.2	80	120			
Selenium	0.195	0.00500	0.200	0	97.6	80	120			
Thallium	0.188	0.00150	0.200	0	94.2	80	120			

Sample ID	1604052-03A MSD	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 3:04:00 PM	Prep Date:	4/7/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.192	0.00250	0.200	0	95.8	80	120	1.21	15	
Arsenic	0.203	0.00500	0.200	0.00648	98.4	80	120	2.09	15	
Barium	0.207	0.0100	0.200	0.0237	91.6	80	120	0.985	15	
Beryllium	0.191	0.00100	0.200	0.00527	92.9	80	120	1.47	15	
Cadmium	0.183	0.00100	0.200	0.00128	90.7	80	120	1.88	15	
Calcium	50.4	0.300	5.00	46.3	82.3	80	120	3.97	15	
Chromium	0.182	0.00500	0.200	0	91.1	80	120	1.94	15	
Cobalt	0.400	0.00500	0.200	0.208	96.4	80	120	1.92	15	
Lead	0.189	0.00100	0.200	0.00182	93.6	80	120	1.13	15	
Lithium	0.260	0.0100	0.200	0.0818	89.3	80	120	1.43	15	
Molybdenum	0.184	0.00500	0.200	0	91.9	80	120	1.81	15	
Selenium	0.199	0.00500	0.200	0	99.4	80	120	1.84	15	
Thallium	0.191	0.00150	0.200	0	95.7	80	120	1.57	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler

Work Order: 1604071

Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

The QC data in batch 74505 applies to the following samples: 1604071-05A, 1604071-06A, 1604071-07A, 1604071-08A, 1604071-09A, 1604071-10A, 1604071-11A, 1604071-12A

Sample ID	MB-74505	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L
SampType:	MBLK	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:06:00 PM	Prep Date:	4/8/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID	LCS-74505	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L
SampType:	LCS	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:10:00 PM	Prep Date:	4/8/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	99.9	80	120			
Arsenic	0.192	0.00500	0.200	0	96.2	80	120			
Barium	0.189	0.0100	0.200	0	94.7	80	120			
Beryllium	0.201	0.00100	0.200	0	101	80	120			
Cadmium	0.194	0.00100	0.200	0	96.9	80	120			
Calcium	4.92	0.300	5.00	0	98.5	80	120			
Chromium	0.197	0.00500	0.200	0	98.5	80	120			
Cobalt	0.200	0.00500	0.200	0	99.9	80	120			
Lead	0.195	0.00100	0.200	0	97.3	80	120			
Lithium	0.203	0.0100	0.200	0	101	80	120			
Molybdenum	0.194	0.00500	0.200	0	96.8	80	120			
Selenium	0.193	0.00500	0.200	0	96.3	80	120			
Thallium	0.198	0.00150	0.200	0	98.8	80	120			

Sample ID	LCSD-74505	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L
SampType:	LCSD	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:12:00 PM	Prep Date:	4/8/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.4	80	120	0.564	15	
Arsenic	0.193	0.00500	0.200	0	96.4	80	120	0.181	15	
Barium	0.186	0.0100	0.200	0	93.1	80	120	1.64	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

Sample ID	LCSD-74505	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:12:00 PM	Prep Date:	4/8/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.201	0.00100	0.200	0	100	80	120	0.397	15	
Cadmium	0.189	0.00100	0.200	0	94.6	80	120	2.47	15	
Calcium	4.97	0.300	5.00	0	99.5	80	120	1.02	15	
Chromium	0.195	0.00500	0.200	0	97.5	80	120	1.03	15	
Cobalt	0.202	0.00500	0.200	0	101	80	120	1.08	15	
Lead	0.195	0.00100	0.200	0	97.3	80	120	0.026	15	
Lithium	0.198	0.0100	0.200	0	99.1	80	120	2.39	15	
Molybdenum	0.190	0.00500	0.200	0	95.2	80	120	1.63	15	
Selenium	0.193	0.00500	0.200	0	96.7	80	120	0.464	15	
Thallium	0.197	0.00150	0.200	0	98.7	80	120	0.154	15	

Sample ID	1604073-01A SD	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L				
SampType:	SD	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:18:00 PM	Prep Date:	4/8/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.125	0.0500	0	0.127				1.27	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	0.0761	0.0500	0	0.0715				6.22	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID	1604073-01A PDS	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L				
SampType:	PDS	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:38:00 PM	Prep Date:	4/8/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.192	0.00250	0.200	0	96.1	80	120			
Arsenic	0.191	0.00500	0.200	0	95.6	80	120			
Barium	0.310	0.0100	0.200	0.127	91.4	80	120			
Beryllium	0.195	0.00100	0.200	0	97.7	80	120			
Cadmium	0.187	0.00100	0.200	0	93.4	80	120			
Chromium	0.197	0.00500	0.200	0	98.4	80	120			
Cobalt	0.198	0.00500	0.200	0	98.9	80	120			
Lead	0.193	0.00100	0.200	0	96.6	80	120			
Lithium	0.256	0.0100	0.200	0.0715	92.4	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

Sample ID	1604073-01A PDS	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:38:00 PM	Prep Date:	4/8/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.194	0.00500	0.200	0	97.1	80	120			
Selenium	0.190	0.00500	0.200	0	95.0	80	120			
Thallium	0.195	0.00150	0.200	0	97.5	80	120			

Sample ID	1604073-01A MS	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:40:00 PM	Prep Date:	4/8/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.208	0.00250	0.200	0	104	80	120			
Arsenic	0.197	0.00500	0.200	0	98.4	80	120			
Barium	0.324	0.0100	0.200	0.127	98.4	80	120			
Beryllium	0.199	0.00100	0.200	0	99.3	80	120			
Cadmium	0.192	0.00100	0.200	0	96.1	80	120			
Calcium	92.3	0.300	5.00	88.6	74.7	80	120			S
Chromium	0.198	0.00500	0.200	0	98.9	80	120			
Cobalt	0.200	0.00500	0.200	0	99.9	80	120			
Lead	0.196	0.00100	0.200	0	97.8	80	120			
Lithium	0.269	0.0100	0.200	0.0715	98.5	80	120			
Molybdenum	0.200	0.00500	0.200	0	100	80	120			
Selenium	0.197	0.00500	0.200	0	98.3	80	120			
Thallium	0.199	0.00150	0.200	0	99.7	80	120			

Sample ID	1604073-01A MSD	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:42:00 PM	Prep Date:	4/8/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.205	0.00250	0.200	0	102	80	120	1.36	15	
Arsenic	0.194	0.00500	0.200	0	97.1	80	120	1.37	15	
Barium	0.320	0.0100	0.200	0.127	96.4	80	120	1.28	15	
Beryllium	0.198	0.00100	0.200	0	99.1	80	120	0.179	15	
Cadmium	0.191	0.00100	0.200	0	95.6	80	120	0.590	15	
Calcium	93.7	0.300	5.00	88.6	101	80	120	1.43	15	
Chromium	0.195	0.00500	0.200	0	97.6	80	120	1.27	15	
Cobalt	0.198	0.00500	0.200	0	98.8	80	120	1.15	15	
Lead	0.197	0.00100	0.200	0	98.4	80	120	0.629	15	
Lithium	0.271	0.0100	0.200	0.0715	99.9	80	120	1.04	15	
Molybdenum	0.199	0.00500	0.200	0	99.4	80	120	0.826	15	
Selenium	0.193	0.00500	0.200	0	96.3	80	120	2.07	15	
Thallium	0.200	0.00150	0.200	0	100	80	120	0.412	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

Sample ID	ICV-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 12:01:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.0967	0.00250	0.100	0	96.7	90	110			
Arsenic	0.0981	0.00500	0.100	0	98.1	90	110			
Barium	0.0939	0.0100	0.100	0	93.9	90	110			
Beryllium	0.0994	0.00100	0.100	0	99.4	90	110			
Cadmium	0.0937	0.00100	0.100	0	93.7	90	110			
Calcium	2.37	0.300	2.50	0	94.9	90	110			
Chromium	0.101	0.00500	0.100	0	101	90	110			
Cobalt	0.103	0.00500	0.100	0	103	90	110			
Lead	0.0981	0.00100	0.100	0	98.1	90	110			
Lithium	0.0981	0.0100	0.100	0	98.1	90	110			
Molybdenum	0.0925	0.00500	0.100	0	92.5	90	110			
Selenium	0.0996	0.00500	0.100	0	99.6	90	110			
Thallium	0.0967	0.00150	0.100	0	96.7	90	110			

Sample ID	LCVL-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 12:14:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00210	0.00250	0.00200	0	105	70	130			
Arsenic	0.00512	0.00500	0.00500	0	102	70	130			
Barium	0.00513	0.0100	0.00500	0	103	70	130			
Beryllium	0.000966	0.00100	0.00100	0	96.6	70	130			
Cadmium	0.00100	0.00100	0.00100	0	100	70	130			
Calcium	0.110	0.300	0.100	0	110	70	130			
Chromium	0.00535	0.00500	0.00500	0	107	70	130			
Cobalt	0.00539	0.00500	0.00500	0	108	70	130			
Lead	0.00102	0.00100	0.00100	0	102	70	130			
Lithium	0.0104	0.0100	0.0100	0	104	70	130			
Molybdenum	0.00504	0.00500	0.00500	0	101	70	130			
Selenium	0.00554	0.00500	0.00500	0	111	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Sample ID	CCV1-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 12:47:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.197	0.00250	0.200	0	98.6	90	110			
Arsenic	0.193	0.00500	0.200	0	96.6	90	110			
Barium	0.185	0.0100	0.200	0	92.5	90	110			
Beryllium	0.187	0.00100	0.200	0	93.4	90	110			
Cadmium	0.187	0.00100	0.200	0	93.4	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

Sample ID	CCV1-160411			Batch ID:	R85180		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV			Run ID:	ICP-MS4_160411D		Analysis Date:	4/11/2016 12:47:00 PM		Prep Date:		
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.77	0.300	5.00	0	95.5	90	110			
Chromium	0.190	0.00500	0.200	0	94.8	90	110			
Cobalt	0.199	0.00500	0.200	0	99.5	90	110			
Lead	0.189	0.00100	0.200	0	94.7	90	110			
Lithium	0.191	0.0100	0.200	0	95.5	90	110			
Molybdenum	0.186	0.00500	0.200	0	93.0	90	110			
Selenium	0.194	0.00500	0.200	0	96.9	90	110			
Thallium	0.192	0.00150	0.200	0	95.8	90	110			

Sample ID	LCVL1-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 12:52:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00228	0.00250	0.00200	0	114	70	130			
Arsenic	0.00517	0.00500	0.00500	0	103	70	130			
Barium	0.00498	0.0100	0.00500	0	99.7	70	130			
Beryllium	0.00113	0.00100	0.00100	0	113	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Calcium	0.112	0.300	0.100	0	112	70	130			
Chromium	0.00516	0.00500	0.00500	0	103	70	130			
Cobalt	0.00538	0.00500	0.00500	0	108	70	130			
Lead	0.00100	0.00100	0.00100	0	100	70	130			
Lithium	0.0108	0.0100	0.0100	0	108	70	130			
Molybdenum	0.00499	0.00500	0.00500	0	99.8	70	130			
Selenium	0.00534	0.00500	0.00500	0	107	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Sample ID	CCV2-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:44:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.194	0.00250	0.200	0	96.8	90	110			
Arsenic	0.192	0.00500	0.200	0	95.8	90	110			
Barium	0.185	0.0100	0.200	0	92.5	90	110			
Beryllium	0.190	0.00100	0.200	0	95.1	90	110			
Cadmium	0.186	0.00100	0.200	0	92.8	90	110			
Calcium	4.79	0.300	5.00	0	95.9	90	110			
Chromium	0.191	0.00500	0.200	0	95.6	90	110			
Cobalt	0.201	0.00500	0.200	0	101	90	110			
Lead	0.191	0.00100	0.200	0	95.5	90	110			
Lithium	0.194	0.0100	0.200	0	96.8	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

Sample ID	CCV2-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:44:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum		0.187	0.00500	0.200	0	93.4	90	110			
Selenium		0.193	0.00500	0.200	0	96.5	90	110			
Thallium		0.194	0.00150	0.200	0	97.2	90	110			

Sample ID	LCVL2-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 1:52:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00214	0.00250	0.00200	0	107	70	130			
Arsenic	0.00504	0.00500	0.00500	0	101	70	130			
Barium	0.00508	0.0100	0.00500	0	102	70	130			
Beryllium	0.00114	0.00100	0.00100	0	114	70	130			
Cadmium	0.000959	0.00100	0.00100	0	95.9	70	130			
Calcium	0.107	0.300	0.100	0	107	70	130			
Chromium	0.00528	0.00500	0.00500	0	106	70	130			
Cobalt	0.00537	0.00500	0.00500	0	107	70	130			
Lead	0.000997	0.00100	0.00100	0	99.7	70	130			
Lithium	0.0106	0.0100	0.0100	0	106	70	130			
Molybdenum	0.00495	0.00500	0.00500	0	99.0	70	130			
Selenium	0.00563	0.00500	0.00500	0	113	70	130			
Thallium	0.00100	0.00150	0.00100	0	100	70	130			

Sample ID	CCV3-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 2:18:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.3	90	110			
Arsenic	0.191	0.00500	0.200	0	95.4	90	110			
Barium	0.185	0.0100	0.200	0	92.7	90	110			
Beryllium	0.196	0.00100	0.200	0	97.9	90	110			
Cadmium	0.186	0.00100	0.200	0	92.9	90	110			
Calcium	5.05	0.300	5.00	0	101	90	110			
Chromium	0.194	0.00500	0.200	0	97.0	90	110			
Cobalt	0.202	0.00500	0.200	0	101	90	110			
Lead	0.188	0.00100	0.200	0	93.8	90	110			
Lithium	0.199	0.0100	0.200	0	99.7	90	110			
Molybdenum	0.187	0.00500	0.200	0	93.5	90	110			
Selenium	0.192	0.00500	0.200	0	96.2	90	110			
Thallium	0.191	0.00150	0.200	0	95.4	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

Sample ID	LCVL3-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 2:25:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00213	0.00250	0.00200	0	106	70	130			
Arsenic	0.00515	0.00500	0.00500	0	103	70	130			
Barium	0.00496	0.0100	0.00500	0	99.3	70	130			
Beryllium	0.00106	0.00100	0.00100	0	106	70	130			
Cadmium	0.000968	0.00100	0.00100	0	96.8	70	130			
Calcium	0.107	0.300	0.100	0	107	70	130			
Chromium	0.00518	0.00500	0.00500	0	104	70	130			
Cobalt	0.00540	0.00500	0.00500	0	108	70	130			
Lead	0.000992	0.00100	0.00100	0	99.2	70	130			
Lithium	0.0111	0.0100	0.0100	0	111	70	130			
Molybdenum	0.00507	0.00500	0.00500	0	101	70	130			
Selenium	0.00510	0.00500	0.00500	0	102	70	130			
Thallium	0.000997	0.00150	0.00100	0	99.7	70	130			

Sample ID	CCV4-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 3:06:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.198	0.00250	0.200	0	98.8	90	110			
Arsenic	0.198	0.00500	0.200	0	99.2	90	110			
Barium	0.187	0.0100	0.200	0	93.5	90	110			
Beryllium	0.197	0.00100	0.200	0	98.5	90	110			
Cadmium	0.188	0.00100	0.200	0	93.8	90	110			
Calcium	4.79	0.300	5.00	0	95.8	90	110			
Chromium	0.192	0.00500	0.200	0	96.1	90	110			
Cobalt	0.203	0.00500	0.200	0	101	90	110			
Lead	0.192	0.00100	0.200	0	96.2	90	110			
Lithium	0.192	0.0100	0.200	0	95.9	90	110			
Molybdenum	0.189	0.00500	0.200	0	94.5	90	110			
Selenium	0.198	0.00500	0.200	0	99.1	90	110			
Thallium	0.196	0.00150	0.200	0	98.2	90	110			

Sample ID	LCVL4-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 3:10:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00228	0.00250	0.00200	0	114	70	130			
Arsenic	0.00541	0.00500	0.00500	0	108	70	130			
Barium	0.00498	0.0100	0.00500	0	99.5	70	130			
Beryllium	0.00119	0.00100	0.00100	0	119	70	130			
Cadmium	0.000981	0.00100	0.00100	0	98.1	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

Sample ID	LCVL4-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 3:10:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.107	0.300	0.100	0	107	70	130			
Chromium	0.00519	0.00500	0.00500	0	104	70	130			
Cobalt	0.00538	0.00500	0.00500	0	108	70	130			
Lead	0.000990	0.00100	0.00100	0	99.0	70	130			
Lithium	0.0106	0.0100	0.0100	0	106	70	130			
Molybdenum	0.00503	0.00500	0.00500	0	101	70	130			
Selenium	0.00572	0.00500	0.00500	0	114	70	130			
Thallium	0.000991	0.00150	0.00100	0	99.1	70	130			

Sample ID	CCV5-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 3:34:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.197	0.00250	0.200	0	98.3	90	110			
Arsenic	0.201	0.00500	0.200	0	101	90	110			
Barium	0.186	0.0100	0.200	0	93.2	90	110			
Beryllium	0.189	0.00100	0.200	0	94.6	90	110			
Cadmium	0.183	0.00100	0.200	0	91.3	90	110			
Chromium	0.186	0.00500	0.200	0	93.1	90	110			
Cobalt	0.195	0.00500	0.200	0	97.7	90	110			
Lead	0.187	0.00100	0.200	0	93.5	90	110			
Lithium	0.186	0.0100	0.200	0	92.9	90	110			
Molybdenum	0.183	0.00500	0.200	0	91.5	90	110			
Selenium	0.201	0.00500	0.200	0	100	90	110			
Thallium	0.187	0.00150	0.200	0	93.6	90	110			

Sample ID	LCVL5-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 4:06:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00209	0.00250	0.00200	0	105	70	130			
Arsenic	0.00544	0.00500	0.00500	0	109	70	130			
Barium	0.00499	0.0100	0.00500	0	99.8	70	130			
Beryllium	0.00111	0.00100	0.00100	0	111	70	130			
Cadmium	0.000970	0.00100	0.00100	0	97.0	70	130			
Chromium	0.00516	0.00500	0.00500	0	103	70	130			
Cobalt	0.00545	0.00500	0.00500	0	109	70	130			
Lead	0.00100	0.00100	0.00100	0	100	70	130			
Lithium	0.0110	0.0100	0.0100	0	110	70	130			
Molybdenum	0.00500	0.00500	0.00500	0	100	70	130			
Selenium	0.00561	0.00500	0.00500	0	112	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160411D

Sample ID	LCVL5-160411	Batch ID:	R85180	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160411D	Analysis Date:	4/11/2016 4:06:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.000984	0.00150	0.00100	0	98.4	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160413A

The QC data in batch 74482 applies to the following samples: 1604071-01A, 1604071-02A, 1604071-03A, 1604071-04A

Sample ID	1604052-03A SD			Batch ID:	74482		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD			Run ID:	ICP-MS4_160413A		Analysis Date:	4/13/2016 12:18:00 PM		Prep Date:	4/7/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	44.5	15.0	0	44.3				0.489	10	

Sample ID	1604052-03A PDS			Batch ID:	74482		TestNo:	SW6020A		Units:	mg/L	
SampType:	PDS			Run ID:	ICP-MS4_160413A		Analysis Date:	4/13/2016 12:20:00 PM		Prep Date:	4/7/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	88.7	3.00	50.0	44.3	88.8	80	120			

LUMINANT

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160413A

Sample ID	ICV-160413	Batch ID:	R85219	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160413A	Analysis Date:	4/13/2016 10:50:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	2.34	0.300	2.50	0	93.7	90	110			

Sample ID	LCVL-160413	Batch ID:	R85219	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160413A	Analysis Date:	4/13/2016 10:56:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0872	0.300	0.100	0	87.2	70	130			

Sample ID	CCV1-160413	Batch ID:	R85219	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160413A	Analysis Date:	4/13/2016 11:56:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.72	0.300	5.00	0	94.4	90	110			

Sample ID	LCVL1-160413	Batch ID:	R85219	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160413A	Analysis Date:	4/13/2016 12:11:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0903	0.300	0.100	0	90.3	70	130			

Sample ID	CCV2-160413		Batch ID:	R85219		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV		Run ID:	ICP-MS4_160413A		Analysis Date:	4/13/2016 12:34:00 PM		Prep Date:		
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Calcium	4.67	0.300	5.00	0	93.4	90	110				

Sample ID	LCVL2-160413	Batch ID:	R85219	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160413A	Analysis Date:	4/13/2016 12:40:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0979	0.300	0.100	0	97.9	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160415A

The QC data in batch 74482 applies to the following samples: 1604071-01A, 1604071-02A, 1604071-03A, 1604071-04A

Sample ID	MB-74482	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L				
SampType:	MBLK	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 10:23:00 AM	Prep Date:	4/7/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron <0.0100 0.0300

Sample ID	LCS-74482	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCS	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 10:25:00 AM	Prep Date:	4/7/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.175 0.0300 0.200 0 87.7 80 120

Sample ID	LCSD-74482	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 10:27:00 AM	Prep Date:	4/7/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.192 0.0300 0.200 0 95.8 80 120 8.82 15

Sample ID	1604052-06A SD	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L				
SampType:	SD	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 10:33:00 AM	Prep Date:	4/7/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.546 0.150 0 0.480 12.9 10 R

Sample ID	1604052-06A PDS	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L				
SampType:	PDS	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 10:52:00 AM	Prep Date:	4/7/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.657 0.0300 0.200 0.480 88.8 80 120

Sample ID	1604052-03A MS	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L				
SampType:	MS	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 10:54:00 AM	Prep Date:	4/7/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 1.90 0.150 0.200 1.65 127 80 120 S

Sample ID	1604052-03A MSD	Batch ID:	74482	TestNo:	SW6020A	Units:	mg/L				
SampType:	MSD	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 10:56:00 AM	Prep Date:	4/7/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 1.93 0.150 0.200 1.65 140 80 120 1.42 15 S

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160415A

Sample ID	ICV-160415	Batch ID:	R85266	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 10:11:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		0.103	0.0300	0.100	0	103	90	110			

Sample ID	LCVL-160415	Batch ID:	R85266	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 10:17:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0236	0.0300	0.0200	0	118	70	130			

Sample ID	CCV1-160415	Batch ID:	R85266	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 11:06:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		0.209	0.0300	0.200	0	104	90	110			

Sample ID	LCVL1-160415	Batch ID:	R85266	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160415A	Analysis Date:	4/15/2016 11:33:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		0.0228	0.0300	0.0200	0	114	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160420A

The QC data in batch 74505 applies to the following samples: 1604071-05A, 1604071-06A, 1604071-07A, 1604071-08A, 1604071-09A, 1604071-10A, 1604071-11A, 1604071-12A

Sample ID	MB-74505	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L			
SampType:	MBLK	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 12:43:00 PM	Prep Date:	4/8/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Boron	<0.0100	0.0300								

Sample ID	LCS-74505	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCS	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 12:45:00 PM	Prep Date:	4/8/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Boron	0.197	0.0300	0.200	0	98.7	80	120			

Sample ID	LCSD-74505	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 12:47:00 PM	Prep Date:	4/8/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Boron	0.193	0.0300	0.200	0	96.6	80	120	2.14	15	

Sample ID	1604073-01A SD	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 12:53:00 PM	Prep Date:	4/8/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Boron	<0.500	1.50	0	0.191					0	10
Calcium	90.1	15.0	0	89.0					1.22	10

Sample ID	1604073-01A PDS	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 1:17:00 PM	Prep Date:	4/8/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Boron	2.17	0.300	2.00	0.191	99.1	80	120			
Calcium	136	3.00	50.0	89.0	94.0	80	120			

Sample ID	1604073-01A MS	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 1:19:00 PM	Prep Date:	4/8/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Boron	0.474	0.300	0.200	0.191	141	80	120			S

Sample ID	1604073-01A MSD	Batch ID:	74505	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 1:21:00 PM	Prep Date:	4/8/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Boron	0.426	0.300	0.200	0.191	117	80	120	10.6	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160420A

Sample ID	ICV-160420	Batch ID:	R85336	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 12:30:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.103	0.0300	0.100	0	103	90	110			
Calcium	2.42	0.300	2.50	0	96.7	90	110			

Sample ID	LCVL-160420	Batch ID:	R85336	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 12:37:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0182	0.0300	0.0200	0	91.1	70	130			
Calcium	0.0969	0.300	0.100	0	96.9	70	130			

Sample ID	CCV1-160420	Batch ID:	R85336	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 1:31:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.199	0.0300	0.200	0	99.6	90	110			
Calcium	4.90	0.300	5.00	0	98.0	90	110			

Sample ID	LCVL1-160420	Batch ID:	R85336	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 1:46:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0204	0.0300	0.0200	0	102	70	130			
Calcium	0.0967	0.300	0.100	0	96.7	70	130			

Sample ID	CCV2-160420	Batch ID:	R85336	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 2:10:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.194	0.0300	0.200	0	97.1	90	110			

Sample ID	LCVL2-160420	Batch ID:	R85336	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160420A	Analysis Date:	4/20/2016 2:20:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0215	0.0300	0.0200	0	107	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_160414A

The QC data in batch 74589 applies to the following samples: 1604071-11D, 1604071-12D

Sample ID	MB-74589	Batch ID:	74589	TestNo:	E300	Units:	mg/L				
SampType:	MBLK	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 9:48:16 AM	Prep Date:	4/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00									
Fluoride	<0.100	0.400									
Sulfate	<1.00	3.00									

Sample ID	LCS-74589	Batch ID:	74589	TestNo:	E300	Units:	mg/L				
SampType:	LCS	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 10:02:53 AM	Prep Date:	4/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.83	1.00	10.00	0	98.3	90	110				
Fluoride	3.79	0.400	4.000	0	94.9	90	110				
Sulfate	31.1	3.00	30.00	0	104	90	110				

Sample ID	LCSD-74589	Batch ID:	74589	TestNo:	E300	Units:	mg/L				
SampType:	LCSD	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 10:17:30 AM	Prep Date:	4/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.83	1.00	10.00	0	98.3	90	110	0.081	20		
Fluoride	3.87	0.400	4.000	0	96.8	90	110	2.02	20		
Sulfate	31.2	3.00	30.00	0	104	90	110	0.231	20		

Sample ID	1604071-11DMS	Batch ID:	74589	TestNo:	E300	Units:	mg/L				
SampType:	MS	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 3:43:26 PM	Prep Date:	4/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	26.5	1.00	20.00	7.068	97.1	90	110				
Fluoride	19.9	0.400	20.00	0	99.4	90	110				
Sulfate	23.3	3.00	20.00	5.260	90.0	90	110				

Sample ID	1604071-11DMSD	Batch ID:	74589	TestNo:	E300	Units:	mg/L				
SampType:	MSD	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 3:58:02 PM	Prep Date:	4/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	26.9	1.00	20.00	7.068	99.1	90	110	1.52	20		
Fluoride	20.4	0.400	20.00	0	102	90	110	2.45	20		
Sulfate	23.5	3.00	20.00	5.260	91.3	90	110	1.15	20		

Sample ID	1604071-12DMS	Batch ID:	74589	TestNo:	E300	Units:	mg/L				
SampType:	MS	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 4:12:39 PM	Prep Date:	4/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_160414A

Sample ID	1604071-12DMS	Batch ID:	74589	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 4:12:39 PM	Prep Date:	4/14/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	27.4	1.00	20.00	7.933	97.5	90	110			
Fluoride	20.1	0.400	20.00	0	100	90	110			
Sulfate	19.8	3.00	20.00	1.659	90.7	90	110			

Sample ID	1604071-12DMSD	Batch ID:	74589	TestNo:	E300	Units:	mg/L			
SampType:	MSD	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 4:27:15 PM	Prep Date:	4/14/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	27.7	1.00	20.00	7.933	99.0	90	110	1.11	20	
Fluoride	20.4	0.400	20.00	0	102	90	110	1.52	20	
Sulfate	20.0	3.00	20.00	1.659	91.8	90	110	1.05	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_160414A

Sample ID	ICV-160414	Batch ID:	R85263	TestNo:	E300	Units:	mg/L				
SampType:	ICV	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 9:12:51 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		24.0	1.00	25.00	0	96.0	90	110			
Fluoride		9.60	0.400	10.00	0	96.0	90	110			
Sulfate		75.9	3.00	75.00	0	101	90	110			

Sample ID	CCV1-160414	Batch ID:	R85263	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 1:12:49 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.76	1.00	10.00	0	97.6	90	110			
Fluoride	4.00	0.400	4.000	0	100	90	110			
Sulfate	31.3	3.00	30.00	0	104	90	110			

Sample ID	CCV2-160414	Batch ID:	R85263	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_160414A	Analysis Date:	4/14/2016 4:41:52 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.57	1.00	10.00	0	95.7	90	110			
Fluoride	4.00	0.400	4.000	0	100	90	110			
Sulfate	30.8	3.00	30.00	0	103	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC3_160414A

The QC data in batch 74597 applies to the following samples: 1604071-01D, 1604071-02D, 1604071-03D, 1604071-04D, 1604071-05D, 1604071-06D, 1604071-07D, 1604071-08D, 1604071-09D, 1604071-10D

Sample ID	MB-74597		Batch ID:	74597		TestNo:	E300		Units:	mg/L	
SampType:	MBLK		Run ID:	IC3_160414A		Analysis Date:	4/14/2016 10:35:39 AM		Prep Date:	4/14/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-74597			Batch ID:	74597		TestNo:	E300		Units:	mg/L	
SampType:	LCS			Run ID:	IC3_160414A		Analysis Date:	4/14/2016 10:59:09 AM		Prep Date:	4/14/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	9.62	1.00	10.00	0	96.2	90	110			
Fluoride	4.25	0.400	4.000	0	106	90	110			
Sulfate	31.1	3.00	30.00	0	104	90	110			

Sample ID	LCSD-74597			Batch ID:	74597		TestNo:	E300		Units:	mg/L	
SampType:	LCSD			Run ID:	IC3_160414A		Analysis Date:	4/14/2016 11:19:49 AM		Prep Date:	4/14/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	9.60	1.00	10.00	0	96.0	90	110	0.192	20	
Fluoride	4.12	0.400	4.000	0	103	90	110	3.06	20	
Sulfate	30.5	3.00	30.00	0	102	90	110	2.08	20	

Sample ID	1604071-02DMS			Batch ID:	74597			TestNo:	E300			Units:	mg/L		
SampType:	MS			Run ID:	IC3_160414A			Analysis Date:	4/14/2016 5:31:13 PM			Prep Date:	4/14/2016		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual				

Chloride	254	10.0	200.0	58.30	97.6	90	110			
Fluoride	196	4.00	200.0	0	97.8	90	110			
Sulfate	325	30.0	200.0	113.2	106	90	110			

Sample ID	1604071-02DMSD			Batch ID:	74597			TestNo:	E300			Units:	mg/L		
SampType:	MSD			Run ID:	IC3_160414A			Analysis Date:	4/14/2016 5:51:54 PM			Prep Date:	4/14/2016		
Analyte				Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

Chloride	256	10.0	200.0	58.30	98.6	90	110	0.790	20	
Fluoride	198	4.00	200.0	0	99.2	90	110	1.46	20	
Sulfate	328	30.0	200.0	113.2	107	90	110	0.845	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC3_160414A

Sample ID	1604071-04DMS	Batch ID:	74597	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC3_160414A	Analysis Date:	4/14/2016 6:33:14 PM	Prep Date:	4/14/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	212	10.0	200.0	17.56	97.3	90	110			
Fluoride	198	4.00	200.0	1.462	98.4	90	110			
Sulfate	627	30.0	200.0	415.9	106	90	110			

Sample ID	1604071-04DMSD	Batch ID:	74597	TestNo:	E300	Units:	mg/L			
SampType:	MSD	Run ID:	IC3_160414A	Analysis Date:	4/14/2016 6:53:53 PM	Prep Date:	4/14/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	212	10.0	200.0	17.56	97.4	90	110	0.090	20	
Fluoride	199	4.00	200.0	1.462	98.8	90	110	0.359	20	
Sulfate	629	30.0	200.0	415.9	106	90	110	0.273	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC3_160414A

Sample ID	ICV-160414	Batch ID:	R85265	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC3_160414A	Analysis Date:	4/14/2016 9:43:15 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.5	1.00	25.00	0	97.8	90	110			
Fluoride	10.2	0.400	10.00	0	102	90	110			
Sulfate	76.5	3.00	75.00	0	102	90	110			

Sample ID	CCV1-160414	Batch ID:	R85265	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC3_160414A	Analysis Date:	4/14/2016 3:38:37 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.63	1.00	10.00	0	96.3	90	110			
Fluoride	4.08	0.400	4.000	0	102	90	110			
Sulfate	29.7	3.00	30.00	0	99.1	90	110			

Sample ID	CCV2-160414	Batch ID:	R85265	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC3_160414A	Analysis Date:	4/14/2016 9:59:44 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.79	1.00	10.00	0	97.9	90	110			
Fluoride	4.14	0.400	4.000	0	103	90	110			
Sulfate	30.9	3.00	30.00	0	103	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160411A

The QC data in batch 74521 applies to the following samples: 1604071-01D, 1604071-02D, 1604071-03D, 1604071-04D, 1604071-05D, 1604071-06D, 1604071-07D, 1604071-08D, 1604071-09D, 1604071-10D, 1604071-11D, 1604071-12D

Sample ID	1604071-01D-DUP	Batch ID:	74521	TestNo:	M4500-H+ B	Units:	pH Units@19.8°C
SampType:	DUP	Run ID:	TITRATOR_160411A	Analysis Date:	4/11/2016 9:56:00 AM	Prep Date:	4/11/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		6.31	0	0	6.220		1.44 5

Sample ID	1604078-02D-DUP	Batch ID:	74521	TestNo:	M4500-H+ B	Units:	pH Units@20.9°C
SampType:	DUP	Run ID:	TITRATOR_160411A	Analysis Date:	4/11/2016 10:35:00 AM	Prep Date:	4/11/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		7.76	0	0	7.740		0.258 5

LUMINANT

Qualifiers:	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160411A

Sample ID	ICV-160411	Batch ID:	R85150	TestNo:	M4500-H+ B	Units:	pH Units@22.6°C				
SampType:	ICV	Run ID:	TITRATOR_160411A	Analysis Date:	4/11/2016 9:03:00 AM	Prep Date:	4/11/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	9.98	0	10.00	0	99.8	99	101			

Sample ID	CCV1-160411	Batch ID:	R85150		TestNo:	M4500-H+ B		Units:	pH Units@21.2°C		
SampType:	CCV	Run ID:	TITRATOR_160411A		Analysis Date:	4/11/2016 10:15:00 AM		Prep Date:	4/11/2016		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	7.00	0	7.000	0	100	97.1	102.9			

Sample ID	CCV2-160411			Batch ID:	R85150		TestNo:	M4500-H+ B		Units:	pH Units@21.5°C	
SampType:	CCV			Run ID:	TITRATOR_160411A		Analysis Date:	4/11/2016 10:59:00 AM		Prep Date:	4/11/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

pH	7.01	0	7.000	0	100	97.1	102.9			

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160411C

The QC data in batch 74527 applies to the following samples: 1604071-01D, 1604071-02D, 1604071-03D, 1604071-04D, 1604071-05D, 1604071-06D, 1604071-07D, 1604071-08D, 1604071-09D, 1604071-10D, 1604071-11D

Sample ID	MB-74527	Batch ID:	74527	TestNo:	M2540C	Units:	mg/L				
SampType:	MBLK	Run ID:	WC_160411C	Analysis Date:	4/12/2016 8:45:00 AM	Prep Date:	4/11/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-74527	Batch ID:	74527	TestNo:	M2540C	Units:	mg/L				
SampType:	LCS	Run ID:	WC_160411C	Analysis Date:	4/12/2016 8:45:00 AM	Prep Date:	4/11/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 750 10.0 745.6 0 101 90 113

Sample ID	1604044-08B-DUP	Batch ID:	74527	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_160411C	Analysis Date:	4/12/2016 8:45:00 AM	Prep Date:	4/11/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1330 50.0 0 1315 1.51 5

Sample ID	1604071-01D-DUP	Batch ID:	74527	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_160411C	Analysis Date:	4/12/2016 8:45:00 AM	Prep Date:	4/11/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 217 10.0 0 213.0 1.86 5

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1604071
Project: Luminant-Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160412B

The QC data in batch 74560 applies to the following samples: 1604071-12D

Sample ID	MB-74560	Batch ID:	74560	TestNo:	M2540C	Units:	mg/L				
SampType:	MBLK	Run ID:	WC_160412B	Analysis Date:	4/13/2016 8:45:00 AM	Prep Date:	4/12/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-74560	Batch ID:	74560	TestNo:	M2540C	Units:	mg/L				
SampType:	LCS	Run ID:	WC_160412B	Analysis Date:	4/13/2016 8:45:00 AM	Prep Date:	4/12/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 758 10.0 745.6 0 102 90 113

Sample ID	1604108-01C-DUP	Batch ID:	74560	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_160412B	Analysis Date:	4/13/2016 8:45:00 AM	Prep Date:	4/12/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1200 10.0 0 1149 3.92 5

Sample ID	1604108-06C-DUP	Batch ID:	74560	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_160412B	Analysis Date:	4/13/2016 8:45:00 AM	Prep Date:	4/12/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 680 10.0 0 684.0 0.587 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

Case Narrative

Lab No: 20160337

This report contains the analytical results for the 12 sample(s) received under chain of custody by ESC Lab Sciences on 04/11/16 14:12:37. These samples are associated with your 16040 project.

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

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

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances

The following QC parameters are outside method control limits: Ra226 MSD RPD



Client : DHL Analytical, Inc.
Client Project : 16040
Lab Number : 20160337
Date Reported : 05/06/16
Date Received : 04/11/16
Page Number : 2 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20160337-01
Client ID : H-26
Date Sampled : 04/05/16 13:05:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.788 +/- 1.10	1.30	pCi/l				
Radium-226 SM 7500 Ra B M*	0.201 +/- 0.173	0.243	pCi/l		04/13/16	04/15/16	AK
Radium-228 EPA 904*/9320*	0.587 +/- 0.926	1.06	pCi/l		04/20/16	04/25/16	JR

Lab ID : 20160337-02
Client ID : H-33
Date Sampled : 04/05/16 14:45:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.41 +/- 1.01	1.21	pCi/l				
Radium-226 SM 7500 Ra B M*	0.328 +/- 0.173	0.168	pCi/l		04/13/16	04/15/16	AK
Radium-228 EPA 904*/9320*	1.08 +/- 0.837	1.04	pCi/l		04/20/16	04/25/16	JR

Lab ID : 20160337-03
Client ID : MW-17A
Date Sampled : 04/05/16 16:55:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.544 +/- 0.880	1.13	pCi/l				
Radium-226 SM 7500 Ra B M*	0.280 +/- 0.200	0.267	pCi/l		04/13/16	04/15/16	RE
Radium-228 EPA 904*/9320*	0.264 +/- 0.681	0.863	pCi/l		04/20/16	04/25/16	JR

Lab ID : 20160337-04
Client ID : PDP-24
Date Sampled : 04/05/16 17:45:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	2.21 +/- 0.889	1.07	pCi/l				
Radium-226 SM 7500 Ra B M*	0.344 +/- 0.226	0.258	pCi/l		04/20/16	04/22/16	AK
Radium-228 EPA 904*/9320*	1.86 +/- 0.663	0.808	pCi/l		04/20/16	04/25/16	JR



Client : DHL Analytical, Inc.
Client Project : 16040
Lab Number : 20160337
Date Reported : 05/06/16
Date Received : 04/11/16
Page Number : 3 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20160337-05
Client ID : MW-19
Date Sampled : 04/06/16 07:40:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.307 +/- 1.00	1.22	pCi/l				
Radium-226 SM 7500 Ra B M*	0.307 +/- 0.160	0.176	pCi/l		04/20/16	04/22/16	AK
Radium-228 EPA 904*/9320*	-0.048 +/- 0.844	1.05	pCi/l		04/20/16	04/25/16	JR

Lab ID : 20160337-06
Client ID : PDP-22
Date Sampled : 04/06/16 08:35:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.859 +/- 0.884	1.36	pCi/l				
Radium-226 SM 7500 Ra B M*	0.354 +/- 0.184	0.199	pCi/l		04/20/16	04/22/16	AK
Radium-228 EPA 904*/9320*	0.505 +/- 0.700	1.16	pCi/l		04/20/16	04/25/16	JR

Lab ID : 20160337-07
Client ID : PDP-23
Date Sampled : 04/06/16 09:30:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.000 +/- 0.984	1.36	pCi/l				
Radium-226 SM 7500 Ra B M*	-0.035 +/- 0.108	0.247	pCi/l		04/20/16	04/22/16	AK
Radium-228 EPA 904*/9320*	-0.711 +/- 0.876	1.11	pCi/l		04/20/16	04/25/16	JR

Lab ID : 20160337-08
Client ID : MW-20A
Date Sampled : 04/06/16 10:20:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.778 +/- 1.13	1.42	pCi/l				
Radium-226 SM 7500 Ra B M*	0.778 +/- 0.255	0.189	pCi/l		04/20/16	04/22/16	AK
Radium-228 EPA 904*/9320*	-0.051 +/- 0.878	1.23	pCi/l		04/20/16	04/25/16	JR



Client : DHL Analytical, Inc.
 Client Project : 16040
 Lab Number : 20160337
 Date Reported : 05/06/16
 Date Received : 04/11/16
 Page Number : 4 of 5

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20160337-09
Client ID : PDP-26
Date Sampled : 04/06/16 11:15:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.149 +/- 0.903	1.27	pCi/l				
Radium-226 SM 7500 Ra B M*	0.149 +/- 0.138	0.187	pCi/l		04/20/16	04/22/16	AK
Radium-228 EPA 904*/9320*	-0.637 +/- 0.765	1.08	pCi/l		04/20/16	04/25/16	JR

Lab ID : 20160337-10
Client ID : PDP-25
Date Sampled : 04/06/16 12:00:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.40 +/- 1.24	1.56	pCi/l				
Radium-226 SM 7500 Ra B M*	0.568 +/- 0.305	0.341	pCi/l		04/20/16	04/22/16	AK
Radium-228 EPA 904*/9320*	0.828 +/- 0.935	1.22	pCi/l		04/20/16	04/25/16	JR

Lab ID : 20160337-11
Client ID : MW-18A
Date Sampled : 04/06/16 12:55:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	1.23 +/- 1.12	1.48	pCi/l				
Radium-226 SM 7500 Ra B M*	0.294 +/- 0.304	0.443	pCi/l		04/20/16	04/22/16	AK
Radium-228 EPA 904*/9320*	0.935 +/- 0.820	1.04	pCi/l		04/20/16	04/25/16	JR

Lab ID : 20160337-12
Client ID : EB-1
Date Sampled : 04/06/16 13:15:00
Matrix : NPW

Radiochemical Analyses

Combined Radium	0.000 +/- 0.902	1.25	pCi/l				
Radium-226 SM 7500 Ra B M*	-0.029 +/- 0.247	0.409	pCi/l		04/20/16	04/22/16	AK
Radium-228 EPA 904*/9320*	-0.499 +/- 0.654	0.838	pCi/l		04/20/16	04/25/16	JR

Client : DHL Analytical, Inc.
 Client Project : 16040
 Lab Number : 20160337
 Date Reported : 05/06/16
 Date Received : 04/11/16
 Page Number : 5 of 5

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Date
Radium-226	0.00	108.0			NC	0.621	84.0	85.5	1.8	04/22/16
Radium-226	0.016	116.0			11.8	0.750	119.0			04/15/16
Radium-226	0.033	117.0			42.8	1.060	106.0	82.7	23.3	04/14/16
Radium-228	0.153	86.1			NC	0.302	104.0	99.2	4.5	04/25/16

Lab Approval: _____



DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1604071

CHAIN-OF-CUSTODY RECORD

Page 1 of 2

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

07-Apr-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests				
					E904.0	SM7500Ra-B M			
H-26	Aqueous	-01B	04/05/16 01:05 PM	500HDPEHNO3	1				
H-26	Aqueous	-01C	04/05/16 01:05 PM	500HDPEHNO3		1			
H-33	Aqueous	-02B	04/05/16 02:45 PM	500HDPEHNO3	1				
H-33	Aqueous	-02C	04/05/16 02:45 PM	500HDPEHNO3		1			
MW-17A	Aqueous	-03B	04/05/16 04:55 PM	500HDPEHNO3	1				
MW-17A	Aqueous	-03C	04/05/16 04:55 PM	500HDPEHNO3		1			
PDP-24	Aqueous	-04B	04/05/16 05:45 PM	500HDPEHNO3	1				
PDP-24	Aqueous	-04C	04/05/16 05:45 PM	500HDPEHNO3		1			
MW-19	Aqueous	-05B	04/06/16 07:40 AM	500HDPEHNO3	1				
MW-19	Aqueous	-05C	04/06/16 07:40 AM	500HDPEHNO3		1			
PDP-22	Aqueous	-06B	04/06/16 08:35 AM	500HDPEHNO3	1				
PDP-22	Aqueous	-06C	04/06/16 08:35 AM	500HDPEHNO3		1			
PDP-23	Aqueous	-07B	04/06/16 09:30 AM	500HDPEHNO3	1				
PDP-23	Aqueous	-07C	04/06/16 09:30 AM	500HDPEHNO3		1			
MW-20A	Aqueous	-08B	04/06/16 10:20 AM	500HDPEHNO3	1				
MW-20A	Aqueous	-08C	04/06/16 10:20 AM	500HDPEHNO3		1			
PDP-26	Aqueous	-09B	04/06/16 11:15 AM	500HDPEHNO3	1				
PDP-26	Aqueous	-09C	04/06/16 11:15 AM	500HDPEHNO3		1			

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

682925
20160337-1

Relinquished by: <u>[Signature]</u>	Date/Time: <u>4/7/16 1730</u>	Received by: <u>[Signature]</u>	Date/Time: <u>4/7/16 1730</u>
Relinquished by: _____	Date/Time: _____	Received by: <u>[Signature]</u>	Date/Time: <u>4/11/16 13:40</u>

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1604071

CHAIN-OF-CUSTODY RECORD

Page 2 of 2

Subcontractor:

ESC Laboratory

311 North Aspen

Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515

FAX:

Acct #: DHLRRTX

07-Apr-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E904.0	SM7500Ra-B M				
PDP-25	Aqueous	-10B	04/06/16 12:00 PM	500HDPEHNO3	1					
PDP-25	Aqueous	-10C	04/06/16 12:00 PM	500HDPEHNO3		1				
MW-18A	Aqueous	-11B	04/06/16 12:55 PM	500HDPEHNO3	1					
MW-18A	Aqueous	-11C	04/06/16 12:55 PM	500HDPEHNO3		1				
EB-1	Aqueous	-12B	04/06/16 01:15 PM	500HDPEHNO3	1					
EB-1	Aqueous	-12C	04/06/16 01:15 PM	500HDPEHNO3		1				

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhianalytical.com & dupont@dhianalytical.com

L 82925
20160337-2

Relinquished by: <u><i>J. Torano</i></u>	Date/Time: <u>4/7/16 1730</u>	Received by: <u><i>Lonestar</i></u>	Date/Time: <u>4/7/16 1730</u>
Relinquished by: _____	Date/Time: _____	Received by: <u><i>Chad Duf</i></u>	Date/Time: <u>4/11/16 1340</u>



July 21, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Luminant - MLSES

Order No.: 1606100

Dear Will Vienne:

DHL Analytical, Inc. received 10 sample(s) on 6/9/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-16



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Miscellaneous Documents	3
CaseNarrative 1606100	7
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Analytical Report 1606100	15
AnalyticalQCSummaryReport 1606100	25
Subcontract Report 1606100	44

CLIENT: PBW
ADDRESS: 2201 DOUBLE CREEK DR ROUND ROCK TX 78681
PHONE: 512-671-3434 FAX/E-MAIL: 512-671-3446
DATA REPORTED TO: WILL VIENE
ADDITIONAL REPORT COPIES TO:

DATE: 6-8-16 PAGE 1 OF 1
PO #: 5164-B DHL WORK ORDER #: 1606100
PROJECT LOCATION OR NAME: Luminant - MLSES
CLIENT PROJECT #: 5164-B COLLECTOR: J. BRAYTON

[illegible]

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
<i>[Signature]</i>	6-8-12 1830	Feder
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
<i>[Signature]</i>	Feder 6/9/16 10:05	Storai
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

TURN AROUND TIME
 RUSH ☐ CALL FIRST
 1 DAY ☐ CALL FIRST
 2 DAY ☐
 NORMAL ☒
 OTHER ☐

LABORATORY USE ONLY:
RECEIVING TEMP: 1.1/0.2 THERM #: 70
CUSTODY SEALS: ☐ BROKEN ☐ INTACT ☒ NOT USED
CARRIER: ☐ LONE STAR ☒ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☐ HAND DELIVERED

John Dupont

From: Sara Taube [Sara.Taube@pbw/lc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

ORIGIN ID:GGGA (555) 555-5555

PBW
2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 08JUN16
ACTWGT: 50.00 LB
006994167/SSFE1704
DIMS: 24x14x14 IN

BILL THIRD PARTY

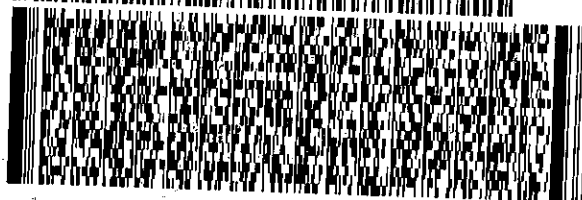
TO DHL ANALYTICAL
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664

(512) 786-7280
THU:
PO:

REF:

DEPT:



FedEx
Express



AN1050209101917

2 of 2

MPS# 7833 1409 0730
0263

Mstr# 7833 1409 0720

0201

A8 BSMA

THU - 09 JUN 10:30A
PRIORITY OVERNIGHT

78664

TX-US AUS



ORIGIN ID:GGGA (555) 555-5555

PBW
2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 08JUN16
ACTWGT: 50.00 LB
CAD: 006994167/SSFE1704
DIMS: 24x14x14 IN

BILL THIRD PARTY

TO DHL ANALYTICAL
DHL ANALYTICAL
2300 DOUBLE CREEK DR

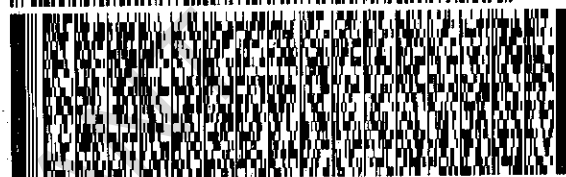
ROUND ROCK TX 78664

(512) 786-7280

REF:

THU:
PO:

DEPT:



FedEx
Express



AN1050209101917

1 of 2

TRK# 7833 1409 0720
0201

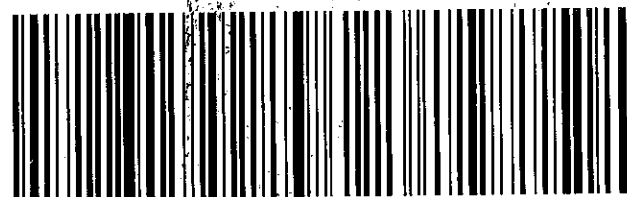
MASTER

A8 BSMA

THU - 09 JUN 10:30A
PRIORITY OVERNIGHT

78664

TX-US AUS



Part # 156297-435 R112 03/15

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 6/9/2016

Work Order Number 1606100

Received by JT

Checklist completed by [Signature] 6/9/2016
Signature DateReviewed by [Initials] 6/9/2016
Initials Date

Carrier name FedEx 1day

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐

Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒

Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒

Chain of custody present? Yes ☒ No ☐

Chain of custody signed when relinquished and received? Yes ☒ No ☐

Chain of custody agrees with sample labels? Yes ☒ No ☐

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

Container/Temp Blank temperature in compliance? Yes ☒ No ☐ 1.1 °C, 0.2

Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH<2 acceptable upon receipt? Yes ☒ No ☐ NA ☐ LOT # 8086

Adjusted? No Checked by [Signature]

Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes ☐ No ☐ NA ☒ LOT #

Adjusted? Checked by

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Lab Order: 1606100

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis

LOG IN

The samples were received and log-in performed on 6/9/16. A total of 10 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 6/9/16 and 6/13/16 the PDS recoveries were below control limits for Selenium and Boron. These are flagged accordingly in the QC summary report. The serial dilution was within control limits for these analytes. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Lab Order: 1606100

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1606100-01	MW-17A		06/07/16 03:30 PM	6/9/2016
1606100-02	PDP-24		06/07/16 04:20 PM	6/9/2016
1606100-03	MW-18A		06/07/16 05:15 PM	6/9/2016
1606100-04	PDP-25		06/08/16 07:45 AM	6/9/2016
1606100-05	PDP-26		06/08/16 08:45 AM	6/9/2016
1606100-06	MW-20A		06/08/16 09:45 AM	6/9/2016
1606100-07	PDP-23		06/08/16 10:40 AM	6/9/2016
1606100-08	EB-1		06/08/16 11:05 AM	6/9/2016
1606100-09	PDP-22		06/08/16 11:50 AM	6/9/2016
1606100-10	MW-19		06/08/16 12:40 PM	6/9/2016

Lab Order: 1606100
Client: Pastor, Behling & Wheeler
Project: Luminant - MLSES

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1606100-01A	MW-17A	06/07/16 03:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	MW-17A	06/07/16 03:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	MW-17A	06/07/16 03:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/10/16 04:29 PM	75586
1606100-01D	MW-17A	06/07/16 03:30 PM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	MW-17A	06/07/16 03:30 PM	Aqueous	M4500-H+ B	pH Preparation	06/10/16 08:19 AM	75556
	MW-17A	06/07/16 03:30 PM	Aqueous	M2540C	TDS Preparation	06/10/16 11:35 AM	75574
1606100-02A	PDP-24	06/07/16 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-24	06/07/16 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-24	06/07/16 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-24	06/07/16 04:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/10/16 04:29 PM	75586
1606100-02D	PDP-24	06/07/16 04:20 PM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	PDP-24	06/07/16 04:20 PM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	PDP-24	06/07/16 04:20 PM	Aqueous	M4500-H+ B	pH Preparation	06/10/16 08:19 AM	75556
	PDP-24	06/07/16 04:20 PM	Aqueous	M2540C	TDS Preparation	06/10/16 11:35 AM	75574
1606100-03A	MW-18A	06/07/16 05:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	MW-18A	06/07/16 05:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	MW-18A	06/07/16 05:15 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/10/16 04:29 PM	75586
1606100-03D	MW-18A	06/07/16 05:15 PM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	MW-18A	06/07/16 05:15 PM	Aqueous	M4500-H+ B	pH Preparation	06/10/16 08:19 AM	75556
	MW-18A	06/07/16 05:15 PM	Aqueous	M2540C	TDS Preparation	06/10/16 11:35 AM	75574
1606100-04A	PDP-25	06/08/16 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-25	06/08/16 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-25	06/08/16 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-25	06/08/16 07:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/10/16 04:29 PM	75586
1606100-04D	PDP-25	06/08/16 07:45 AM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	PDP-25	06/08/16 07:45 AM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	PDP-25	06/08/16 07:45 AM	Aqueous	M4500-H+ B	pH Preparation	06/10/16 08:19 AM	75556
	PDP-25	06/08/16 07:45 AM	Aqueous	M2540C	TDS Preparation	06/10/16 11:35 AM	75574

Lab Order: 1606100
Client: Pastor, Behling & Wheeler
Project: Luminant - MLSES

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1606100-05A	PDP-26	06/08/16 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-26	06/08/16 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-26	06/08/16 08:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/10/16 04:29 PM	75586
1606100-05D	PDP-26	06/08/16 08:45 AM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	PDP-26	06/08/16 08:45 AM	Aqueous	M4500-H+ B	pH Preparation	06/10/16 08:19 AM	75556
	PDP-26	06/08/16 08:45 AM	Aqueous	M2540C	TDS Preparation	06/10/16 11:35 AM	75574
1606100-06A	MW-20A	06/08/16 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	MW-20A	06/08/16 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	MW-20A	06/08/16 09:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/10/16 04:29 PM	75586
1606100-06D	MW-20A	06/08/16 09:45 AM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	MW-20A	06/08/16 09:45 AM	Aqueous	M4500-H+ B	pH Preparation	06/10/16 08:19 AM	75556
	MW-20A	06/08/16 09:45 AM	Aqueous	M2540C	TDS Preparation	06/10/16 11:35 AM	75574
1606100-07A	PDP-23	06/08/16 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-23	06/08/16 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-23	06/08/16 10:40 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/10/16 04:29 PM	75586
1606100-07D	PDP-23	06/08/16 10:40 AM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	PDP-23	06/08/16 10:40 AM	Aqueous	M4500-H+ B	pH Preparation	06/10/16 08:19 AM	75556
	PDP-23	06/08/16 10:40 AM	Aqueous	M2540C	TDS Preparation	06/10/16 11:35 AM	75574
1606100-08A	EB-1	06/08/16 11:05 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	EB-1	06/08/16 11:05 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	EB-1	06/08/16 11:05 AM	Equip Blank	SW7470A	Mercury Aq Prep, Total	06/10/16 04:29 PM	75586
1606100-08D	EB-1	06/08/16 11:05 AM	Equip Blank	E300	Anion Preparation	06/15/16 10:17 AM	75663
	EB-1	06/08/16 11:05 AM	Equip Blank	M4500-H+ B	pH Preparation	06/10/16 08:19 AM	75556
	EB-1	06/08/16 11:05 AM	Equip Blank	M2540C	TDS Preparation	06/10/16 11:35 AM	75574
1606100-09A	PDP-22	06/08/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-22	06/08/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-22	06/08/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	PDP-22	06/08/16 11:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/10/16 04:29 PM	75586

Lab Order: 1606100
Client: Pastor, Behling & Wheeler
Project: Luminant - MLSES

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1606100-09D	PDP-22	06/08/16 11:50 AM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	PDP-22	06/08/16 11:50 AM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	PDP-22	06/08/16 11:50 AM	Aqueous	M4500-H+ B	pH Preparation	06/10/16 08:19 AM	75556
	PDP-22	06/08/16 11:50 AM	Aqueous	M2540C	TDS Preparation	06/10/16 11:35 AM	75574
1606100-10A	MW-19	06/08/16 12:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	MW-19	06/08/16 12:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/09/16 11:08 AM	75544
	MW-19	06/08/16 12:40 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	06/10/16 04:29 PM	75586
1606100-10D	MW-19	06/08/16 12:40 PM	Aqueous	E300	Anion Preparation	06/15/16 10:17 AM	75663
	MW-19	06/08/16 12:40 PM	Aqueous	M4500-H+ B	pH Preparation	06/10/16 08:19 AM	75556
	MW-19	06/08/16 12:40 PM	Aqueous	M2540C	TDS Preparation	06/10/16 11:35 AM	75574

Lab Order: 1606100
Client: Pastor, Behling & Wheeler
Project: Luminant - MLSES

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1606100-01A	MW-17A	Aqueous	SW7470A	Mercury Total: Aqueous	75586	1	06/13/16 12:12 PM	CETAC2_HG_160613 B
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/09/16 07:16 PM	ICP-MS4_160609B
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/13/16 03:26 PM	ICP-MS4_160613A
1606100-01D	MW-17A	Aqueous	E300	Anions by IC method - Water	75663	1	06/15/16 12:02 PM	IC4_160615A
	MW-17A	Aqueous	M4500-H+ B	pH	75556	1	06/10/16 09:24 AM	TITRATOR_160610A
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	75574	1	06/13/16 08:45 AM	WC_160610C
1606100-02A	PDP-24	Aqueous	SW7470A	Mercury Total: Aqueous	75586	1	06/13/16 12:14 PM	CETAC2_HG_160613 B
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/09/16 07:18 PM	ICP-MS4_160609B
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	10	06/13/16 03:28 PM	ICP-MS4_160613A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/15/16 02:08 PM	ICP-MS4_160615A
1606100-02D	PDP-24	Aqueous	E300	Anions by IC method - Water	75663	1	06/15/16 12:17 PM	IC4_160615A
	PDP-24	Aqueous	E300	Anions by IC method - Water	75663	10	06/15/16 03:20 PM	IC4_160615A
	PDP-24	Aqueous	M4500-H+ B	pH	75556	1	06/10/16 09:27 AM	TITRATOR_160610A
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	75574	1	06/13/16 08:45 AM	WC_160610C
1606100-03A	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	75586	20	06/13/16 12:36 PM	CETAC2_HG_160613 B
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/09/16 07:20 PM	ICP-MS4_160609B
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/13/16 03:30 PM	ICP-MS4_160613A
1606100-03D	MW-18A	Aqueous	E300	Anions by IC method - Water	75663	1	06/15/16 12:32 PM	IC4_160615A
	MW-18A	Aqueous	M4500-H+ B	pH	75556	1	06/10/16 09:29 AM	TITRATOR_160610A
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	75574	1	06/13/16 08:45 AM	WC_160610C
1606100-04A	PDP-25	Aqueous	SW7470A	Mercury Total: Aqueous	75586	1	06/13/16 12:26 PM	CETAC2_HG_160613 B
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/13/16 03:34 PM	ICP-MS4_160613A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/09/16 07:22 PM	ICP-MS4_160609B
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	10	06/13/16 03:32 PM	ICP-MS4_160613A
1606100-04D	PDP-25	Aqueous	E300	Anions by IC method - Water	75663	1	06/15/16 12:47 PM	IC4_160615A
	PDP-25	Aqueous	E300	Anions by IC method - Water	75663	10	06/15/16 03:35 PM	IC4_160615A

Lab Order: 1606100
Client: Pastor, Behling & Wheeler
Project: Luminant - MLSES

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1606100-04D	PDP-25	Aqueous	M4500-H+ B	pH	75556	1	06/10/16 09:32 AM	TITRATOR_160610A
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	75574	1	06/13/16 08:45 AM	WC_160610C
1606100-05A	PDP-26	Aqueous	SW7470A	Mercury Total: Aqueous	75586	1	06/13/16 12:28 PM	CETAC2_HG_160613B
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/09/16 07:24 PM	ICP-MS4_160609B
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/13/16 04:34 PM	ICP-MS4_160613A
1606100-05D	PDP-26	Aqueous	E300	Anions by IC method - Water	75663	1	06/15/16 01:02 PM	IC4_160615A
	PDP-26	Aqueous	M4500-H+ B	pH	75556	1	06/10/16 09:35 AM	TITRATOR_160610A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	75574	1	06/13/16 08:45 AM	WC_160610C
1606100-06A	MW-20A	Aqueous	SW7470A	Mercury Total: Aqueous	75586	1	06/13/16 12:39 PM	CETAC2_HG_160613B
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/09/16 07:40 PM	ICP-MS4_160609B
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/13/16 04:36 PM	ICP-MS4_160613A
1606100-06D	MW-20A	Aqueous	E300	Anions by IC method - Water	75663	1	06/15/16 01:17 PM	IC4_160615A
	MW-20A	Aqueous	M4500-H+ B	pH	75556	1	06/10/16 09:36 AM	TITRATOR_160610A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	75574	1	06/13/16 08:45 AM	WC_160610C
1606100-07A	PDP-23	Aqueous	SW7470A	Mercury Total: Aqueous	75586	1	06/13/16 12:41 PM	CETAC2_HG_160613B
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/09/16 07:42 PM	ICP-MS4_160609B
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/13/16 04:38 PM	ICP-MS4_160613A
1606100-07D	PDP-23	Aqueous	E300	Anions by IC method - Water	75663	1	06/15/16 01:32 PM	IC4_160615A
	PDP-23	Aqueous	M4500-H+ B	pH	75556	1	06/10/16 09:39 AM	TITRATOR_160610A
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	75574	1	06/13/16 08:45 AM	WC_160610C
1606100-08A	EB-1	Equip Blank	SW7470A	Mercury Total: Aqueous	75586	1	06/13/16 12:43 PM	CETAC2_HG_160613B
	EB-1	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/13/16 04:40 PM	ICP-MS4_160613A
	EB-1	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/09/16 07:44 PM	ICP-MS4_160609B
1606100-08D	EB-1	Equip Blank	E300	Anions by IC method - Water	75663	1	06/15/16 11:47 AM	IC4_160615A
	EB-1	Equip Blank	M4500-H+ B	pH	75556	1	06/10/16 09:40 AM	TITRATOR_160610A
	EB-1	Equip Blank	M2540C	Total Dissolved Solids	75574	1	06/13/16 08:45 AM	WC_160610C

Lab Order: 1606100
Client: Pastor, Behling & Wheeler
Project: Luminant - MLSES

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1606100-09A	PDP-22	Aqueous	SW7470A	Mercury Total: Aqueous	75586	1	06/13/16 12:46 PM	CETAC2_HG_160613 B
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/09/16 07:46 PM	ICP-MS4_160609B
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	50	06/13/16 04:42 PM	ICP-MS4_160613A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/13/16 04:44 PM	ICP-MS4_160613A
1606100-09D	PDP-22	Aqueous	E300	Anions by IC method - Water	75663	1	06/15/16 01:47 PM	IC4_160615A
	PDP-22	Aqueous	E300	Anions by IC method - Water	75663	10	06/15/16 03:50 PM	IC4_160615A
	PDP-22	Aqueous	M4500-H+ B	pH	75556	1	06/10/16 09:42 AM	TITRATOR_160610A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	75574	1	06/13/16 08:45 AM	WC_160610C
1606100-10A	MW-19	Aqueous	SW7470A	Mercury Total: Aqueous	75586	1	06/13/16 12:48 PM	CETAC2_HG_160613 B
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/09/16 07:48 PM	ICP-MS4_160609B
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	75544	1	06/13/16 04:46 PM	ICP-MS4_160613A
1606100-10D	MW-19	Aqueous	E300	Anions by IC method - Water	75663	1	06/15/16 02:02 PM	IC4_160615A
	MW-19	Aqueous	M4500-H+ B	pH	75556	1	06/10/16 09:46 AM	TITRATOR_160610A
	MW-19	Aqueous	M2540C	Total Dissolved Solids	75574	1	06/13/16 08:45 AM	WC_160610C

DHL Analytical, Inc.

Date: 21-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Project No: 5164-B
Lab Order: 1606100

Client Sample ID: MW-17A
Lab ID: 1606100-01
Collection Date: 06/07/16 03:30 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000174	0.0000800	0.000200	J	mg/L	1	06/13/16 12:12 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/16 07:16 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:16 PM
Barium	0.115	0.00300	0.0100		mg/L	1	06/09/16 07:16 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:16 PM
Boron	0.455	0.0100	0.0300		mg/L	1	06/13/16 03:26 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:16 PM
Calcium	5.02	0.100	0.300		mg/L	1	06/09/16 07:16 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:16 PM
Cobalt	0.00869	0.00300	0.00500		mg/L	1	06/09/16 07:16 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:16 PM
Lithium	0.0128	0.00500	0.0100		mg/L	1	06/13/16 03:26 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:16 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:16 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/16 07:16 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	8.96	0.300	1.00		mg/L	1	06/15/16 12:02 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/15/16 12:02 PM
Sulfate	43.4	1.00	3.00		mg/L	1	06/15/16 12:02 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.39	0	0		pH Units@16.4°C	1	06/10/16 09:24 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	141	10.0	10.0		mg/L	1	06/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Project No: 5164-B
Lab Order: 1606100

Client Sample ID: PDP-24
Lab ID: 1606100-02
Collection Date: 06/07/16 04:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000126	0.0000800	0.000200	J	mg/L	1	06/13/16 12:14 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/16 07:18 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:18 PM
Barium	0.0301	0.00300	0.0100		mg/L	1	06/09/16 07:18 PM
Beryllium	0.00418	0.000300	0.00100		mg/L	1	06/09/16 07:18 PM
Boron	2.83	0.100	0.300		mg/L	10	06/13/16 03:28 PM
Cadmium	0.00114	0.000300	0.00100		mg/L	1	06/09/16 07:18 PM
Calcium	27.6	1.00	3.00		mg/L	10	06/13/16 03:28 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:18 PM
Cobalt	0.0594	0.00300	0.00500		mg/L	1	06/09/16 07:18 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:18 PM
Lithium	0.0257	0.00500	0.0100		mg/L	1	06/15/16 02:08 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:18 PM
Selenium	0.00207	0.00200	0.00500	J	mg/L	1	06/09/16 07:18 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/16 07:18 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	22.5	0.300	1.00		mg/L	1	06/15/16 12:17 PM
Fluoride	0.689	0.100	0.400		mg/L	1	06/15/16 12:17 PM
Sulfate	308	10.0	30.0		mg/L	10	06/15/16 03:20 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.04	0	0		pH Units@16.2°C	1	06/10/16 09:27 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	596	10.0	10.0		mg/L	1	06/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Project No: 5164-B
Lab Order: 1606100

Client Sample ID: MW-18A
Lab ID: 1606100-03
Collection Date: 06/07/16 05:15 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.0378	0.00160	0.00400		mg/L	20	06/13/16 12:36 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/16 07:20 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:20 PM
Barium	0.0505	0.00300	0.0100		mg/L	1	06/09/16 07:20 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:20 PM
Boron	0.113	0.0100	0.0300		mg/L	1	06/13/16 03:30 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:20 PM
Calcium	2.32	0.100	0.300		mg/L	1	06/09/16 07:20 PM
Chromium	0.00326	0.00200	0.00500	J	mg/L	1	06/09/16 07:20 PM
Cobalt	0.00308	0.00300	0.00500	J	mg/L	1	06/09/16 07:20 PM
Lead	0.000403	0.000300	0.00100	J	mg/L	1	06/09/16 07:20 PM
Lithium	0.00768	0.00500	0.0100	J	mg/L	1	06/13/16 03:30 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:20 PM
Selenium	0.00251	0.00200	0.00500	J	mg/L	1	06/09/16 07:20 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/16 07:20 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	7.43	0.300	1.00		mg/L	1	06/15/16 12:32 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/15/16 12:32 PM
Sulfate	6.11	1.00	3.00		mg/L	1	06/15/16 12:32 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.48	0	0		pH Units@17.6°C	1	06/10/16 09:29 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	81.0	10.0	10.0		mg/L	1	06/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Project No: 5164-B
Lab Order: 1606100

Client Sample ID: PDP-25
Lab ID: 1606100-04
Collection Date: 06/08/16 07:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/13/16 12:26 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/16 07:22 PM
Arsenic	0.00214	0.00200	0.00500	J	mg/L	1	06/09/16 07:22 PM
Barium	0.201	0.00300	0.0100		mg/L	1	06/09/16 07:22 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:22 PM
Boron	0.102	0.0100	0.0300		mg/L	1	06/13/16 03:34 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:22 PM
Calcium	36.3	1.00	3.00		mg/L	10	06/13/16 03:32 PM
Chromium	0.0250	0.00200	0.00500		mg/L	1	06/09/16 07:22 PM
Cobalt	0.0114	0.00300	0.00500		mg/L	1	06/09/16 07:22 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:22 PM
Lithium	0.164	0.00500	0.0100		mg/L	1	06/13/16 03:34 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:22 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:22 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/16 07:22 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	132	3.00	10.0		mg/L	10	06/15/16 03:35 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/15/16 12:47 PM
Sulfate	106	1.00	3.00		mg/L	1	06/15/16 12:47 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	6.36	0	0		pH Units@17°C	1	06/10/16 09:32 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	626	10.0	10.0		mg/L	1	06/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Project No: 5164-B
Lab Order: 1606100

Client Sample ID: PDP-26
Lab ID: 1606100-05
Collection Date: 06/08/16 08:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/13/16 12:28 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/16 07:24 PM
Arsenic	0.00302	0.00200	0.00500	J	mg/L	1	06/09/16 07:24 PM
Barium	0.0290	0.00300	0.0100		mg/L	1	06/09/16 07:24 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:24 PM
Boron	0.0365	0.0100	0.0300		mg/L	1	06/13/16 04:34 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:24 PM
Calcium	2.23	0.100	0.300		mg/L	1	06/09/16 07:24 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:24 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	06/09/16 07:24 PM
Lead	0.000377	0.000300	0.00100	J	mg/L	1	06/09/16 07:24 PM
Lithium	0.0129	0.00500	0.0100		mg/L	1	06/13/16 04:34 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:24 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:24 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/16 07:24 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	6.22	0.300	1.00		mg/L	1	06/15/16 01:02 PM
Fluoride	0.102	0.100	0.400	J	mg/L	1	06/15/16 01:02 PM
Sulfate	8.41	1.00	3.00		mg/L	1	06/15/16 01:02 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.74	0	0		pH Units@17.7°C	1	06/10/16 09:35 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	118	10.0	10.0		mg/L	1	06/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Project No: 5164-B
Lab Order: 1606100

Client Sample ID: MW-20A
Lab ID: 1606100-06
Collection Date: 06/08/16 09:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000690	0.0000800	0.000200		mg/L	1	06/13/16 12:39 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/16 07:40 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:40 PM
Barium	0.106	0.00300	0.0100		mg/L	1	06/09/16 07:40 PM
Beryllium	0.000570	0.000300	0.00100	J	mg/L	1	06/09/16 07:40 PM
Boron	0.177	0.0100	0.0300		mg/L	1	06/13/16 04:36 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:40 PM
Calcium	20.8	0.100	0.300		mg/L	1	06/09/16 07:40 PM
Chromium	0.00249	0.00200	0.00500	J	mg/L	1	06/09/16 07:40 PM
Cobalt	0.00672	0.00300	0.00500		mg/L	1	06/09/16 07:40 PM
Lead	0.00471	0.000300	0.00100		mg/L	1	06/09/16 07:40 PM
Lithium	0.0147	0.00500	0.0100		mg/L	1	06/09/16 07:40 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:40 PM
Selenium	0.0105	0.00200	0.00500		mg/L	1	06/09/16 07:40 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/16 07:40 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	11.0	0.300	1.00		mg/L	1	06/15/16 01:17 PM
Fluoride	0.583	0.100	0.400		mg/L	1	06/15/16 01:17 PM
Sulfate	119	1.00	3.00		mg/L	1	06/15/16 01:17 PM
PH		M4500-H+ B		Analyst: BJT			
pH	4.75	0	0		pH Units@17.7°C	1	06/10/16 09:36 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	261	10.0	10.0		mg/L	1	06/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Project No: 5164-B
Lab Order: 1606100

Client Sample ID: PDP-23
Lab ID: 1606100-07
Collection Date: 06/08/16 10:40 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/13/16 12:41 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/16 07:42 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:42 PM
Barium	0.0435	0.00300	0.0100		mg/L	1	06/09/16 07:42 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:42 PM
Boron	0.0388	0.0100	0.0300		mg/L	1	06/13/16 04:38 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:42 PM
Calcium	1.59	0.100	0.300		mg/L	1	06/09/16 07:42 PM
Chromium	0.00225	0.00200	0.00500	J	mg/L	1	06/09/16 07:42 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	06/09/16 07:42 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:42 PM
Lithium	0.0125	0.00500	0.0100		mg/L	1	06/09/16 07:42 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:42 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:42 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/16 07:42 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	5.68	0.300	1.00		mg/L	1	06/15/16 01:32 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/15/16 01:32 PM
Sulfate	1.72	1.00	3.00	J	mg/L	1	06/15/16 01:32 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.69	0	0		pH Units@17.4°C	1	06/10/16 09:39 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	104	10.0	10.0		mg/L	1	06/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Project No: 5164-B
Lab Order: 1606100

Client Sample ID: EB-1
Lab ID: 1606100-08
Collection Date: 06/08/16 11:05 AM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/13/16 12:43 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/16 07:44 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:44 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	06/09/16 07:44 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:44 PM
Boron	0.0247	0.0100	0.0300	J	mg/L	1	06/13/16 04:40 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:44 PM
Calcium	7.71	0.100	0.300		mg/L	1	06/09/16 07:44 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:44 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	06/09/16 07:44 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:44 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	06/09/16 07:44 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:44 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:44 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/16 07:44 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	17.5	0.300	1.00		mg/L	1	06/15/16 11:47 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/15/16 11:47 AM
Sulfate	15.9	1.00	3.00		mg/L	1	06/15/16 11:47 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.54	0	0		pH Units@17.9°C	1	06/10/16 09:40 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	36.0	10.0	10.0		mg/L	1	06/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Project No: 5164-B
Lab Order: 1606100

Client Sample ID: PDP-22
Lab ID: 1606100-09
Collection Date: 06/08/16 11:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/13/16 12:46 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/16 07:46 PM
Arsenic	0.00774	0.00200	0.00500		mg/L	1	06/09/16 07:46 PM
Barium	0.521	0.00300	0.0100		mg/L	1	06/09/16 07:46 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:46 PM
Boron	0.213	0.0100	0.0300		mg/L	1	06/13/16 04:44 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:46 PM
Calcium	216	5.00	15.0		mg/L	50	06/13/16 04:42 PM
Chromium	0.0995	0.00200	0.00500		mg/L	1	06/09/16 07:46 PM
Cobalt	0.00404	0.00300	0.00500	J	mg/L	1	06/09/16 07:46 PM
Lead	0.000532	0.000300	0.00100	J	mg/L	1	06/09/16 07:46 PM
Lithium	0.184	0.00500	0.0100		mg/L	1	06/09/16 07:46 PM
Molybdenum	0.00236	0.00200	0.00500	J	mg/L	1	06/09/16 07:46 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:46 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/16 07:46 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	14.1	0.300	1.00		mg/L	1	06/15/16 01:47 PM
Fluoride	0.113	0.100	0.400	J	mg/L	1	06/15/16 01:47 PM
Sulfate	200	10.0	30.0		mg/L	10	06/15/16 03:50 PM
PH		M4500-H+ B		Analyst: BJT			
pH	8.90	0	0		pH Units@18.5°C	1	06/10/16 09:42 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	778	10.0	10.0		mg/L	1	06/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 21-Jul-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES
Project No: 5164-B
Lab Order: 1606100

Client Sample ID: MW-19
Lab ID: 1606100-10
Collection Date: 06/08/16 12:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/13/16 12:48 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/16 07:48 PM
Arsenic	0.00761	0.00200	0.00500		mg/L	1	06/09/16 07:48 PM
Barium	0.0223	0.00300	0.0100		mg/L	1	06/09/16 07:48 PM
Beryllium	0.000430	0.000300	0.00100	J	mg/L	1	06/09/16 07:48 PM
Boron	0.0965	0.0100	0.0300		mg/L	1	06/13/16 04:46 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/16 07:48 PM
Calcium	17.8	0.100	0.300		mg/L	1	06/09/16 07:48 PM
Chromium	0.00266	0.00200	0.00500	J	mg/L	1	06/09/16 07:48 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	06/09/16 07:48 PM
Lead	0.000501	0.000300	0.00100	J	mg/L	1	06/09/16 07:48 PM
Lithium	0.0153	0.00500	0.0100		mg/L	1	06/09/16 07:48 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:48 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/16 07:48 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/16 07:48 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	25.5	0.300	1.00		mg/L	1	06/15/16 02:02 PM
Fluoride	0.258	0.100	0.400	J	mg/L	1	06/15/16 02:02 PM
Sulfate	29.1	1.00	3.00		mg/L	1	06/15/16 02:02 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.29	0	0		pH Units@19.2°C	1	06/10/16 09:46 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	311	10.0	10.0		mg/L	1	06/13/16 08:45 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler

Work Order: 1606100

Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160613B

The QC data in batch 75586 applies to the following samples: 1606100-01A, 1606100-02A, 1606100-03A, 1606100-04A, 1606100-05A, 1606100-06A, 1606100-07A, 1606100-08A, 1606100-09A, 1606100-10A

Sample ID	MB-75586	Batch ID:	75586	TestNo:	SW7470A	Units:	mg/L			
SampType:	MBLK	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 11:38:28 AM	Prep Date:	6/10/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID	LCS-75586	Batch ID:	75586	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCS	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 11:40:44 AM	Prep Date:	6/10/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00197 0.000200 0.00200 0 98.5 85 115

Sample ID	LCSD-75586	Batch ID:	75586	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCSD	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 11:43:00 AM	Prep Date:	6/10/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00195 0.000200 0.00200 0 97.5 85 115 1.02 15

Sample ID	1606073-28B SD	Batch ID:	75586	TestNo:	SW7470A	Units:	mg/L			
SampType:	SD	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 11:58:52 AM	Prep Date:	6/10/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID	1606073-28B PDS	Batch ID:	75586	TestNo:	SW7470A	Units:	mg/L			
SampType:	PDS	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 12:01:07 PM	Prep Date:	6/10/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00228 0.000200 0.00250 0 91.2 85 115

Sample ID	1606073-28B MS	Batch ID:	75586	TestNo:	SW7470A	Units:	mg/L			
SampType:	MS	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 12:03:23 PM	Prep Date:	6/10/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00182 0.000200 0.00200 0 91.0 80 120

Sample ID	1606073-28B MSD	Batch ID:	75586	TestNo:	SW7470A	Units:	mg/L			
SampType:	MSD	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 12:05:39 PM	Prep Date:	6/10/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00186 0.000200 0.00200 0 93.0 80 120 2.17 15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160613B

Sample ID	ICV-160613	Batch ID:	R86289	TestNo:	SW7470A	Units:	mg/L				
SampType:	ICV	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 10:29:25 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00390	0.000200	0.00400	0	97.5	90	110			

Sample ID	CCV2-160613	Batch ID:	R86289	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 11:28:29 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00195	0.000200	0.00200	0	97.5	90	110			

Sample ID	CCV3-160613	Batch ID:	R86289	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 12:17:01 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00193	0.000200	0.00200	0	96.5	90	110			

Sample ID	CCV4-160613	Batch ID:	R86289	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_160613B	Analysis Date:	6/13/2016 12:55:10 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00193	0.000200	0.00200	0	96.5	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160609B

The QC data in batch 75544 applies to the following samples: 1606100-01A, 1606100-02A, 1606100-03A, 1606100-04A, 1606100-05A, 1606100-06A, 1606100-07A, 1606100-08A, 1606100-09A, 1606100-10A

Sample ID	MB-75544		Batch ID:	75544		TestNo:	SW6020A		Units:	mg/L	
SampType:	MBLK		Run ID:	ICP-MS4_160609B		Analysis Date:	6/9/2016 6:55:00 PM		Prep Date:	6/9/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID	LCS-75544			Batch ID:	75544		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS			Run ID:	ICP-MS4_160609B		Analysis Date:	6/9/2016 6:58:00 PM		Prep Date:	6/9/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.199	0.00250	0.200	0	99.4	80	120			
Arsenic	0.196	0.00500	0.200	0	98.2	80	120			
Barium	0.190	0.0100	0.200	0	95.0	80	120			
Beryllium	0.182	0.00100	0.200	0	91.0	80	120			
Cadmium	0.193	0.00100	0.200	0	96.6	80	120			
Calcium	4.69	0.300	5.00	0	93.8	80	120			
Chromium	0.201	0.00500	0.200	0	100	80	120			
Cobalt	0.206	0.00500	0.200	0	103	80	120			
Lead	0.211	0.00100	0.200	0	106	80	120			
Molybdenum	0.198	0.00500	0.200	0	98.9	80	120			
Selenium	0.197	0.00500	0.200	0	98.3	80	120			
Thallium	0.213	0.00150	0.200	0	107	80	120			

Sample ID	LCSD-75544			Batch ID:	75544		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCSD			Run ID:	ICP-MS4_160609B		Analysis Date:	6/9/2016 7:00:00 PM		Prep Date:	6/9/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.204	0.00250	0.200	0	102	80	120	2.35	15	
Arsenic	0.197	0.00500	0.200	0	98.5	80	120	0.241	15	
Barium	0.195	0.0100	0.200	0	97.7	80	120	2.76	15	
Beryllium	0.181	0.00100	0.200	0	90.6	80	120	0.420	15	
Cadmium	0.196	0.00100	0.200	0	97.9	80	120	1.39	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160609B

Sample ID	LCSD-75544	Batch ID:	75544	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 7:00:00 PM	Prep Date:	6/9/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.73	0.300	5.00	0	94.7	80	120	0.938	15	
Chromium	0.202	0.00500	0.200	0	101	80	120	0.827	15	
Cobalt	0.207	0.00500	0.200	0	104	80	120	0.622	15	
Lead	0.212	0.00100	0.200	0	106	80	120	0.117	15	
Molybdenum	0.202	0.00500	0.200	0	101	80	120	1.97	15	
Selenium	0.196	0.00500	0.200	0	98.0	80	120	0.239	15	
Thallium	0.214	0.00150	0.200	0	107	80	120	0.327	15	

Sample ID	1606096-01A SD	Batch ID:	75544	TestNo:	SW6020A	Units:	mg/L				
SampType:	SD	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 7:06:00 PM	Prep Date:	6/9/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	<0.0150	0.0500	0	0.00468				0	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Calcium	<0.500	1.50	0	0.351				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0				0	10	
Lead	<0.00150	0.00500	0	0.000645				0	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	0.666	0.0250	0	0.643				3.39	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID	1606096-01A PDS	Batch ID:	75544	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 7:26:00 PM	Prep Date:	6/9/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.195	0.00250	0.200	0	97.4	80	120			
Arsenic	0.198	0.00500	0.200	0	98.8	80	120			
Barium	0.199	0.0100	0.200	0.00468	97.4	80	120			
Beryllium	0.200	0.00100	0.200	0	100	80	120			
Cadmium	0.196	0.00100	0.200	0	97.9	80	120			
Calcium	4.96	0.300	5.00	0.351	92.1	80	120			
Chromium	0.215	0.00500	0.200	0	107	80	120			
Cobalt	0.214	0.00500	0.200	0	107	80	120			
Lead	0.214	0.00100	0.200	0.000645	107	80	120			
Molybdenum	0.196	0.00500	0.200	0	97.8	80	120			
Selenium	0.791	0.00500	0.200	0.643	73.7	80	120			S
Thallium	0.204	0.00150	0.200	0	102	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160609B

Sample ID: 1606096-01A MS	Batch ID: 75544	TestNo: SW6020A	Units: mg/L							
SampType: MS	Run ID: ICP-MS4_160609B	Analysis Date: 6/9/2016 7:28:00 PM	Prep Date: 6/9/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.201	0.00250	0.200	0	101	80	120			
Arsenic	0.194	0.00500	0.200	0	97.0	80	120			
Barium	0.191	0.0100	0.200	0.00468	92.9	80	120			
Beryllium	0.195	0.00100	0.200	0	97.6	80	120			
Cadmium	0.191	0.00100	0.200	0	95.4	80	120			
Calcium	4.94	0.300	5.00	0.351	91.7	80	120			
Chromium	0.203	0.00500	0.200	0	102	80	120			
Cobalt	0.206	0.00500	0.200	0	103	80	120			
Lead	0.210	0.00100	0.200	0.000645	105	80	120			
Molybdenum	0.193	0.00500	0.200	0	96.4	80	120			
Selenium	0.822	0.00500	0.200	0.643	89.5	80	120			
Thallium	0.206	0.00150	0.200	0	103	80	120			

Sample ID: 1606096-01A MSD	Batch ID: 75544	TestNo: SW6020A	Units: mg/L							
SampType: MSD	Run ID: ICP-MS4_160609B	Analysis Date: 6/9/2016 7:30:00 PM	Prep Date: 6/9/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.201	0.00250	0.200	0	100	80	120	0.052	15	
Arsenic	0.195	0.00500	0.200	0	97.3	80	120	0.294	15	
Barium	0.195	0.0100	0.200	0.00468	95.1	80	120	2.31	15	
Beryllium	0.195	0.00100	0.200	0	97.3	80	120	0.318	15	
Cadmium	0.195	0.00100	0.200	0	97.6	80	120	2.31	15	
Calcium	4.91	0.300	5.00	0.351	91.2	80	120	0.495	15	
Chromium	0.203	0.00500	0.200	0	101	80	120	0.374	15	
Cobalt	0.207	0.00500	0.200	0	103	80	120	0.181	15	
Lead	0.207	0.00100	0.200	0.000645	103	80	120	1.60	15	
Molybdenum	0.196	0.00500	0.200	0	98.1	80	120	1.75	15	
Selenium	0.821	0.00500	0.200	0.643	88.9	80	120	0.124	15	
Thallium	0.198	0.00150	0.200	0	99.1	80	120	3.99	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160609B

Sample ID	ICV-160609	Batch ID:	R86243	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 5:10:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.101	0.00250	0.100	0	101	90	110			
Arsenic	0.0997	0.00500	0.100	0	99.7	90	110			
Barium	0.0973	0.0100	0.100	0	97.3	90	110			
Beryllium	0.0938	0.00100	0.100	0	93.8	90	110			
Cadmium	0.0970	0.00100	0.100	0	97.0	90	110			
Calcium	2.43	0.300	2.50	0	97.4	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.107	0.00500	0.100	0	107	90	110			
Lead	0.109	0.00100	0.100	0	109	90	110			
Lithium	0.0914	0.0100	0.100	0	91.4	90	110			
Molybdenum	0.0996	0.00500	0.100	0	99.6	90	110			
Selenium	0.101	0.00500	0.100	0	101	90	110			
Thallium	0.108	0.00150	0.100	0	108	90	110			

Sample ID	LCVL-160609	Batch ID:	R86243	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 5:14:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00194	0.00250	0.00200	0	97.2	70	130			
Arsenic	0.00499	0.00500	0.00500	0	99.8	70	130			
Barium	0.00472	0.0100	0.00500	0	94.4	70	130			
Beryllium	0.00113	0.00100	0.00100	0	112	70	130			
Cadmium	0.000954	0.00100	0.00100	0	95.4	70	130			
Calcium	0.101	0.300	0.100	0	101	70	130			
Chromium	0.00515	0.00500	0.00500	0	103	70	130			
Cobalt	0.00526	0.00500	0.00500	0	105	70	130			
Lead	0.00104	0.00100	0.00100	0	104	70	130			
Lithium	0.0103	0.0100	0.0100	0	103	70	130			
Molybdenum	0.00517	0.00500	0.00500	0	103	70	130			
Selenium	0.00490	0.00500	0.00500	0	98.0	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Sample ID	CCV5-160609	Batch ID:	R86243	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 6:47:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.207	0.00250	0.200	0	104	90	110			
Arsenic	0.206	0.00500	0.200	0	103	90	110			
Barium	0.198	0.0100	0.200	0	99.1	90	110			
Beryllium	0.185	0.00100	0.200	0	92.6	90	110			
Cadmium	0.198	0.00100	0.200	0	99.2	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160609B

Sample ID	CCV5-160609	Batch ID:	R86243	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 6:47:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.80	0.300	5.00	0	95.9	90	110			
Chromium	0.205	0.00500	0.200	0	103	90	110			
Cobalt	0.212	0.00500	0.200	0	106	90	110			
Lead	0.217	0.00100	0.200	0	108	90	110			
Molybdenum	0.204	0.00500	0.200	0	102	90	110			
Selenium	0.204	0.00500	0.200	0	102	90	110			
Thallium	0.214	0.00150	0.200	0	107	90	110			

Sample ID	LCVL5-160609	Batch ID:	R86243	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 6:51:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00206	0.00250	0.00200	0	103	70	130			
Arsenic	0.00520	0.00500	0.00500	0	104	70	130			
Barium	0.00484	0.0100	0.00500	0	96.8	70	130			
Beryllium	0.000819	0.00100	0.00100	0	81.9	70	130			
Cadmium	0.000961	0.00100	0.00100	0	96.1	70	130			
Calcium	0.114	0.300	0.100	0	114	70	130			
Chromium	0.00525	0.00500	0.00500	0	105	70	130			
Cobalt	0.00525	0.00500	0.00500	0	105	70	130			
Lead	0.00106	0.00100	0.00100	0	106	70	130			
Molybdenum	0.00507	0.00500	0.00500	0	101	70	130			
Selenium	0.00526	0.00500	0.00500	0	105	70	130			
Thallium	0.00109	0.00150	0.00100	0	109	70	130			

Sample ID	CCV6-160609	Batch ID:	R86243	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 7:32:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.208	0.00250	0.200	0	104	90	110			
Arsenic	0.206	0.00500	0.200	0	103	90	110			
Barium	0.199	0.0100	0.200	0	99.4	90	110			
Beryllium	0.204	0.00100	0.200	0	102	90	110			
Cadmium	0.202	0.00100	0.200	0	101	90	110			
Calcium	4.73	0.300	5.00	0	94.5	90	110			
Chromium	0.212	0.00500	0.200	0	106	90	110			
Cobalt	0.215	0.00500	0.200	0	108	90	110			
Lead	0.221	0.00100	0.200	0	110	90	110			
Molybdenum	0.206	0.00500	0.200	0	103	90	110			
Selenium	0.204	0.00500	0.200	0	102	90	110			
Thallium	0.206	0.00150	0.200	0	103	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160609B

Sample ID	LCVL6-160609	Batch ID:	R86243	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 7:36:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00230	0.00250	0.00200	0	115	70	130			
Arsenic	0.00509	0.00500	0.00500	0	102	70	130			
Barium	0.00492	0.0100	0.00500	0	98.5	70	130			
Beryllium	0.00120	0.00100	0.00100	0	120	70	130			
Cadmium	0.00101	0.00100	0.00100	0	101	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00539	0.00500	0.00500	0	108	70	130			
Cobalt	0.00527	0.00500	0.00500	0	105	70	130			
Lead	0.00105	0.00100	0.00100	0	105	70	130			
Molybdenum	0.00514	0.00500	0.00500	0	103	70	130			
Selenium	0.00528	0.00500	0.00500	0	106	70	130			
Thallium	0.00106	0.00150	0.00100	0	106	70	130			

Sample ID	CCV7-160609	Batch ID:	R86243	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 7:52:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.209	0.00250	0.200	0	105	90	110			
Arsenic	0.205	0.00500	0.200	0	103	90	110			
Barium	0.201	0.0100	0.200	0	101	90	110			
Beryllium	0.202	0.00100	0.200	0	101	90	110			
Cadmium	0.201	0.00100	0.200	0	101	90	110			
Calcium	4.81	0.300	5.00	0	96.2	90	110			
Chromium	0.210	0.00500	0.200	0	105	90	110			
Cobalt	0.214	0.00500	0.200	0	107	90	110			
Lead	0.217	0.00100	0.200	0	109	90	110			
Lithium	0.201	0.0100	0.200	0	101	90	110			
Molybdenum	0.205	0.00500	0.200	0	103	90	110			
Selenium	0.201	0.00500	0.200	0	101	90	110			
Thallium	0.205	0.00150	0.200	0	103	90	110			

Sample ID	LCVL7-160609	Batch ID:	R86243	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 7:56:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00215	0.00250	0.00200	0	107	70	130			
Arsenic	0.00501	0.00500	0.00500	0	100	70	130			
Barium	0.00502	0.0100	0.00500	0	100	70	130			
Beryllium	0.000752	0.00100	0.00100	0	75.2	70	130			
Cadmium	0.00101	0.00100	0.00100	0	101	70	130			
Calcium	0.100	0.300	0.100	0	100	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160609B

Sample ID	LCVL7-160609	Batch ID:	R86243	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160609B	Analysis Date:	6/9/2016 7:56:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.00521	0.00500	0.00500	0	104	70	130			
Cobalt	0.00526	0.00500	0.00500	0	105	70	130			
Lead	0.00105	0.00100	0.00100	0	105	70	130			
Lithium	0.0101	0.0100	0.0100	0	101	70	130			
Molybdenum	0.00520	0.00500	0.00500	0	104	70	130			
Selenium	0.00491	0.00500	0.00500	0	98.2	70	130			
Thallium	0.00108	0.00150	0.00100	0	108	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160613A

The QC data in batch 75544 applies to the following samples: 1606100-01A, 1606100-02A, 1606100-03A, 1606100-04A, 1606100-05A, 1606100-06A, 1606100-07A, 1606100-08A, 1606100-09A, 1606100-10A

Sample ID	MB-75544	Batch ID:	75544	TestNo:	SW6020A	Units:	mg/L			
SampType:	MBLK	Run ID:	ICP-MS4_160613A	Analysis Date:	6/13/2016 3:06:00 PM	Prep Date:	6/9/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	<0.0100	0.0300								
Lithium	<0.00500	0.0100								

Sample ID	LCS-75544			Batch ID:	75544		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS			Run ID:	ICP-MS4_160613A		Analysis Date:	6/13/2016 3:08:00 PM		Prep Date:	6/9/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Boron	0.191	0.0300	0.200	0	95.3	80	120			
Lithium	0.202	0.0100	0.200	0	101	80	120			

Sample ID	LCSD-75544			Batch ID:	75544		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCSD			Run ID:	ICP-MS4_160613A		Analysis Date:	6/13/2016 3:10:00 PM		Prep Date:	6/9/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Boron	0.204	0.0300	0.200	0	102	80	120	6.90	15	
Lithium	0.194	0.0100	0.200	0	96.8	80	120	4.36	15	

Sample ID	1606096-01A SD			Batch ID:	75544		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD			Run ID:	ICP-MS4_160613A		Analysis Date:	6/13/2016 3:16:00 PM		Prep Date:	6/9/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Boron	1.36	0.150	0	1.28				5.82	10	
Lithium	<0.0250	0.0500	0	0				0	10	

Sample ID	1606096-01A PDS		Batch ID:	75544		TestNo:	SW6020A		Units:	mg/L		
SampType:	PDS		Run ID:	ICP-MS4_160613A		Analysis Date:	6/13/2016 3:36:00 PM		Prep Date:	6/9/2016		
Analyte			Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	1.40	0.0300	0.200	1.28	59.7	80	120			S
Lithium	0.209	0.0100	0.200	0	105	80	120			

Sample ID	1606096-01A MS			Batch ID:	75544		TestNo:	SW6020A		Units:	mg/L	
SampType:	MS			Run ID:	ICP-MS4_160613A		Analysis Date:	6/13/2016 3:38:00 PM		Prep Date:	6/9/2016	
Analyte	Result		RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Boron	1.49	0.0300	0.200	1.28	108	80	120			
Lithium	0.198	0.0100	0.200	0	98.8	80	120			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160613A

Sample ID	1606096-01A MSD	Batch ID:	75544	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160613A	Analysis Date:	6/13/2016 3:40:00 PM	Prep Date:	6/9/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual
Boron		1.48	0.0300	0.200	1.28	101	80	120	0.872	15
Lithium		0.202	0.0100	0.200	0	101	80	120	2.06	15

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160613A

Sample ID	ICV-160613	Batch ID:	R86298	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160613A	Analysis Date:	6/13/2016 2:47:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.104	0.0300	0.100	0	104	90	110			
Calcium	2.28	0.300	2.50	0	91.4	90	110			
Lithium	0.0992	0.0100	0.100	0	99.2	90	110			

Sample ID	LCVL-160613	Batch ID:	R86298	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160613A	Analysis Date:	6/13/2016 2:52:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0253	0.0300	0.0200	0	126	70	130			
Calcium	0.0900	0.300	0.100	0	90.0	70	130			
Lithium	0.0107	0.0100	0.0100	0	107	70	130			

Sample ID	CCV1-160613	Batch ID:	R86298	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160613A	Analysis Date:	6/13/2016 4:08:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.204	0.0300	0.200	0	102	90	110			
Calcium	4.68	0.300	5.00	0	93.6	90	110			
Lithium	0.210	0.0100	0.200	0	105	90	110			

Sample ID	LCVL1-160613	Batch ID:	R86298	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160613A	Analysis Date:	6/13/2016 4:28:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0255	0.0300	0.0200	0	128	70	130			
Calcium	0.100	0.300	0.100	0	100	70	130			
Lithium	0.00936	0.0100	0.0100	0	93.6	70	130			

Sample ID	CCV2-160613	Batch ID:	R86298	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160613A	Analysis Date:	6/13/2016 4:58:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.189	0.0300	0.200	0	94.6	90	110			
Calcium	4.48	0.300	5.00	0	89.5	90	110			
Lithium	0.200	0.0100	0.200	0	100	90	110			

Sample ID	LCVL2-160613	Batch ID:	R86298	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160613A	Analysis Date:	6/13/2016 5:04:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0205	0.0300	0.0200	0	103	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160613A

Sample ID	LCVL2-160613	Batch ID:	R86298	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160613A	Analysis Date:	6/13/2016 5:04:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0934	0.300	0.100	0	93.4	70	130			
Lithium	0.00781	0.0100	0.0100	0	78.1	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160615A

Sample ID	ICV-160615	Batch ID:	R86351	TestNo:	SW6020A	Units:	mg/L
SampType:	ICV	Run ID:	ICP-MS4_160615A	Analysis Date:	6/15/2016 11:05:00 AM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual
Lithium	0.0937	0.0100	0.100	0	93.7	90	110

Sample ID	LCVL-160615	Batch ID:	R86351	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160615A	Analysis Date:	6/15/2016 11:11:00 AM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual
Lithium	0.00905	0.0100	0.0100	0	90.5	70	130

Sample ID	CCV3-160615	Batch ID:	R86351	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160615A	Analysis Date:	6/15/2016 1:45:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual
Lithium	0.201	0.0100	0.200	0	101	90	110

Sample ID	LCVL3-160615	Batch ID:	R86351	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160615A	Analysis Date:	6/15/2016 1:49:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual
Lithium	0.0111	0.0100	0.0100	0	111	70	130

Sample ID	CCV4-160615	Batch ID:	R86351	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160615A	Analysis Date:	6/15/2016 2:16:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual
Lithium	0.214	0.0100	0.200	0	107	90	110

Sample ID	LCVL4-160615	Batch ID:	R86351	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160615A	Analysis Date:	6/15/2016 2:28:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual
Lithium	0.0110	0.0100	0.0100	0	110	70	130

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160615A

The QC data in batch 75663 applies to the following samples: 1606100-01D, 1606100-02D, 1606100-03D, 1606100-04D, 1606100-05D, 1606100-06D, 1606100-07D, 1606100-08D, 1606100-09D, 1606100-10D

Sample ID	MB-75663		Batch ID:	75663		TestNo:	E300		Units:	mg/L	
SampType:	MBLK		Run ID:	IC4_160615A		Analysis Date:	6/15/2016 10:57:57 AM		Prep Date:	6/15/2016	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-75663			Batch ID:	75663		TestNo:	E300		Units:	mg/L	
SampType:	LCS			Run ID:	IC4_160615A		Analysis Date:	6/15/2016 11:12:57 AM		Prep Date:	6/15/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	10.1	1.00	10.00	0	101	90	110			
Fluoride	4.02	0.400	4.000	0	101	90	110			
Sulfate	30.5	3.00	30.00	0	102	90	110			

Sample ID	LCSD-75663			Batch ID:	75663		TestNo:	E300		Units:	mg/L	
SampType:	LCSD			Run ID:	IC4_160615A		Analysis Date:	6/15/2016 11:27:57 AM		Prep Date:	6/15/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	10.1	1.00	10.00	0	101	90	110	0.301	20	
Fluoride	4.01	0.400	4.000	0	100	90	110	0.219	20	
Sulfate	30.7	3.00	30.00	0	102	90	110	0.817	20	

Sample ID	1606100-07DMS			Batch ID:	75663		TestNo:	E300		Units:	mg/L	
SampType:	MS			Run ID:	IC4_160615A		Analysis Date:	6/15/2016 4:05:19 PM		Prep Date:	6/15/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	26.1	1.00	20.00	5.675	102	90	110			
Fluoride	20.4	0.400	20.00	0	102	90	110			
Sulfate	22.7	3.00	20.00	1.724	105	90	110			

Sample ID	1606100-07DMSD			Batch ID:	75663			TestNo:	E300			Units:	mg/L		
SampType:	MSD			Run ID:	IC4_160615A			Analysis Date:	6/15/2016 4:20:19 PM			Prep Date:	6/15/2016		
Analyte				Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

Chloride	26.4	1.00	20.00	5.675	103	90	110	1.13	20	
Fluoride	20.6	0.400	20.00	0	103	90	110	1.36	20	
Sulfate	23.0	3.00	20.00	1.724	106	90	110	1.15	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160615A

Sample ID	ICV-160615	Batch ID:	R86356		TestNo:	E300		Units:	mg/L		
SampType:	ICV	Run ID:	IC4_160615A		Analysis Date:	6/15/2016 10:08:20 AM		Prep Date:			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		25.5	1.00	25.00	0	102	90	110			
Fluoride		10.0	0.400	10.00	0	100	90	110			
Sulfate		78.1	3.00	75.00	0	104	90	110			

Sample ID	CCV1-160615	Batch ID:	R86356	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC4_160615A	Analysis Date:	6/15/2016 2:38:27 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10.00	0	102	90	110			
Fluoride	4.04	0.400	4.000	0	101	90	110			
Sulfate	31.0	3.00	30.00	0	103	90	110			

Sample ID	CCV2-160615	Batch ID:	R86356	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC4_160615A	Analysis Date:	6/15/2016 4:50:19 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.3	1.00	10.00	0	103	90	110			
Fluoride	4.05	0.400	4.000	0	101	90	110			
Sulfate	31.2	3.00	30.00	0	104	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160610A

The QC data in batch 75556 applies to the following samples: 1606100-01D, 1606100-02D, 1606100-03D, 1606100-04D, 1606100-05D, 1606100-06D, 1606100-07D, 1606100-08D, 1606100-09D, 1606100-10D

Sample ID	1606100-01D-DUP	Batch ID:	75556	TestNo:	M4500-H+ B	Units:	pH Units@16.3°C
SampType:	DUP	Run ID:	TITRATOR_160610A	Analysis Date:	6/10/2016 9:26:00 AM	Prep Date:	6/10/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		5.35	0	0	5.390		0.745 5

LUMINANT

Qualifiers:	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160610A

Sample ID	ICV-160610	Batch ID:	R86248	TestNo:	M4500-H+ B	Units:	pH Units@21.8°C			
SampType:	ICV	Run ID:	TITRATOR_160610A	Analysis Date:	6/10/2016 8:40:00 AM	Prep Date:	6/10/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	10.0	0	10.00	0	100	99	101			

Sample ID	CCV1-160610	Batch ID:	R86248	TestNo:	M4500-H+ B	Units:	pH Units@21.6°C			
SampType:	CCV	Run ID:	TITRATOR_160610A	Analysis Date:	6/10/2016 9:44:00 AM	Prep Date:	6/10/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	7.03	0	7.000	0	100	97.1	102.9			

Sample ID	CCV2-160610	Batch ID:	R86248	TestNo:	M4500-H+ B	Units:	pH Units@21.5°C				
SampType:	CCV	Run ID:	TITRATOR_160610A	Analysis Date:	6/10/2016 9:47:00 AM	Prep Date:	6/10/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH		7.02	0	7.000	0	100	97.1	102.9			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1606100
Project: Luminant - MLSES

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160610C

The QC data in batch 75574 applies to the following samples: 1606100-01D, 1606100-02D, 1606100-03D, 1606100-04D, 1606100-05D, 1606100-06D, 1606100-07D, 1606100-08D, 1606100-09D, 1606100-10D

Sample ID	MB-75574		Batch ID:	75574		TestNo:	M2540C		Units:	mg/L	
SampType:	MBLK		Run ID:	WC_160610C		Analysis Date:	6/13/2016 8:45:00 AM		Prep Date:	6/10/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-75574		Batch ID:	75574		TestNo:	M2540C		Units:	mg/L	
SampType:	LCS		Run ID:	WC_160610C		Analysis Date:	6/13/2016 8:45:00 AM		Prep Date:	6/10/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 748 10.0 745.6 0 100 90 113

Sample ID	1606078-08D-DUP	Batch ID:	75574	TestNo:	M2540C	Units:	mg/L			
SampType:	DUP	Run ID:	WC_160610C	Analysis Date:	6/13/2016 8:45:00 AM	Prep Date:	6/10/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1490 50.0 0 1460 2.03 5

Sample ID	1606098-01D-DUP		Batch ID:	75574		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_160610C		Analysis Date:	6/13/2016 8:45:00 AM		Prep Date:	6/10/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 161 10.0 0 164.0 1.85 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

Case Narrative

Lab No: 20160566

On 05/11/2016, the following information was received from the client: The client is a private laboratory and is currently performing testing for the presence of lead in paint. The client is currently performing testing for the presence of lead in paint.

The client is currently performing testing for the presence of lead in paint. The client is currently performing testing for the presence of lead in paint.

The client is currently performing testing for the presence of lead in paint. The client is currently performing testing for the presence of lead in paint.

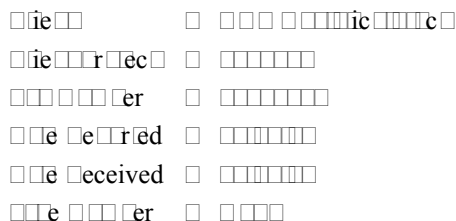
The client is currently performing testing for the presence of lead in paint. The client is currently performing testing for the presence of lead in paint.

The client is currently performing testing for the presence of lead in paint. The client is currently performing testing for the presence of lead in paint.

The client is currently performing testing for the presence of lead in paint. The client is currently performing testing for the presence of lead in paint.

Observations / Nonconformances

The client is currently performing testing for the presence of lead in paint. The client is currently performing testing for the presence of lead in paint.

**Analyst**

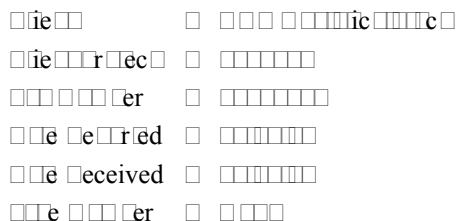


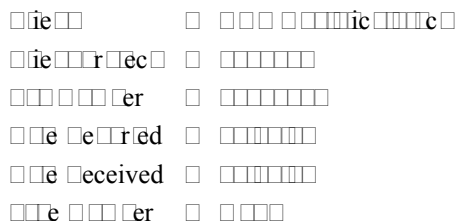












Address: 311 North Aspen Avenue, Broken Arrow, OK, 74012-7 EMail: outreach@esclabsciences.com - Tel: (918) 251-2515

DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1606100

CHAIN-OF-CUSTODY RECORD

Page 1 of 2

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

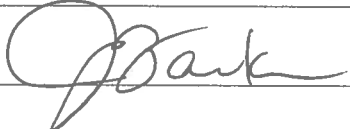
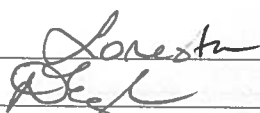
09-Jun-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E904.0	SM7500Ra-B M				
MW-17A	Aqueous	-01B	06/07/16 03:30 PM	500HDPEHNO3	1					
MW-17A	Aqueous	-01C	06/07/16 03:30 PM	500HDPEHNO3		1				
PDP-24	Aqueous	-02B	06/07/16 04:20 PM	500HDPEHNO3	1					
PDP-24	Aqueous	-02C	06/07/16 04:20 PM	500HDPEHNO3		1				
MW-18A	Aqueous	-03B	06/07/16 05:15 PM	500HDPEHNO3	1					
MW-18A	Aqueous	-03C	06/07/16 05:15 PM	500HDPEHNO3		1				
PDP-25	Aqueous	-04B	06/08/16 07:45 AM	500HDPEHNO3	1					
PDP-25	Aqueous	-04C	06/08/16 07:45 AM	500HDPEHNO3		1				
PDP-26	Aqueous	-05B	06/08/16 08:45 AM	500HDPEHNO3	1					
PDP-26	Aqueous	-05C	06/08/16 08:45 AM	500HDPEHNO3		1				
MW-20A	Aqueous	-06B	06/08/16 09:45 AM	500HDPEHNO3	1					
MW-20A	Aqueous	-06C	06/08/16 09:45 AM	500HDPEHNO3		1				
PDP-23	Aqueous	-07B	06/08/16 10:40 AM	500HDPEHNO3	1					
PDP-23	Aqueous	-07C	06/08/16 10:40 AM	500HDPEHNO3		1				
EB-1	Equip Blank	-08B	06/08/16 11:05 AM	500HDPEHNO3	1					
EB-1	Equip Blank	-08C	06/08/16 11:05 AM	500HDPEHNO3		1				
PDP-22	Aqueous	-09B	06/08/16 11:50 AM	500HDPEHNO3	1					
PDP-22	Aqueous	-09C	06/08/16 11:50 AM	500HDPEHNO3		1				

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

C841156

Relinquished by: 	Date/Time: 6/9/16 1730	Received by: 	Date/Time: 6/5/16 1730
Relinquished by: _____	Date/Time: _____	Received by: 	Date/Time: 6/13/16 1049

7/16/2016

DHL Analytical, Inc.
2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1606100

CHAIN-OF-CUSTODY RECORD

Page 2 of 2

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

09-Jun-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E904.0	SM7500Ra-B M				
MW-19	Aqueous	-10B	06/08/16 12:40 PM	500HDPEHNO3	1					
MW-19	Aqueous	-10C	06/08/16 12:40 PM	500HDPEHNO3		1				

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

6841156

	Date/Time		Date/Time
Relinquished by: <u>[Signature]</u>	<u>6/9/16 1730</u>	Received by: <u>[Signature]</u>	<u>6/9/16 1730</u>
Relinquished by: _____	_____	Received by: <u>[Signature]</u>	<u>6/13/16 1009</u>

SAMPLE LOGIN

Date Received: 06/13/16 10:49:16

Lab Number: 20160566

Due: 07/12/16

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160566-01 B	MW-17A	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160566-01 A	MW-17A	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160566-02 A	PDP-24	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160566-02 B	PDP-24	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160566-03 A	MW-18A	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160566-03 B	MW-18A	NPW	06/07/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160566-04 A	PDP-25	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160566-04 B	PDP-25	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160566-05 B	PDP-26	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160566-05 A	PDP-26	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160566-06 B	MW-20A	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160566-06 A	MW-20A	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160566-07 A	PDP-23	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
20160566-07 B	PDP-23	NPW	06/08/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20160566-08 A	EB-1	NPW	06/08/16	Plastic	500 ml	HNO ₃ , pH < 2	☐	Yes	Yes
20160566-08 B	EB-1	NPW	06/08/16	Plastic	500 ml	HNO ₃ , pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160566-09 A	PDP-22	NPW	06/08/16	Plastic	500 ml	HNO ₃ , pH < 2	☐	Yes	Yes
20160566-09 B	PDP-22	NPW	06/08/16	Plastic	500 ml	HNO ₃ , pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160566-10 B	MW-19	NPW	06/08/16	Plastic	500 ml	HNO ₃ , pH < 2	☐	Yes	Yes
20160566-10 A	MW-19	NPW	06/08/16	Plastic	500 ml	HNO ₃ , pH < 2	☐	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

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

SAMPLE INSPECTION

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

Anomalies

Inspected By: *PSL* DATE *06/13/16*

QA or Designee Review: *Ryan Mahony* DATE *06/13/16*

Sample Custodian Review: *Ben Mahony* DATE *06.13.16*

Project Notes:



September 14, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Luminant - Martin Lake

Order No.: 1608133

Dear Will Vienne:

DHL Analytical, Inc. received 27 sample(s) on 8/11/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-16



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Subcontract Report 1608133 114

CLIENT: DBW

ADDRESS: 2261 Double Creek Dr Ste 4004 Round Rock TX 78664

PHONE: 512 671 3434 FAX/E-MAIL: 512 671 3446

DATA REPORTED TO: WILL VIENNE

ADDITIONAL REPORT COPIES TO:

DATE: 8/9/16

PAGE OF

PO #: 5164-B

DHL WORK ORDER #: 11608132

PROJECT LOCATION OR NAME: Luminant - Martin Lake

CLIENT PROJECT #: 5164-B

COLLECTOR: C KAROLEWSKI

[illegible]

CLIENT: PBW
ADDRESS: 2201 DOUBLE CREEK DR ROUND ROCK, TX 78664
PHONE: 512-671-3434 FAX/E-MAIL: 512-671-3446
DATA REPORTED TO: WILL VIENNE
ADDITIONAL REPORT COPIES TO:

DATE: 8-11-16 PAGE 1 OF 1
PO #: 5164-B DHL WORK ORDER #: 1608133
PROJECT LOCATION OR NAME: LUMINANT- MISES
CLIENT PROJECT #: 5164-B COLLECTOR: J. BRAYDON

[illegible]

RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
<i>[Signature]</i>	17.10.18 11:16	<i>[Signature]</i>
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)
RELINQUISHED BY: (Signature)	DATE/TIME	RECEIVED BY: (Signature)

TURN AROUND TIME

RUSH ☐ CALL FIRST
1 DAY ☐ CALL FIRST
2 DAY ☐
NORMAL ☒
OTHER ☐

LABORATORY USE ONLY:

RECEIVING TEMP: 31.0.210.8 THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☐ INTACT ☒ NOT USED
CARRIER: ☐ LONE STAR ☐ FEDEX ☐ UPS ☐ OTHER
☐ COURIER DELIVERY
☒ HAND DELIVERED

John Dupont

From: Sara Taube [Sara.Taube@pbwllc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 8/11/2016

Work Order Number 1608133

Received by JT

Checklist completed by:

Signature

8/12/2016

Date

Reviewed by

Initials

8/12/2016

Date

Carrier name Hand Delivered

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
Chain of custody present? Yes ☒ No ☐
Chain of custody signed when relinquished and received? Yes ☒ No ☐
Chain of custody agrees with sample labels? Yes ☒ No ☐
Samples in proper container/bottle? Yes ☒ No ☐
Sample containers intact? Yes ☒ No ☐
Sufficient sample volume for indicated test? Yes ☒ No ☐
All samples received within holding time? Yes ☒ No ☐
Container/Temp Blank temperature in compliance? Yes ☒ No ☐ 3.1 °C 10.2/0.16
Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒
Water - pH<2 acceptable upon receipt? Yes ☒ No ☐ NA ☐ LOT # 8086
Adjusted? no Checked by [Signature]
Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes ☐ No ☐ NA ☒ LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Lab Order: 1608133

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis
Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M.
Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 8/11/16. A total of 27 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis (batch 76817) the matrix spike and matrix spike duplicate had low responses for the internal standard Bismuth. The associated analyte (Lead) was within control limits. No further corrective actions were taken.

For Metals analysis performed on 8/17/16, 8/19/16, 8/22/16, 8/23/16 and 8/24/16 (batches 76816, 76817, 76893 and 76895) the matrix spikes and matrix spike duplicate recoveries were out of control limits for a total of nine analytes. In addition, the matrix spikes and matrix spike duplicates (batches 76893 & 76895) had the RPD slightly above control limits for Boron or Selenium. These are flagged accordingly in the QC summary report. The samples selected for the matrix spikes and matrix spike duplicates were not from this work order. The LCSs were within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 8/22/16 and 8/24/16 (batches 76817 & 76893) the RPDs for the serial dilutions were slightly above control limits for Boron. These are flagged accordingly. The PDSs were within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 8/19/16 and 8/23/16 (batches 76817 & 76893) the PDS recoveries were below control limits for Molybdenum or Lithium. These are flagged accordingly. The serial dilutions were within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 8/18/16 and 8/22/16 LCVL3-160818 and LCVL2-160822 were out of control limits for Boron or Beryllium. These are flagged accordingly. The associated CCV3-160818

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Lab Order: 1608133

CASE NARRATIVE

and CCV2-160822 were within control limits for these analytes. No further corrective actions were taken.

LUMINANT

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Lab Order: 1608133

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1608133-01	H-28		08/09/16 09:30 AM	8/11/2016
1608133-02	H-29		08/09/16 10:35 AM	8/11/2016
1608133-03	H-31		08/09/16 11:50 AM	8/11/2016
1608133-04	H-30		08/09/16 12:45 PM	8/11/2016
1608133-05	H-32		08/09/16 01:50 PM	8/11/2016
1608133-06	H-27		08/09/16 02:50 PM	8/11/2016
1608133-07	H-33		08/09/16 03:55 PM	8/11/2016
1608133-08	H-26		08/09/16 04:45 PM	8/11/2016
1608133-09	DUP-01		08/09/16 02:38 PM	8/11/2016
1608133-10	PDP-25		08/10/16 01:30 PM	8/11/2016
1608133-11	PDP-24		08/10/16 11:00 AM	8/11/2016
1608133-12	MW-17A		08/10/16 10:20 AM	8/11/2016
1608133-13	PDP-23		08/10/16 09:10 AM	8/11/2016
1608133-14	MW-19		08/10/16 03:00 PM	8/11/2016
1608133-15	MW-20A		08/10/16 02:10 PM	8/11/2016
1608133-16	PDP-22		08/10/16 09:20 AM	8/11/2016
1608133-17	PDP-26		08/10/16 10:30 AM	8/11/2016
1608133-18	MW-18A		08/10/16 11:30 AM	8/11/2016
1608133-19	EB-1		08/10/16 11:45 AM	8/11/2016
1608133-20	BMW-11AR		08/11/16 08:25 AM	8/11/2016
1608133-21	BMW-19		08/11/16 09:20 AM	8/11/2016
1608133-22	BMW-18		08/11/16 10:15 AM	8/11/2016
1608133-23	BMW-20		08/11/16 10:50 AM	8/11/2016
1608133-24	BMW-24		08/11/16 08:50 AM	8/11/2016
1608133-25	BMW-23		08/11/16 09:20 AM	8/11/2016
1608133-26	BMW-22		08/11/16 10:00 AM	8/11/2016
1608133-27	BMW-21		08/11/16 10:30 AM	8/11/2016

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1608133-01A	H-28	08/09/16 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:53 AM	76816
	H-28	08/09/16 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:53 AM	76816
	H-28	08/09/16 09:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/17/16 09:07 AM	76835
1608133-01D	H-28	08/09/16 09:30 AM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-28	08/09/16 09:30 AM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-28	08/09/16 09:30 AM	Aqueous	M4500-H+ B	pH Preparation	08/16/16 08:41 AM	76818
	H-28	08/09/16 09:30 AM	Aqueous	M2540C	TDS Preparation	08/15/16 03:45 PM	76803
1608133-02A	H-29	08/09/16 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:53 AM	76816
	H-29	08/09/16 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:53 AM	76816
	H-29	08/09/16 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:53 AM	76816
	H-29	08/09/16 10:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/17/16 09:07 AM	76835
1608133-02D	H-29	08/09/16 10:35 AM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-29	08/09/16 10:35 AM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-29	08/09/16 10:35 AM	Aqueous	M4500-H+ B	pH Preparation	08/16/16 08:41 AM	76818
	H-29	08/09/16 10:35 AM	Aqueous	M2540C	TDS Preparation	08/15/16 03:45 PM	76803
1608133-03A	H-31	08/09/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-31	08/09/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-31	08/09/16 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-31	08/09/16 11:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/17/16 09:07 AM	76835
1608133-03D	H-31	08/09/16 11:50 AM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-31	08/09/16 11:50 AM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-31	08/09/16 11:50 AM	Aqueous	M4500-H+ B	pH Preparation	08/16/16 08:41 AM	76818
	H-31	08/09/16 11:50 AM	Aqueous	M2540C	TDS Preparation	08/15/16 03:45 PM	76803
1608133-04A	H-30	08/09/16 12:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-30	08/09/16 12:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-30	08/09/16 12:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-30	08/09/16 12:45 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/17/16 09:07 AM	76835
1608133-04D	H-30	08/09/16 12:45 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1608133-04D	H-30	08/09/16 12:45 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-30	08/09/16 12:45 PM	Aqueous	M4500-H+ B	pH Preparation	08/16/16 08:41 AM	76818
	H-30	08/09/16 12:45 PM	Aqueous	M2540C	TDS Preparation	08/15/16 03:45 PM	76803
1608133-05A	H-32	08/09/16 01:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-32	08/09/16 01:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-32	08/09/16 01:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-32	08/09/16 01:50 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/17/16 09:07 AM	76835
1608133-05D	H-32	08/09/16 01:50 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-32	08/09/16 01:50 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-32	08/09/16 01:50 PM	Aqueous	M4500-H+ B	pH Preparation	08/16/16 08:41 AM	76818
	H-32	08/09/16 01:50 PM	Aqueous	M2540C	TDS Preparation	08/15/16 03:45 PM	76803
1608133-06A	H-27	08/09/16 02:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-27	08/09/16 02:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-27	08/09/16 02:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-27	08/09/16 02:50 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/17/16 09:07 AM	76835
1608133-06D	H-27	08/09/16 02:50 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-27	08/09/16 02:50 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-27	08/09/16 02:50 PM	Aqueous	M4500-H+ B	pH Preparation	08/16/16 08:41 AM	76818
	H-27	08/09/16 02:50 PM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-07A	H-33	08/09/16 03:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-33	08/09/16 03:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-33	08/09/16 03:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-33	08/09/16 03:55 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/17/16 09:07 AM	76835
1608133-07D	H-33	08/09/16 03:55 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-33	08/09/16 03:55 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-33	08/09/16 03:55 PM	Aqueous	M4500-H+ B	pH Preparation	08/16/16 08:41 AM	76818
	H-33	08/09/16 03:55 PM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-08A	H-26	08/09/16 04:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1608133-08A	H-26	08/09/16 04:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-26	08/09/16 04:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	H-26	08/09/16 04:45 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/17/16 09:07 AM	76835
1608133-08D	H-26	08/09/16 04:45 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-26	08/09/16 04:45 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	H-26	08/09/16 04:45 PM	Aqueous	M4500-H+ B	pH Preparation	08/16/16 08:41 AM	76818
	H-26	08/09/16 04:45 PM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-09A	DUP-01	08/09/16 02:38 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	DUP-01	08/09/16 02:38 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	DUP-01	08/09/16 02:38 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	DUP-01	08/09/16 02:38 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/17/16 09:07 AM	76835
1608133-09D	DUP-01	08/09/16 02:38 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	DUP-01	08/09/16 02:38 PM	Aqueous	E300	Anion Preparation	08/15/16 10:13 AM	76808
	DUP-01	08/09/16 02:38 PM	Aqueous	M4500-H+ B	pH Preparation	08/16/16 08:41 AM	76818
	DUP-01	08/09/16 02:38 PM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-10A	PDP-25	08/10/16 01:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	PDP-25	08/10/16 01:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	PDP-25	08/10/16 01:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	PDP-25	08/10/16 01:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/17/16 09:07 AM	76835
1608133-10D	PDP-25	08/10/16 01:30 PM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	PDP-25	08/10/16 01:30 PM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	PDP-25	08/10/16 01:30 PM	Aqueous	M4500-H+ B	pH Preparation	08/16/16 08:41 AM	76818
	PDP-25	08/10/16 01:30 PM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-11A	PDP-24	08/10/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	PDP-24	08/10/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	PDP-24	08/10/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	PDP-24	08/10/16 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	PDP-24	08/10/16 11:00 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1608133-11D	PDP-24	08/10/16 11:00 AM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	PDP-24	08/10/16 11:00 AM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	PDP-24	08/10/16 11:00 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	PDP-24	08/10/16 11:00 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-12A	MW-17A	08/10/16 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	MW-17A	08/10/16 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	MW-17A	08/10/16 10:20 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-12D	MW-17A	08/10/16 10:20 AM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	MW-17A	08/10/16 10:20 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	MW-17A	08/10/16 10:20 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-13A	PDP-23	08/10/16 09:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	PDP-23	08/10/16 09:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	PDP-23	08/10/16 09:10 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-13D	PDP-23	08/10/16 09:10 AM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	PDP-23	08/10/16 09:10 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	PDP-23	08/10/16 09:10 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-14A	MW-19	08/10/16 03:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	MW-19	08/10/16 03:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	MW-19	08/10/16 03:00 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-14D	MW-19	08/10/16 03:00 PM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	MW-19	08/10/16 03:00 PM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	MW-19	08/10/16 03:00 PM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-15A	MW-20A	08/10/16 02:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	MW-20A	08/10/16 02:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	MW-20A	08/10/16 02:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/16/16 07:58 AM	76817
	MW-20A	08/10/16 02:10 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-15D	MW-20A	08/10/16 02:10 PM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	MW-20A	08/10/16 02:10 PM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1608133-15D	MW-20A	08/10/16 02:10 PM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-16A	PDP-22	08/10/16 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	PDP-22	08/10/16 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	PDP-22	08/10/16 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	PDP-22	08/10/16 09:20 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-16D	PDP-22	08/10/16 09:20 AM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	PDP-22	08/10/16 09:20 AM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	PDP-22	08/10/16 09:20 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	PDP-22	08/10/16 09:20 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-17A	PDP-26	08/10/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	PDP-26	08/10/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	PDP-26	08/10/16 10:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-17D	PDP-26	08/10/16 10:30 AM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	PDP-26	08/10/16 10:30 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	PDP-26	08/10/16 10:30 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-18A	MW-18A	08/10/16 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	MW-18A	08/10/16 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	MW-18A	08/10/16 11:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
	MW-18A	08/10/16 11:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-18D	MW-18A	08/10/16 11:30 AM	Aqueous	E300	Anion Preparation	08/16/16 09:28 AM	76820
	MW-18A	08/10/16 11:30 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	MW-18A	08/10/16 11:30 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-19A	EB-1	08/10/16 11:45 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	EB-1	08/10/16 11:45 AM	Equip Blank	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	EB-1	08/10/16 11:45 AM	Equip Blank	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-19D	EB-1	08/10/16 11:45 AM	Equip Blank	E300	Anion Preparation	08/17/16 09:55 AM	76838
	EB-1	08/10/16 11:45 AM	Equip Blank	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	EB-1	08/10/16 11:45 AM	Equip Blank	M2540C	TDS Preparation	08/16/16 02:51 PM	76831

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1608133-20A	BMW-11AR	08/11/16 08:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	BMW-11AR	08/11/16 08:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	BMW-11AR	08/11/16 08:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	BMW-11AR	08/11/16 08:25 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-20D	BMW-11AR	08/11/16 08:25 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-11AR	08/11/16 08:25 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-11AR	08/11/16 08:25 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	BMW-11AR	08/11/16 08:25 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-21A	BMW-19	08/11/16 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	BMW-19	08/11/16 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	BMW-19	08/11/16 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	BMW-19	08/11/16 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	BMW-19	08/11/16 09:20 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-21D	BMW-19	08/11/16 09:20 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-19	08/11/16 09:20 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-19	08/11/16 09:20 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	BMW-19	08/11/16 09:20 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-22A	BMW-18	08/11/16 10:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	BMW-18	08/11/16 10:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:54 AM	76893
	BMW-18	08/11/16 10:15 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-22D	BMW-18	08/11/16 10:15 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-18	08/11/16 10:15 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	BMW-18	08/11/16 10:15 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-23A	BMW-20	08/11/16 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-20	08/11/16 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-20	08/11/16 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-20	08/11/16 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-20	08/11/16 10:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1608133-23D	BMW-20	08/11/16 10:50 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-20	08/11/16 10:50 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-20	08/11/16 10:50 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	BMW-20	08/11/16 10:50 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-24A	BMW-24	08/11/16 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-24	08/11/16 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-24	08/11/16 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-24	08/11/16 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-24	08/11/16 08:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-24D	BMW-24	08/11/16 08:50 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-24	08/11/16 08:50 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-24	08/11/16 08:50 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	BMW-24	08/11/16 08:50 AM	Aqueous	M2540C	TDS Preparation	08/16/16 02:51 PM	76831
1608133-25A	BMW-23	08/11/16 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-23	08/11/16 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-23	08/11/16 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-23	08/11/16 09:20 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-25D	BMW-23	08/11/16 09:20 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-23	08/11/16 09:20 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-23	08/11/16 09:20 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	BMW-23	08/11/16 09:20 AM	Aqueous	M2540C	TDS Preparation	08/18/16 08:44 AM	76858
1608133-26A	BMW-22	08/11/16 10:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-22	08/11/16 10:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-22	08/11/16 10:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-22	08/11/16 10:00 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-26D	BMW-22	08/11/16 10:00 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-22	08/11/16 10:00 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-22	08/11/16 10:00 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1608133-26D	BMW-22	08/11/16 10:00 AM	Aqueous	M2540C	TDS Preparation	08/18/16 08:44 AM	76858
1608133-27A	BMW-21	08/11/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-21	08/11/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-21	08/11/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/22/16 08:57 AM	76895
	BMW-21	08/11/16 10:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	08/23/16 08:44 AM	76918
1608133-27D	BMW-21	08/11/16 10:30 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-21	08/11/16 10:30 AM	Aqueous	E300	Anion Preparation	08/17/16 09:55 AM	76838
	BMW-21	08/11/16 10:30 AM	Aqueous	M4500-H+ B	pH Preparation	08/17/16 10:19 AM	76839
	BMW-21	08/11/16 10:30 AM	Aqueous	M2540C	TDS Preparation	08/18/16 08:44 AM	76858

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1608133-01A	H-28	Aqueous	SW7470A	Mercury Total: Aqueous	76835	1	08/18/16 10:36 AM	CETAC2_HG_160818B
	H-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76816	1	08/17/16 02:05 PM	ICP-MS4_160817A
	H-28	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76816	50	08/18/16 03:36 PM	ICP-MS4_160818B
1608133-01D	H-28	Aqueous	E300	Anions by IC method - Water	76808	1	08/15/16 12:24 PM	IC4_160815A
	H-28	Aqueous	E300	Anions by IC method - Water	76808	10	08/15/16 03:58 PM	IC4_160815A
	H-28	Aqueous	M4500-H+ B	pH	76818	1	08/16/16 10:17 AM	TITRATOR_160816A
	H-28	Aqueous	M2540C	Total Dissolved Solids	76803	1	08/16/16 08:42 AM	WC_160815A
1608133-02A	H-29	Aqueous	SW7470A	Mercury Total: Aqueous	76835	1	08/18/16 10:43 AM	CETAC2_HG_160818B
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76816	1	08/17/16 02:07 PM	ICP-MS4_160817A
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76816	10	08/18/16 03:38 PM	ICP-MS4_160818B
	H-29	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76816	1	08/18/16 03:40 PM	ICP-MS4_160818B
1608133-02D	H-29	Aqueous	E300	Anions by IC method - Water	76808	1	08/15/16 12:39 PM	IC4_160815A
	H-29	Aqueous	E300	Anions by IC method - Water	76808	10	08/15/16 04:28 PM	IC4_160815A
	H-29	Aqueous	M4500-H+ B	pH	76818	1	08/16/16 10:20 AM	TITRATOR_160816A
	H-29	Aqueous	M2540C	Total Dissolved Solids	76803	1	08/16/16 08:42 AM	WC_160815A
1608133-03A	H-31	Aqueous	SW7470A	Mercury Total: Aqueous	76835	1	08/18/16 10:45 AM	CETAC2_HG_160818B
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 05:50 PM	ICP-MS4_160819A
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	100	08/22/16 02:05 PM	ICP-MS4_160822B
	H-31	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 03:22 PM	ICP-MS4_160822B
1608133-03D	H-31	Aqueous	E300	Anions by IC method - Water	76808	1	08/15/16 12:54 PM	IC4_160815A
	H-31	Aqueous	E300	Anions by IC method - Water	76808	100	08/15/16 04:43 PM	IC4_160815A
	H-31	Aqueous	M4500-H+ B	pH	76818	1	08/16/16 10:23 AM	TITRATOR_160816A
	H-31	Aqueous	M2540C	Total Dissolved Solids	76803	1	08/16/16 08:42 AM	WC_160815A
1608133-04A	H-30	Aqueous	SW7470A	Mercury Total: Aqueous	76835	1	08/18/16 10:48 AM	CETAC2_HG_160818B
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 05:52 PM	ICP-MS4_160819A
	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 03:24 PM	ICP-MS4_160822B

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
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ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1608133-04A	H-30	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	10	08/22/16 02:07 PM	ICP-MS4_160822B
1608133-04D	H-30	Aqueous	E300	Anions by IC method - Water	76808	1	08/15/16 01:09 PM	IC4_160815A
	H-30	Aqueous	E300	Anions by IC method - Water	76808	10	08/15/16 04:58 PM	IC4_160815A
	H-30	Aqueous	M4500-H+ B	pH	76818	1	08/16/16 10:25 AM	TITRATOR_160816A
	H-30	Aqueous	M2540C	Total Dissolved Solids	76803	1	08/16/16 08:42 AM	WC_160815A
1608133-05A	H-32	Aqueous	SW7470A	Mercury Total: Aqueous	76835	1	08/18/16 10:50 AM	CETAC2_HG_160818B
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 05:54 PM	ICP-MS4_160819A
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	10	08/22/16 02:09 PM	ICP-MS4_160822B
	H-32	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 03:26 PM	ICP-MS4_160822B
1608133-05D	H-32	Aqueous	E300	Anions by IC method - Water	76808	1	08/15/16 01:24 PM	IC4_160815A
	H-32	Aqueous	E300	Anions by IC method - Water	76808	10	08/15/16 05:28 PM	IC4_160815A
	H-32	Aqueous	M4500-H+ B	pH	76818	1	08/16/16 10:27 AM	TITRATOR_160816A
	H-32	Aqueous	M2540C	Total Dissolved Solids	76803	1	08/16/16 08:42 AM	WC_160815A
1608133-06A	H-27	Aqueous	SW7470A	Mercury Total: Aqueous	76835	1	08/18/16 10:52 AM	CETAC2_HG_160818B
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 06:10 PM	ICP-MS4_160819A
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	10	08/22/16 02:11 PM	ICP-MS4_160822B
	H-27	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 02:59 PM	ICP-MS4_160822B
1608133-06D	H-27	Aqueous	E300	Anions by IC method - Water	76808	1	08/15/16 01:39 PM	IC4_160815A
	H-27	Aqueous	E300	Anions by IC method - Water	76808	10	08/15/16 05:43 PM	IC4_160815A
	H-27	Aqueous	M4500-H+ B	pH	76818	1	08/16/16 10:29 AM	TITRATOR_160816A
	H-27	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-07A	H-33	Aqueous	SW7470A	Mercury Total: Aqueous	76835	1	08/18/16 10:54 AM	CETAC2_HG_160818B
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 02:13 PM	ICP-MS4_160822B
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/24/16 05:45 PM	ICP-MS3_160824B
	H-33	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 06:12 PM	ICP-MS4_160819A
1608133-07D	H-33	Aqueous	E300	Anions by IC method - Water	76808	10	08/15/16 05:58 PM	IC4_160815A

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Client: Pastor, Behling & Wheeler
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ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1608133-07D	H-33	Aqueous	E300	Anions by IC method - Water	76808	1	08/15/16 01:54 PM	IC4_160815A
	H-33	Aqueous	M4500-H+ B	pH	76818	1	08/16/16 10:32 AM	TITRATOR_160816A
	H-33	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-08A	H-26	Aqueous	SW7470A	Mercury Total: Aqueous	76835	1	08/18/16 10:57 AM	CETAC2_HG_160818B
	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/24/16 05:51 PM	ICP-MS3_160824B
	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 06:14 PM	ICP-MS4_160819A
	H-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 02:15 PM	ICP-MS4_160822B
1608133-08D	H-26	Aqueous	E300	Anions by IC method - Water	76808	1	08/15/16 02:09 PM	IC4_160815A
	H-26	Aqueous	E300	Anions by IC method - Water	76808	10	08/15/16 07:28 PM	IC4_160815A
	H-26	Aqueous	M4500-H+ B	pH	76818	1	08/16/16 10:34 AM	TITRATOR_160816A
	H-26	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-09A	DUP-01	Aqueous	SW7470A	Mercury Total: Aqueous	76835	1	08/18/16 10:59 AM	CETAC2_HG_160818B
	DUP-01	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	10	08/22/16 02:17 PM	ICP-MS4_160822B
	DUP-01	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 03:28 PM	ICP-MS4_160822B
	DUP-01	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 06:17 PM	ICP-MS4_160819A
1608133-09D	DUP-01	Aqueous	E300	Anions by IC method - Water	76808	1	08/15/16 02:24 PM	IC4_160815A
	DUP-01	Aqueous	E300	Anions by IC method - Water	76808	10	08/15/16 07:43 PM	IC4_160815A
	DUP-01	Aqueous	M4500-H+ B	pH	76818	1	08/16/16 10:36 AM	TITRATOR_160816A
	DUP-01	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-10A	PDP-25	Aqueous	SW7470A	Mercury Total: Aqueous	76835	1	08/18/16 11:01 AM	CETAC2_HG_160818B
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 06:19 PM	ICP-MS4_160819A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	10	08/22/16 02:19 PM	ICP-MS4_160822B
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 03:01 PM	ICP-MS4_160822B
1608133-10D	PDP-25	Aqueous	E300	Anions by IC method - Water	76820	1	08/16/16 11:27 AM	IC4_160816A
	PDP-25	Aqueous	E300	Anions by IC method - Water	76820	10	08/16/16 02:52 PM	IC4_160816A
	PDP-25	Aqueous	M4500-H+ B	pH	76818	1	08/16/16 10:53 AM	TITRATOR_160816A

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Client: Pastor, Behling & Wheeler
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ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1608133-10D	PDP-25	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-11A	PDP-24	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 10:23 AM	CETAC2_HG_160824 B
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/24/16 05:57 PM	ICP-MS3_160824B
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 06:21 PM	ICP-MS4_160819A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	10	08/22/16 02:21 PM	ICP-MS4_160822B
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 03:30 PM	ICP-MS4_160822B
1608133-11D	PDP-24	Aqueous	E300	Anions by IC method - Water	76820	1	08/16/16 11:42 AM	IC4_160816A
	PDP-24	Aqueous	E300	Anions by IC method - Water	76820	10	08/16/16 03:37 PM	IC4_160816A
	PDP-24	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:15 AM	TITRATOR_160817B
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-12A	MW-17A	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 10:26 AM	CETAC2_HG_160824 B
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 06:23 PM	ICP-MS4_160819A
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 02:51 PM	ICP-MS4_160822B
1608133-12D	MW-17A	Aqueous	E300	Anions by IC method - Water	76820	1	08/16/16 11:57 AM	IC4_160816A
	MW-17A	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:19 AM	TITRATOR_160817B
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-13A	PDP-23	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 10:28 AM	CETAC2_HG_160824 B
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 06:25 PM	ICP-MS4_160819A
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 02:53 PM	ICP-MS4_160822B
1608133-13D	PDP-23	Aqueous	E300	Anions by IC method - Water	76820	1	08/16/16 12:12 PM	IC4_160816A
	PDP-23	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:21 AM	TITRATOR_160817B
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-14A	MW-19	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 10:30 AM	CETAC2_HG_160824 B
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 02:55 PM	ICP-MS4_160822B
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 06:27 PM	ICP-MS4_160819A
1608133-14D	MW-19	Aqueous	E300	Anions by IC method - Water	76820	1	08/16/16 12:27 PM	IC4_160816A

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ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1608133-14D	MW-19	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:24 AM	TITRATOR_160817B
	MW-19	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-15A	MW-20A	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 10:32 AM	CETAC2_HG_160824 B
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/19/16 06:29 PM	ICP-MS4_160819A
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/22/16 02:57 PM	ICP-MS4_160822B
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76817	1	08/26/16 12:27 PM	ICP-MS4_160826B
1608133-15D	MW-20A	Aqueous	E300	Anions by IC method - Water	76820	1	08/16/16 12:42 PM	IC4_160816A
	MW-20A	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:26 AM	TITRATOR_160817B
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-16A	PDP-22	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 10:35 AM	CETAC2_HG_160824 B
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/24/16 04:31 PM	ICP-MS4_160824B
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/23/16 12:40 PM	ICP-MS4_160823B
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	10	08/24/16 03:46 PM	ICP-MS4_160824B
1608133-16D	PDP-22	Aqueous	E300	Anions by IC method - Water	76820	1	08/16/16 12:57 PM	IC4_160816A
	PDP-22	Aqueous	E300	Anions by IC method - Water	76820	10	08/16/16 03:52 PM	IC4_160816A
	PDP-22	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:28 AM	TITRATOR_160817B
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-17A	PDP-26	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 10:46 AM	CETAC2_HG_160824 B
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/23/16 01:14 PM	ICP-MS4_160823B
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/24/16 04:33 PM	ICP-MS4_160824B
1608133-17D	PDP-26	Aqueous	E300	Anions by IC method - Water	76820	1	08/16/16 01:12 PM	IC4_160816A
	PDP-26	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:31 AM	TITRATOR_160817B
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-18A	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	76918	20	08/24/16 11:31 AM	CETAC2_HG_160824 B
	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 10:48 AM	CETAC2_HG_160824 B
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/23/16 01:16 PM	ICP-MS4_160823B

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Client: Pastor, Behling & Wheeler
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ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1608133-18A	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/24/16 05:29 PM	ICP-MS4_160824B
1608133-18D	MW-18A	Aqueous	E300	Anions by IC method - Water	76820	1	08/16/16 01:27 PM	IC4_160816A
	MW-18A	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:34 AM	TITRATOR_160817B
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-19A	EB-1	Equip Blank	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 10:53 AM	CETAC2_HG_160824B
	EB-1	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/23/16 01:18 PM	ICP-MS4_160823B
	EB-1	Equip Blank	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/24/16 05:31 PM	ICP-MS4_160824B
1608133-19D	EB-1	Equip Blank	E300	Anions by IC method - Water	76838	1	08/17/16 11:24 AM	IC4_160817A
	EB-1	Equip Blank	M4500-H+ B	pH	76839	1	08/17/16 11:36 AM	TITRATOR_160817B
	EB-1	Equip Blank	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-20A	BMW-11AR	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 10:56 AM	CETAC2_HG_160824B
	BMW-11AR	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	10	08/24/16 05:33 PM	ICP-MS4_160824B
	BMW-11AR	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/24/16 05:35 PM	ICP-MS4_160824B
	BMW-11AR	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/23/16 01:20 PM	ICP-MS4_160823B
1608133-20D	BMW-11AR	Aqueous	E300	Anions by IC method - Water	76838	1	08/17/16 11:39 AM	IC4_160817A
	BMW-11AR	Aqueous	E300	Anions by IC method - Water	76838	10	08/17/16 02:41 PM	IC4_160817A
	BMW-11AR	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:40 AM	TITRATOR_160817B
	BMW-11AR	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-21A	BMW-19	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 11:04 AM	CETAC2_HG_160824B
	BMW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	50	08/25/16 02:49 PM	ICP-MS4_160825A
	BMW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/23/16 01:22 PM	ICP-MS4_160823B
	BMW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	10	08/24/16 05:37 PM	ICP-MS4_160824B
	BMW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/24/16 05:39 PM	ICP-MS4_160824B
1608133-21D	BMW-19	Aqueous	E300	Anions by IC method - Water	76838	100	08/17/16 02:56 PM	IC4_160817A
	BMW-19	Aqueous	E300	Anions by IC method - Water	76838	1	08/17/16 11:54 AM	IC4_160817A
	BMW-19	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:42 AM	TITRATOR_160817B

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1608133-21D	BMW-19	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-22A	BMW-18	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 11:06 AM	CETAC2_HG_160824 B
	BMW-18	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/23/16 01:24 PM	ICP-MS4_160823B
	BMW-18	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76893	1	08/24/16 05:41 PM	ICP-MS4_160824B
1608133-22D	BMW-18	Aqueous	E300	Anions by IC method - Water	76838	1	08/17/16 12:09 PM	IC4_160817A
	BMW-18	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:46 AM	TITRATOR_160817B
	BMW-18	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-23A	BMW-20	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 11:08 AM	CETAC2_HG_160824 B
	BMW-20	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	10	08/24/16 07:14 PM	ICP-MS4_160824B
	BMW-20	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/24/16 08:48 PM	ICP-MS4_160824B
	BMW-20	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/23/16 02:11 PM	ICP-MS4_160823B
	BMW-20	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/25/16 02:51 PM	ICP-MS4_160825A
1608133-23D	BMW-20	Aqueous	E300	Anions by IC method - Water	76838	1	08/17/16 12:24 PM	IC4_160817A
	BMW-20	Aqueous	E300	Anions by IC method - Water	76838	10	08/17/16 03:11 PM	IC4_160817A
	BMW-20	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:48 AM	TITRATOR_160817B
	BMW-20	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-24A	BMW-24	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 11:10 AM	CETAC2_HG_160824 B
	BMW-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/23/16 02:13 PM	ICP-MS4_160823B
	BMW-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	10	08/24/16 07:16 PM	ICP-MS4_160824B
	BMW-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/24/16 08:50 PM	ICP-MS4_160824B
	BMW-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/25/16 02:53 PM	ICP-MS4_160825A
1608133-24D	BMW-24	Aqueous	E300	Anions by IC method - Water	76838	100	08/17/16 03:26 PM	IC4_160817A
	BMW-24	Aqueous	E300	Anions by IC method - Water	76838	1	08/17/16 12:39 PM	IC4_160817A
	BMW-24	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:50 AM	TITRATOR_160817B
	BMW-24	Aqueous	M2540C	Total Dissolved Solids	76831	1	08/17/16 08:42 AM	WC_160816D
1608133-25A	BMW-23	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 11:13 AM	CETAC2_HG_160824 B

Lab Order: 1608133
Client: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1608133-25A	BMW-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/23/16 02:15 PM	ICP-MS4_160823B
	BMW-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	10	08/24/16 07:18 PM	ICP-MS4_160824B
	BMW-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/25/16 02:55 PM	ICP-MS4_160825A
1608133-25D	BMW-23	Aqueous	E300	Anions by IC method - Water	76838	1	08/17/16 12:54 PM	IC4_160817A
	BMW-23	Aqueous	E300	Anions by IC method - Water	76838	10	08/17/16 03:41 PM	IC4_160817A
	BMW-23	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:52 AM	TITRATOR_160817B
	BMW-23	Aqueous	M2540C	Total Dissolved Solids	76858	1	08/22/16 08:40 AM	WC_160818B
1608133-26A	BMW-22	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 11:15 AM	CETAC2_HG_160824B
	BMW-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	10	08/24/16 07:20 PM	ICP-MS4_160824B
	BMW-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/25/16 02:57 PM	ICP-MS4_160825A
	BMW-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/23/16 02:17 PM	ICP-MS4_160823B
1608133-26D	BMW-22	Aqueous	E300	Anions by IC method - Water	76838	100	08/17/16 03:56 PM	IC4_160817A
	BMW-22	Aqueous	E300	Anions by IC method - Water	76838	1	08/17/16 01:09 PM	IC4_160817A
	BMW-22	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:53 AM	TITRATOR_160817B
	BMW-22	Aqueous	M2540C	Total Dissolved Solids	76858	1	08/22/16 08:40 AM	WC_160818B
1608133-27A	BMW-21	Aqueous	SW7470A	Mercury Total: Aqueous	76918	1	08/24/16 11:17 AM	CETAC2_HG_160824B
	BMW-21	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/23/16 02:19 PM	ICP-MS4_160823B
	BMW-21	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	10	08/24/16 07:22 PM	ICP-MS4_160824B
	BMW-21	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	76895	1	08/25/16 02:58 PM	ICP-MS4_160825A
1608133-27D	BMW-21	Aqueous	E300	Anions by IC method - Water	76838	1	08/17/16 01:24 PM	IC4_160817A
	BMW-21	Aqueous	E300	Anions by IC method - Water	76838	100	08/17/16 04:11 PM	IC4_160817A
	BMW-21	Aqueous	M4500-H+ B	pH	76839	1	08/17/16 11:56 AM	TITRATOR_160817B
	BMW-21	Aqueous	M2540C	Total Dissolved Solids	76858	1	08/22/16 08:40 AM	WC_160818B

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: H-28
Lab ID: 1608133-01
Collection Date: 08/09/16 09:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/18/16 10:36 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/17/16 02:05 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/17/16 02:05 PM
Barium	0.0155	0.00300	0.0100		mg/L	1	08/17/16 02:05 PM
Beryllium	0.00275	0.000300	0.00100		mg/L	1	08/17/16 02:05 PM
Boron	9.29	0.500	1.50		mg/L	50	08/18/16 03:36 PM
Cadmium	0.00160	0.000300	0.00100		mg/L	1	08/17/16 02:05 PM
Calcium	116	5.00	15.0		mg/L	50	08/18/16 03:36 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/17/16 02:05 PM
Cobalt	0.195	0.00300	0.00500		mg/L	1	08/17/16 02:05 PM
Lead	0.000774	0.000300	0.00100	J	mg/L	1	08/17/16 02:05 PM
Lithium	0.155	0.00500	0.0100		mg/L	1	08/17/16 02:05 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/17/16 02:05 PM
Selenium	0.00286	0.00200	0.00500	J	mg/L	1	08/17/16 02:05 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/17/16 02:05 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	98.4	3.00	10.0		mg/L	10	08/15/16 03:58 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/15/16 12:24 PM
Sulfate	1080	10.0	30.0		mg/L	10	08/15/16 03:58 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.29	0	0		pH Units@19.6°C	1	08/16/16 10:17 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2100	50.0	50.0		mg/L	1	08/16/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: H-29
Lab ID: 1608133-02
Collection Date: 08/09/16 10:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/18/16 10:43 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/17/16 02:07 PM
Arsenic	0.00995	0.00200	0.00500		mg/L	1	08/17/16 02:07 PM
Barium	0.315	0.00300	0.0100		mg/L	1	08/17/16 02:07 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/17/16 02:07 PM
Boron	0.172	0.0100	0.0300		mg/L	1	08/18/16 03:40 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/17/16 02:07 PM
Calcium	64.6	1.00	3.00		mg/L	10	08/18/16 03:38 PM
Chromium	0.00297	0.00200	0.00500	J	mg/L	1	08/17/16 02:07 PM
Cobalt	0.00473	0.00300	0.00500	J	mg/L	1	08/17/16 02:07 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/17/16 02:07 PM
Lithium	0.0143	0.00500	0.0100		mg/L	1	08/17/16 02:07 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/17/16 02:07 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/17/16 02:07 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/17/16 02:07 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	53.1	3.00	10.0		mg/L	10	08/15/16 04:28 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/15/16 12:39 PM
Sulfate	124	1.00	3.00		mg/L	1	08/15/16 12:39 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.75	0	0		pH Units@19.7°C	1	08/16/16 10:20 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	575	10.0	10.0		mg/L	1	08/16/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: H-31
Lab ID: 1608133-03
Collection Date: 08/09/16 11:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/18/16 10:45 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 05:50 PM
Arsenic	0.00886	0.00200	0.00500		mg/L	1	08/19/16 05:50 PM
Barium	0.0191	0.00300	0.0100		mg/L	1	08/19/16 05:50 PM
Beryllium	0.00734	0.000300	0.00100		mg/L	1	08/22/16 03:22 PM
Boron	24.1	1.00	3.00		mg/L	100	08/22/16 02:05 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 05:50 PM
Calcium	251	10.0	30.0		mg/L	100	08/22/16 02:05 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 05:50 PM
Cobalt	0.286	0.00300	0.00500		mg/L	1	08/19/16 05:50 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 05:50 PM
Lithium	0.170	0.00500	0.0100		mg/L	1	08/22/16 03:22 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 05:50 PM
Selenium	0.0202	0.00200	0.00500		mg/L	1	08/19/16 05:50 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 05:50 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	217	30.0	100		mg/L	100	08/15/16 04:43 PM
Fluoride	0.216	0.100	0.400	J	mg/L	1	08/15/16 12:54 PM
Sulfate	2730	100	300		mg/L	100	08/15/16 04:43 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	6.07	0	0		pH Units@19.7°C	1	08/16/16 10:23 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	4440	50.0	50.0		mg/L	1	08/16/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: H-30
Lab ID: 1608133-04
Collection Date: 08/09/16 12:45 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/18/16 10:48 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 05:52 PM
Arsenic	0.00447	0.00200	0.00500	J	mg/L	1	08/19/16 05:52 PM
Barium	0.0233	0.00300	0.0100		mg/L	1	08/19/16 05:52 PM
Beryllium	0.00483	0.000300	0.00100		mg/L	1	08/22/16 03:24 PM
Boron	6.75	0.100	0.300		mg/L	10	08/22/16 02:07 PM
Cadmium	0.000380	0.000300	0.00100	J	mg/L	1	08/19/16 05:52 PM
Calcium	139	1.00	3.00		mg/L	10	08/22/16 02:07 PM
Chromium	0.00282	0.00200	0.00500	J	mg/L	1	08/19/16 05:52 PM
Cobalt	0.162	0.00300	0.00500		mg/L	1	08/19/16 05:52 PM
Lead	0.00363	0.000300	0.00100		mg/L	1	08/19/16 05:52 PM
Lithium	0.0819	0.00500	0.0100		mg/L	1	08/22/16 03:24 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 05:52 PM
Selenium	0.0195	0.00200	0.00500		mg/L	1	08/19/16 05:52 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 05:52 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	109	3.00	10.0		mg/L	10	08/15/16 04:58 PM
Fluoride	0.152	0.100	0.400	J	mg/L	1	08/15/16 01:09 PM
Sulfate	1230	10.0	30.0		mg/L	10	08/15/16 04:58 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	5.22	0	0		pH Units@19.7°C	1	08/16/16 10:25 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2160	50.0	50.0		mg/L	1	08/16/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: H-32
Lab ID: 1608133-05
Collection Date: 08/09/16 01:50 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/18/16 10:50 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 05:54 PM
Arsenic	0.00344	0.00200	0.00500	J	mg/L	1	08/19/16 05:54 PM
Barium	0.0234	0.00300	0.0100		mg/L	1	08/19/16 05:54 PM
Beryllium	0.00548	0.000300	0.00100		mg/L	1	08/22/16 03:26 PM
Boron	1.69	0.100	0.300		mg/L	10	08/22/16 02:09 PM
Cadmium	0.000713	0.000300	0.00100	J	mg/L	1	08/19/16 05:54 PM
Calcium	45.4	1.00	3.00		mg/L	10	08/22/16 02:09 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 05:54 PM
Cobalt	0.190	0.00300	0.00500		mg/L	1	08/19/16 05:54 PM
Lead	0.00115	0.000300	0.00100		mg/L	1	08/19/16 05:54 PM
Lithium	0.0774	0.00500	0.0100		mg/L	1	08/22/16 03:26 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 05:54 PM
Selenium	0.00281	0.00200	0.00500	J	mg/L	1	08/19/16 05:54 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 05:54 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	132	3.00	10.0		mg/L	10	08/15/16 05:28 PM
Fluoride	0.680	0.100	0.400		mg/L	1	08/15/16 01:24 PM
Sulfate	342	10.0	30.0		mg/L	10	08/15/16 05:28 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.46	0	0		pH Units@20°C	1	08/16/16 10:27 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	839	10.0	10.0		mg/L	1	08/16/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: H-27
Lab ID: 1608133-06
Collection Date: 08/09/16 02:50 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/18/16 10:52 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 06:10 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:10 PM
Barium	0.0241	0.00300	0.0100		mg/L	1	08/19/16 06:10 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/22/16 02:59 PM
Boron	0.462	0.0100	0.0300		mg/L	1	08/22/16 02:59 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:10 PM
Calcium	54.3	1.00	3.00		mg/L	10	08/22/16 02:11 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:10 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/19/16 06:10 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:10 PM
Lithium	0.0616	0.00500	0.0100		mg/L	1	08/22/16 02:59 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:10 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:10 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 06:10 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	124	3.00	10.0		mg/L	10	08/15/16 05:43 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/15/16 01:39 PM
Sulfate	365	10.0	30.0		mg/L	10	08/15/16 05:43 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.10	0	0		pH Units@20.2°C	1	08/16/16 10:29 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	854	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: H-33
Lab ID: 1608133-07
Collection Date: 08/09/16 03:55 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/18/16 10:54 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 06:12 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:12 PM
Barium	0.0424	0.00300	0.0100		mg/L	1	08/19/16 06:12 PM
Beryllium	0.000519	0.000300	0.00100	J	mg/L	1	08/24/16 05:45 PM
Boron	0.0431	0.0100	0.0300		mg/L	1	08/22/16 02:13 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:12 PM
Calcium	11.2	0.100	0.300		mg/L	1	08/19/16 06:12 PM
Chromium	0.00291	0.00200	0.00500	J	mg/L	1	08/19/16 06:12 PM
Cobalt	0.0284	0.00300	0.00500		mg/L	1	08/19/16 06:12 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:12 PM
Lithium	0.102	0.00500	0.0100		mg/L	1	08/22/16 02:13 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:12 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:12 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 06:12 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	64.9	3.00	10.0		mg/L	10	08/15/16 05:58 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/15/16 01:54 PM
Sulfate	120	10.0	30.0		mg/L	10	08/15/16 05:58 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.04	0	0		pH Units@20.5°C	1	08/16/16 10:32 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	442	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: H-26
Lab ID: 1608133-08
Collection Date: 08/09/16 04:45 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/18/16 10:57 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 06:14 PM
Arsenic	0.00290	0.00200	0.00500	J	mg/L	1	08/19/16 06:14 PM
Barium	0.0431	0.00300	0.0100		mg/L	1	08/19/16 06:14 PM
Beryllium	0.00136	0.000300	0.00100		mg/L	1	08/24/16 05:51 PM
Boron	0.569	0.0100	0.0300		mg/L	1	08/22/16 02:15 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:14 PM
Calcium	14.0	0.100	0.300		mg/L	1	08/19/16 06:14 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:14 PM
Cobalt	0.0352	0.00300	0.00500		mg/L	1	08/19/16 06:14 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:14 PM
Lithium	0.0155	0.00500	0.0100		mg/L	1	08/22/16 02:15 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:14 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:14 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 06:14 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	70.0	3.00	10.0		mg/L	10	08/15/16 07:28 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/15/16 02:09 PM
Sulfate	90.9	1.00	3.00		mg/L	1	08/15/16 02:09 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.60	0	0		pH Units@20.7°C	1	08/16/16 10:34 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	354	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: DUP-01
Lab ID: 1608133-09
Collection Date: 08/09/16 02:38 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/18/16 10:59 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 06:17 PM
Arsenic	0.00437	0.00200	0.00500	J	mg/L	1	08/19/16 06:17 PM
Barium	0.0212	0.00300	0.0100		mg/L	1	08/19/16 06:17 PM
Beryllium	0.00543	0.000300	0.00100		mg/L	1	08/22/16 03:28 PM
Boron	7.04	0.100	0.300		mg/L	10	08/22/16 02:17 PM
Cadmium	0.000367	0.000300	0.00100	J	mg/L	1	08/19/16 06:17 PM
Calcium	138	1.00	3.00		mg/L	10	08/22/16 02:17 PM
Chromium	0.00210	0.00200	0.00500	J	mg/L	1	08/19/16 06:17 PM
Cobalt	0.165	0.00300	0.00500		mg/L	1	08/19/16 06:17 PM
Lead	0.00341	0.000300	0.00100		mg/L	1	08/19/16 06:17 PM
Lithium	0.0809	0.00500	0.0100		mg/L	1	08/22/16 03:28 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:17 PM
Selenium	0.0166	0.00200	0.00500		mg/L	1	08/19/16 06:17 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 06:17 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	112	3.00	10.0		mg/L	10	08/15/16 07:43 PM
Fluoride	0.180	0.100	0.400	J	mg/L	1	08/15/16 02:24 PM
Sulfate	1260	10.0	30.0		mg/L	10	08/15/16 07:43 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	5.11	0	0		pH Units@21°C	1	08/16/16 10:36 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2080	50.0	50.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: PDP-25
Lab ID: 1608133-10
Collection Date: 08/10/16 01:30 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/18/16 11:01 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 06:19 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:19 PM
Barium	0.193	0.00300	0.0100		mg/L	1	08/19/16 06:19 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/22/16 03:01 PM
Boron	0.119	0.0100	0.0300		mg/L	1	08/22/16 03:01 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:19 PM
Calcium	37.7	1.00	3.00		mg/L	10	08/22/16 02:19 PM
Chromium	0.00527	0.00200	0.00500		mg/L	1	08/19/16 06:19 PM
Cobalt	0.0109	0.00300	0.00500		mg/L	1	08/19/16 06:19 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:19 PM
Lithium	0.120	0.00500	0.0100		mg/L	1	08/22/16 03:01 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:19 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:19 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 06:19 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	136	3.00	10.0		mg/L	10	08/16/16 02:52 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/16/16 11:27 AM
Sulfate	110	1.00	3.00		mg/L	1	08/16/16 11:27 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.19	0	0		pH Units@17.4°C	1	08/16/16 10:53 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	612	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: PDP-24
Lab ID: 1608133-11
Collection Date: 08/10/16 11:00 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.00214	0.0000800	0.000200		mg/L	1	08/24/16 10:23 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 06:21 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:21 PM
Barium	0.0206	0.00300	0.0100		mg/L	1	08/19/16 06:21 PM
Beryllium	0.00427	0.000300	0.00100		mg/L	1	08/22/16 03:30 PM
Boron	3.80	0.100	0.300		mg/L	10	08/22/16 02:21 PM
Cadmium	0.00185	0.000300	0.00100		mg/L	1	08/19/16 06:21 PM
Calcium	32.6	1.00	3.00		mg/L	10	08/22/16 02:21 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:21 PM
Cobalt	0.0826	0.00300	0.00500		mg/L	1	08/19/16 06:21 PM
Lead	0.00121	0.000300	0.00100		mg/L	1	08/19/16 06:21 PM
Lithium	0.0241	0.00500	0.0100		mg/L	1	08/22/16 03:30 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:21 PM
Selenium	0.00377	0.00200	0.00500	J	mg/L	1	08/19/16 06:21 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 06:21 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	21.4	0.300	1.00		mg/L	1	08/16/16 11:42 AM
Fluoride	0.693	0.100	0.400		mg/L	1	08/16/16 11:42 AM
Sulfate	432	10.0	30.0		mg/L	10	08/16/16 03:37 PM
PH		M4500-H+ B		Analyst: BJT			
pH	4.53	0	0		pH Units@20°C	1	08/17/16 11:15 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	747	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: MW-17A
Lab ID: 1608133-12
Collection Date: 08/10/16 10:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000114	0.0000800	0.000200	J	mg/L	1	08/24/16 10:26 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 06:23 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:23 PM
Barium	0.108	0.00300	0.0100		mg/L	1	08/19/16 06:23 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/22/16 02:51 PM
Boron	0.410	0.0100	0.0300		mg/L	1	08/22/16 02:51 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:23 PM
Calcium	4.46	0.100	0.300		mg/L	1	08/19/16 06:23 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:23 PM
Cobalt	0.00795	0.00300	0.00500		mg/L	1	08/19/16 06:23 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:23 PM
Lithium	0.0153	0.00500	0.0100		mg/L	1	08/22/16 02:51 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:23 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:23 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 06:23 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	9.52	0.300	1.00		mg/L	1	08/16/16 11:57 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/16/16 11:57 AM
Sulfate	42.9	1.00	3.00		mg/L	1	08/16/16 11:57 AM
PH		M4500-H+ B		Analyst: BJT			
pH	5.57	0	0		pH Units@20°C	1	08/17/16 11:19 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	143	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: PDP-23
Lab ID: 1608133-13
Collection Date: 08/10/16 09:10 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 10:28 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 06:25 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:25 PM
Barium	0.0449	0.00300	0.0100		mg/L	1	08/19/16 06:25 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/22/16 02:53 PM
Boron	0.0357	0.0100	0.0300		mg/L	1	08/22/16 02:53 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:25 PM
Calcium	1.77	0.100	0.300		mg/L	1	08/19/16 06:25 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:25 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/19/16 06:25 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:25 PM
Lithium	0.0124	0.00500	0.0100		mg/L	1	08/22/16 02:53 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:25 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:25 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 06:25 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	6.61	0.300	1.00		mg/L	1	08/16/16 12:12 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/16/16 12:12 PM
Sulfate	2.37	1.00	3.00	J	mg/L	1	08/16/16 12:12 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	5.91	0	0		pH Units@20.1°C	1	08/17/16 11:21 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	99.0	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: MW-19
Lab ID: 1608133-14
Collection Date: 08/10/16 03:00 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 10:30 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 06:27 PM
Arsenic	0.00286	0.00200	0.00500	J	mg/L	1	08/19/16 06:27 PM
Barium	0.0188	0.00300	0.0100		mg/L	1	08/19/16 06:27 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/22/16 02:55 PM
Boron	0.0539	0.0100	0.0300		mg/L	1	08/22/16 02:55 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:27 PM
Calcium	8.62	0.100	0.300		mg/L	1	08/19/16 06:27 PM
Chromium	0.00346	0.00200	0.00500	J	mg/L	1	08/19/16 06:27 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/19/16 06:27 PM
Lead	0.000807	0.000300	0.00100	J	mg/L	1	08/19/16 06:27 PM
Lithium	0.0144	0.00500	0.0100		mg/L	1	08/22/16 02:55 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:27 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:27 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 06:27 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	30.8	0.300	1.00		mg/L	1	08/16/16 12:27 PM
Fluoride	0.152	0.100	0.400	J	mg/L	1	08/16/16 12:27 PM
Sulfate	31.6	1.00	3.00		mg/L	1	08/16/16 12:27 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.24	0	0		pH Units@20.1°C	1	08/17/16 11:24 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	323	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: MW-20A
Lab ID: 1608133-15
Collection Date: 08/10/16 02:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000325	0.0000800	0.000200		mg/L	1	08/24/16 10:32 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/19/16 06:29 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:29 PM
Barium	0.0313	0.00300	0.0100		mg/L	1	08/19/16 06:29 PM
Beryllium	0.000502	0.000300	0.00100	J	mg/L	1	08/26/16 12:27 PM
Boron	0.123	0.0100	0.0300		mg/L	1	08/22/16 02:57 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/19/16 06:29 PM
Calcium	12.7	0.100	0.300		mg/L	1	08/19/16 06:29 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:29 PM
Cobalt	0.00427	0.00300	0.00500	J	mg/L	1	08/19/16 06:29 PM
Lead	0.00141	0.000300	0.00100		mg/L	1	08/19/16 06:29 PM
Lithium	0.0166	0.00500	0.0100		mg/L	1	08/22/16 02:57 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/19/16 06:29 PM
Selenium	0.00518	0.00200	0.00500		mg/L	1	08/19/16 06:29 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/19/16 06:29 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	11.2	0.300	1.00		mg/L	1	08/16/16 12:42 PM
Fluoride	0.389	0.100	0.400	J	mg/L	1	08/16/16 12:42 PM
Sulfate	77.8	1.00	3.00		mg/L	1	08/16/16 12:42 PM
PH		M4500-H+ B		Analyst: BJT			
pH	4.91	0	0		pH Units@20.1°C	1	08/17/16 11:26 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	210	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: PDP-22
Lab ID: 1608133-16
Collection Date: 08/10/16 09:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 10:35 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 12:40 PM
Arsenic	0.00488	0.00200	0.00500	J	mg/L	1	08/23/16 12:40 PM
Barium	0.141	0.00300	0.0100		mg/L	1	08/23/16 12:40 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 12:40 PM
Boron	0.255	0.0100	0.0300		mg/L	1	08/24/16 04:31 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 12:40 PM
Calcium	104	1.00	3.00		mg/L	10	08/24/16 03:46 PM
Chromium	0.0121	0.00200	0.00500		mg/L	1	08/23/16 12:40 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/23/16 12:40 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 12:40 PM
Lithium	0.0219	0.00500	0.0100		mg/L	1	08/23/16 12:40 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 12:40 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 12:40 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 12:40 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	15.2	0.300	1.00		mg/L	1	08/16/16 12:57 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/16/16 12:57 PM
Sulfate	216	10.0	30.0		mg/L	10	08/16/16 03:52 PM
PH		M4500-H+ B		Analyst: BJT			
pH	7.08	0	0		pH Units@20.3°C	1	08/17/16 11:28 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	750	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: PDP-26
Lab ID: 1608133-17
Collection Date: 08/10/16 10:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 10:46 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 01:14 PM
Arsenic	0.00589	0.00200	0.00500		mg/L	1	08/23/16 01:14 PM
Barium	0.0355	0.00300	0.0100		mg/L	1	08/23/16 01:14 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:14 PM
Boron	0.0671	0.0100	0.0300		mg/L	1	08/24/16 04:33 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:14 PM
Calcium	3.04	0.100	0.300		mg/L	1	08/23/16 01:14 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:14 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/23/16 01:14 PM
Lead	0.000675	0.000300	0.00100	J	mg/L	1	08/23/16 01:14 PM
Lithium	0.0151	0.00500	0.0100		mg/L	1	08/23/16 01:14 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:14 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:14 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 01:14 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	5.62	0.300	1.00		mg/L	1	08/16/16 01:12 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/16/16 01:12 PM
Sulfate	7.79	1.00	3.00		mg/L	1	08/16/16 01:12 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.97	0	0		pH Units@20.4°C	1	08/17/16 11:31 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	114	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: MW-18A
Lab ID: 1608133-18
Collection Date: 08/10/16 11:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.0312	0.00160	0.00400		mg/L	20	08/24/16 11:31 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 01:16 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:16 PM
Barium	0.0447	0.00300	0.0100		mg/L	1	08/23/16 01:16 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:16 PM
Boron	0.0755	0.0100	0.0300		mg/L	1	08/24/16 05:29 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:16 PM
Calcium	1.13	0.100	0.300		mg/L	1	08/23/16 01:16 PM
Chromium	0.00251	0.00200	0.00500	J	mg/L	1	08/23/16 01:16 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/23/16 01:16 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:16 PM
Lithium	0.00806	0.00500	0.0100	J	mg/L	1	08/23/16 01:16 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:16 PM
Selenium	0.00292	0.00200	0.00500	J	mg/L	1	08/23/16 01:16 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 01:16 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	7.04	0.300	1.00		mg/L	1	08/16/16 01:27 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/16/16 01:27 PM
Sulfate	4.78	1.00	3.00		mg/L	1	08/16/16 01:27 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.86	0	0		pH Units@20.6°C	1	08/17/16 11:34 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	62.0	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: EB-1
Lab ID: 1608133-19
Collection Date: 08/10/16 11:45 AM
Matrix: EQUIP BLANK

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 10:53 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 01:18 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:18 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	08/23/16 01:18 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:18 PM
Boron	0.0375	0.0100	0.0300		mg/L	1	08/24/16 05:31 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:18 PM
Calcium	5.33	0.100	0.300		mg/L	1	08/23/16 01:18 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:18 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/23/16 01:18 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:18 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	08/23/16 01:18 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:18 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:18 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 01:18 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	11.4	0.300	1.00		mg/L	1	08/17/16 11:24 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/17/16 11:24 AM
Sulfate	24.7	1.00	3.00		mg/L	1	08/17/16 11:24 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.97	0	0		pH Units@20.7°C	1	08/17/16 11:36 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	<10.0	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: BMW-11AR
Lab ID: 1608133-20
Collection Date: 08/11/16 08:25 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 10:56 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 01:20 PM
Arsenic	0.00271	0.00200	0.00500	J	mg/L	1	08/23/16 01:20 PM
Barium	0.0772	0.00300	0.0100		mg/L	1	08/23/16 01:20 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:20 PM
Boron	0.389	0.0100	0.0300		mg/L	1	08/24/16 05:35 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:20 PM
Calcium	170	1.00	3.00		mg/L	10	08/24/16 05:33 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:20 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/23/16 01:20 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:20 PM
Lithium	0.0147	0.00500	0.0100		mg/L	1	08/23/16 01:20 PM
Molybdenum	0.00346	0.00200	0.00500	J	mg/L	1	08/23/16 01:20 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:20 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 01:20 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	20.8	0.300	1.00		mg/L	1	08/17/16 11:39 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/17/16 11:39 AM
Sulfate	682	10.0	30.0		mg/L	10	08/17/16 02:41 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	7.24	0	0		pH Units@20.8°C	1	08/17/16 11:40 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1790	50.0	50.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: BMW-19
Lab ID: 1608133-21
Collection Date: 08/11/16 09:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 11:04 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 01:22 PM
Arsenic	0.00711	0.00200	0.00500		mg/L	1	08/23/16 01:22 PM
Barium	0.0158	0.00300	0.0100		mg/L	1	08/23/16 01:22 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:22 PM
Boron	0.419	0.0100	0.0300		mg/L	1	08/24/16 05:39 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:22 PM
Calcium	458	5.00	15.0		mg/L	50	08/25/16 02:49 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:22 PM
Cobalt	0.0128	0.00300	0.00500		mg/L	1	08/23/16 01:22 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:22 PM
Lithium	0.0568	0.00500	0.0100		mg/L	1	08/23/16 01:22 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:22 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:22 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 01:22 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	8.26	0.300	1.00		mg/L	1	08/17/16 11:54 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/17/16 11:54 AM
Sulfate	2370	100	300		mg/L	100	08/17/16 02:56 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.75	0	0		pH Units@20.7°C	1	08/17/16 11:42 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	3780	50.0	50.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: BMW-18
Lab ID: 1608133-22
Collection Date: 08/11/16 10:15 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 11:06 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 01:24 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:24 PM
Barium	0.0291	0.00300	0.0100		mg/L	1	08/23/16 01:24 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:24 PM
Boron	0.415	0.0100	0.0300		mg/L	1	08/24/16 05:41 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:24 PM
Calcium	7.02	0.100	0.300		mg/L	1	08/23/16 01:24 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:24 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/23/16 01:24 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 01:24 PM
Lithium	0.0147	0.00500	0.0100		mg/L	1	08/23/16 01:24 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:24 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 01:24 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 01:24 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	18.5	0.300	1.00		mg/L	1	08/17/16 12:09 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/17/16 12:09 PM
Sulfate	100	1.00	3.00		mg/L	1	08/17/16 12:09 PM
PH		M4500-H+ B		Analyst: BJT			
pH	8.48	0	0		pH Units@20.8°C	1	08/17/16 11:46 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	493	10.0	10.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: BMW-20
Lab ID: 1608133-23
Collection Date: 08/11/16 10:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 11:08 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 02:11 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:11 PM
Barium	0.0637	0.00300	0.0100		mg/L	1	08/23/16 02:11 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:11 PM
Boron	0.106	0.0100	0.0300		mg/L	1	08/24/16 08:48 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:11 PM
Calcium	107	1.00	3.00		mg/L	10	08/24/16 07:14 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:11 PM
Cobalt	0.0513	0.00300	0.00500		mg/L	1	08/23/16 02:11 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:11 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	08/25/16 02:51 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:11 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:11 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 02:11 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	39.4	0.300	1.00		mg/L	1	08/17/16 12:24 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/17/16 12:24 PM
Sulfate	602	10.0	30.0		mg/L	10	08/17/16 03:11 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.38	0	0		pH Units@20.8°C	1	08/17/16 11:48 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1310	50.0	50.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: BMW-24
Lab ID: 1608133-24
Collection Date: 08/11/16 08:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 11:10 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 02:13 PM
Arsenic	0.00414	0.00200	0.00500	J	mg/L	1	08/23/16 02:13 PM
Barium	1.26	0.00300	0.0100		mg/L	1	08/23/16 02:13 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:13 PM
Boron	0.248	0.0100	0.0300		mg/L	1	08/24/16 08:50 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:13 PM
Calcium	58.5	1.00	3.00		mg/L	10	08/24/16 07:16 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:13 PM
Cobalt	0.00707	0.00300	0.00500		mg/L	1	08/23/16 02:13 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:13 PM
Lithium	0.00938	0.00500	0.0100	J	mg/L	1	08/25/16 02:53 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:13 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:13 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 02:13 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	481	30.0	100		mg/L	100	08/17/16 03:26 PM
Fluoride	0.225	0.100	0.400	J	mg/L	1	08/17/16 12:39 PM
Sulfate	97.8	1.00	3.00		mg/L	1	08/17/16 12:39 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.52	0	0		pH Units@20.9°C	1	08/17/16 11:50 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1150	50.0	50.0		mg/L	1	08/17/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: BMW-23
Lab ID: 1608133-25
Collection Date: 08/11/16 09:20 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 11:13 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 02:15 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:15 PM
Barium	0.0458	0.00300	0.0100		mg/L	1	08/23/16 02:15 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:15 PM
Boron	1.28	0.100	0.300		mg/L	10	08/24/16 07:18 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:15 PM
Calcium	90.4	1.00	3.00		mg/L	10	08/24/16 07:18 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:15 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/23/16 02:15 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:15 PM
Lithium	0.0770	0.00500	0.0100		mg/L	1	08/25/16 02:55 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:15 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:15 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 02:15 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	242	3.00	10.0		mg/L	10	08/17/16 03:41 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/17/16 12:54 PM
Sulfate	539	10.0	30.0		mg/L	10	08/17/16 03:41 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	6.69	0	0		pH Units@21°C	1	08/17/16 11:52 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1430	50.0	50.0		mg/L	1	08/22/16 08:40 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: BMW-22
Lab ID: 1608133-26
Collection Date: 08/11/16 10:00 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 11:15 AM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 02:17 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:17 PM
Barium	0.0679	0.00300	0.0100		mg/L	1	08/23/16 02:17 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:17 PM
Boron	3.18	0.100	0.300		mg/L	10	08/24/16 07:20 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:17 PM
Calcium	198	1.00	3.00		mg/L	10	08/24/16 07:20 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:17 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/23/16 02:17 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:17 PM
Lithium	0.0675	0.00500	0.0100		mg/L	1	08/25/16 02:57 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:17 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:17 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 02:17 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	311	30.0	100		mg/L	100	08/17/16 03:56 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/17/16 01:09 PM
Sulfate	946	100	300		mg/L	100	08/17/16 03:56 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.78	0	0		pH Units@21.1°C	1	08/17/16 11:53 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	2520	50.0	50.0		mg/L	1	08/22/16 08:40 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 14-Sep-16

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - Martin Lake
Project No: 5164-B
Lab Order: 1608133

Client Sample ID: BMW-21
Lab ID: 1608133-27
Collection Date: 08/11/16 10:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/16 11:17 AM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/23/16 02:19 PM
Arsenic	0.00373	0.00200	0.00500	J	mg/L	1	08/23/16 02:19 PM
Barium	0.0445	0.00300	0.0100		mg/L	1	08/23/16 02:19 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:19 PM
Boron	1.04	0.100	0.300		mg/L	10	08/24/16 07:22 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:19 PM
Calcium	143	1.00	3.00		mg/L	10	08/24/16 07:22 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:19 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/23/16 02:19 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/23/16 02:19 PM
Lithium	0.0527	0.00500	0.0100		mg/L	1	08/25/16 02:58 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:19 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/23/16 02:19 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/23/16 02:19 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	425	30.0	100		mg/L	100	08/17/16 04:11 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/17/16 01:24 PM
Sulfate	484	100	300		mg/L	100	08/17/16 04:11 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	7.28	0	0		pH Units@21.7°C	1	08/17/16 11:56 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	1860	50.0	50.0		mg/L	1	08/22/16 08:40 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler

Work Order: 1608133

Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160818B

The QC data in batch 76835 applies to the following samples: 1608133-01A, 1608133-02A, 1608133-03A, 1608133-04A, 1608133-05A, 1608133-06A, 1608133-07A, 1608133-08A, 1608133-09A, 1608133-10A

Sample ID	MB-76835	Batch ID:	76835	TestNo:	SW7470A	Units:	mg/L			
SampType:	MBLK	Run ID:	CETAC2_HG_160818B	Analysis Date:	8/18/2016 9:58:12 AM	Prep Date:	8/17/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID	LCS-76835	Batch ID:	76835	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCS	Run ID:	CETAC2_HG_160818B	Analysis Date:	8/18/2016 10:02:44 AM	Prep Date:	8/17/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00192 0.000200 0.00200 0 96.0 85 115

Sample ID	LCSD-76835	Batch ID:	76835	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCSD	Run ID:	CETAC2_HG_160818B	Analysis Date:	8/18/2016 10:05:00 AM	Prep Date:	8/17/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00197 0.000200 0.00200 0 98.5 85 115 2.57 15

Sample ID	1608119-02A SD	Batch ID:	76835	TestNo:	SW7470A	Units:	mg/L			
SampType:	SD	Run ID:	CETAC2_HG_160818B	Analysis Date:	8/18/2016 10:11:47 AM	Prep Date:	8/17/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID	1608119-02A PDS	Batch ID:	76835	TestNo:	SW7470A	Units:	mg/L			
SampType:	PDS	Run ID:	CETAC2_HG_160818B	Analysis Date:	8/18/2016 10:14:03 AM	Prep Date:	8/17/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00235 0.000200 0.00250 0 94.0 85 115

Sample ID	1608119-02A MS	Batch ID:	76835	TestNo:	SW7470A	Units:	mg/L			
SampType:	MS	Run ID:	CETAC2_HG_160818B	Analysis Date:	8/18/2016 10:16:19 AM	Prep Date:	8/17/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00199 0.000200 0.00200 0 99.5 80 120

Sample ID	1608119-02A MSD	Batch ID:	76835	TestNo:	SW7470A	Units:	mg/L			
SampType:	MSD	Run ID:	CETAC2_HG_160818B	Analysis Date:	8/18/2016 10:18:35 AM	Prep Date:	8/17/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00199 0.000200 0.00200 0 99.5 80 120 0 15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160818B

Sample ID	ICV-160818	Batch ID:	R87672	TestNo:	SW7470A	Units:	mg/L			
SampType:	ICV	Run ID:	CETAC2_HG_160818B	Analysis Date:	8/18/2016 9:53:38 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00388	0.000200	0.00400	0	97.0	90	110			

Sample ID	CCV1-160818	Batch ID:	R87672	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_160818B	Analysis Date:	8/18/2016 10:39:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00190	0.000200	0.00200	0	95.0	90	110			

Sample ID	CCV2-160818	Batch ID:	R87672	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_160818B	Analysis Date:	8/18/2016 11:06:20 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00193	0.000200	0.00200	0	96.5	90	110			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160824B

The QC data in batch 76918 applies to the following samples: 1608133-11A, 1608133-12A, 1608133-13A, 1608133-14A, 1608133-15A, 1608133-16A, 1608133-17A, 1608133-18A, 1608133-19A, 1608133-20A, 1608133-21A, 1608133-22A, 1608133-23A, 1608133-24A, 1608133-25A, 1608133-26A, 1608133-27A

Sample ID	MB-76918		Batch ID:	76918		TestNo:	SW7470A		Units:	mg/L	
SampType:	MBLK		Run ID:	CETAC2_HG_160824B		Analysis Date:	8/24/2016 10:14:50 AM		Prep Date:	8/23/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID	LCS-76918			Batch ID:	76918		TestNo:	SW7470A		Units:	mg/L	
SampType:	LCS			Run ID:	CETAC2_HG_160824B		Analysis Date:	8/24/2016 10:19:22 AM		Prep Date:	8/23/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Mercury 0.00201 0.000200 0.00200 0 101 85 115

Sample ID	LCSD-76918	Batch ID:	76918	TestNo:	SW7470A	Units:	mg/L			
SampType:	LCSD	Run ID:	CETAC2_HG_160824B	Analysis Date:	8/24/2016 10:21:38 AM	Prep Date:	8/23/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00207 0.000200 0.00200 0 104 85 115 2.94 15

Sample ID	1608133-16A SD		Batch ID:	76918		TestNo:	SW7470A		Units:	mg/L	
SampType:	SD		Run ID:	CETAC2_HG_160824B		Analysis Date:	8/24/2016 10:37:29 AM		Prep Date:	8/23/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID	1608133-16A PDS	Batch ID:	76918	TestNo:	SW7470A	Units:	mg/L			
SampType:	PDS	Run ID:	CETAC2_HG_160824B	Analysis Date:	8/24/2016 10:39:45 AM	Prep Date:	8/23/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00228 0.000200 0.00250 0 91.2 85 115

Sample ID	1608133-16A MS	Batch ID:	76918	TestNo:	SW7470A	Units:	mg/L			
SampType:	MS	Run ID:	CETAC2_HG_160824B	Analysis Date:	8/24/2016 10:42:01 AM	Prep Date:	8/23/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00186 0.000200 0.00200 0 93.0 80 120

Sample ID	1608133-16A MSD	Batch ID:	76918	TestNo:	SW7470A	Units:	mg/L			
SampType:	MSD	Run ID:	CETAC2_HG_160824B	Analysis Date:	8/24/2016 10:44:17 AM	Prep Date:	8/23/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00186 0.000200 0.00200 0 93.0 80 120 0 15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_160824B

Sample ID	ICV-160824	Batch ID:	R87769	TestNo:	SW7470A	Units:	mg/L				
SampType:	ICV	Run ID:	CETAC2_HG_160824B	Analysis Date:	8/24/2016 10:10:16 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00395	0.000200	0.00400	0	98.8	90	110			

Sample ID	CCV1-160824	Batch ID:	R87769	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_160824B	Analysis Date:	8/24/2016 10:58:25 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00201	0.000200	0.00200	0	101	90	110			

Sample ID	CCV2-160824	Batch ID:	R87769	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_160824B	Analysis Date:	8/24/2016 11:26:52 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00198	0.000200	0.00200	0	99.0	90	110			

Sample ID	CCV3-160824	Batch ID:	R87769	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_160824B	Analysis Date:	8/24/2016 11:33:45 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00198	0.000200	0.00200	0	99.0	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_160824B

Sample ID	ICV1-160824	Batch ID:	R87792	TestNo:	SW6020A	Units:	mg/L
SampType:	ICV	Run ID:	ICP-MS3_160824B	Analysis Date:	8/24/2016 1:49:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.103 0.00100 0.100 0 103 90 110

Sample ID	ILCVL-160824	Batch ID:	R87792	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS3_160824B	Analysis Date:	8/24/2016 1:55:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.00108 0.00100 0.00100 0 108 70 130

Sample ID	CCV1-160824	Batch ID:	R87792	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS3_160824B	Analysis Date:	8/24/2016 4:35:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.217 0.00100 0.200 0 108 90 110

Sample ID	LCVL1-160824	Batch ID:	R87792	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS3_160824B	Analysis Date:	8/24/2016 4:47:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.00107 0.00100 0.00100 0 107 70 130

Sample ID	CCV2-160824	Batch ID:	R87792	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS3_160824B	Analysis Date:	8/24/2016 6:51:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.203 0.00100 0.200 0 102 90 110

Sample ID	LCVL2-160824	Batch ID:	R87792	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS3_160824B	Analysis Date:	8/24/2016 7:02:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.00112 0.00100 0.00100 0 112 70 130

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

The QC data in batch 76816 applies to the following samples: 1608133-01A, 1608133-02A

Sample ID MB-76816	Batch ID: 76816	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 12:55:00 PM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-76816	Batch ID: 76816	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 12:57:00 PM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.209	0.00250	0.200	0	105	80	120			
Arsenic	0.184	0.00500	0.200	0	91.9	80	120			
Barium	0.197	0.0100	0.200	0	98.5	80	120			
Beryllium	0.200	0.00100	0.200	0	100	80	120			
Cadmium	0.200	0.00100	0.200	0	99.8	80	120			
Calcium	4.73	0.300	5.00	0	94.5	80	120			
Chromium	0.198	0.00500	0.200	0	99.1	80	120			
Cobalt	0.180	0.00500	0.200	0	89.8	80	120			
Lead	0.196	0.00100	0.200	0	97.9	80	120			
Lithium	0.199	0.0100	0.200	0	99.4	80	120			
Molybdenum	0.194	0.00500	0.200	0	96.9	80	120			
Selenium	0.180	0.00500	0.200	0	90.0	80	120			
Thallium	0.202	0.00150	0.200	0	101	80	120			

Sample ID LCSD-76816	Batch ID: 76816	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160817A	Analysis Date: 8/17/2016 12:59:00 PM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.210	0.00250	0.200	0	105	80	120	0.364	15	
Arsenic	0.192	0.00500	0.200	0	96.2	80	120	4.61	15	
Barium	0.194	0.0100	0.200	0	97.2	80	120	1.39	15	
Beryllium	0.199	0.00100	0.200	0	99.6	80	120	0.495	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID	LCSD-76816	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 12:59:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Cadmium	0.197	0.00100	0.200	0	98.5	80	120	1.30	15	
Calcium	4.70	0.300	5.00	0	94.0	80	120	0.549	15	
Chromium	0.196	0.00500	0.200	0	98.2	80	120	0.920	15	
Cobalt	0.186	0.00500	0.200	0	93.0	80	120	3.45	15	
Lead	0.191	0.00100	0.200	0	95.5	80	120	2.54	15	
Lithium	0.197	0.0100	0.200	0	98.5	80	120	0.885	15	
Molybdenum	0.193	0.00500	0.200	0	96.6	80	120	0.298	15	
Selenium	0.189	0.00500	0.200	0	94.3	80	120	4.76	15	
Thallium	0.194	0.00150	0.200	0	96.9	80	120	4.14	15	

Sample ID	1608135-04A SD	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 1:05:00 PM	Prep Date:	8/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.0400	0.125	0	0				0	10	
Arsenic	0.667	0.250	0	0.668				0.086	10	
Barium	<0.150	0.500	0	0				0	10	
Beryllium	<0.0150	0.0500	0	0				0	10	
Cadmium	<0.0150	0.0500	0	0				0	10	
Calcium	5.38	15.0	0	5.68				5.39	10	
Chromium	<0.100	0.250	0	0				0	10	
Cobalt	<0.150	0.250	0	0				0	10	
Lead	<0.0150	0.0500	0	0				0	10	
Lithium	<0.250	0.500	0	0				0	10	
Molybdenum	1.25	0.250	0	1.21				3.01	10	
Selenium	<0.100	0.250	0	0				0	10	
Thallium	<0.0250	0.0750	0	0				0	10	

Sample ID	1608135-04A PDS			Batch ID:	76816		TestNo:	SW6020A		Units:	mg/L	
SampType:	PDS			Run ID:	ICP-MS4_160817A		Analysis Date:	8/17/2016 1:25:00 PM		Prep Date:	8/16/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	2.10	0.0250	2.00	0	105	80	120			
Arsenic	2.66	0.0500	2.00	0.668	99.7	80	120			
Barium	1.97	0.100	2.00	0	98.6	80	120			
Beryllium	1.86	0.0100	2.00	0	93.2	80	120			
Cadmium	1.87	0.0100	2.00	0	93.7	80	120			
Calcium	50.3	3.00	50.0	5.68	89.2	80	120			
Chromium	1.93	0.0500	2.00	0	96.7	80	120			
Cobalt	1.90	0.0500	2.00	0	95.1	80	120			
Lead	1.97	0.0100	2.00	0	98.7	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID	1608135-04A PDS	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L				
SampType:	PDS	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 1:25:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Lithium	1.81	0.100	2.00	0	90.4	80	120			
Molybdenum	3.08	0.0500	2.00	1.21	93.4	80	120			
Selenium	1.94	0.0500	2.00	0	96.8	80	120			
Thallium	1.97	0.0150	2.00	0	98.3	80	120			

Sample ID	1608135-04A MS		Batch ID:	76816		TestNo:	SW6020A		Units:	mg/L	
SampType:	MS		Run ID:	ICP-MS4_160817A		Analysis Date:	8/17/2016 1:27:00 PM		Prep Date:	8/16/2016	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.219	0.0250	0.200	0	110	80	120			
Arsenic	0.891	0.0500	0.200	0.668	112	80	120			
Barium	0.215	0.100	0.200	0	107	80	120			
Beryllium	0.186	0.0100	0.200	0	92.9	80	120			
Cadmium	0.196	0.0100	0.200	0	97.9	80	120			
Calcium	10.3	3.00	5.00	5.68	92.9	80	120			
Chromium	0.191	0.0500	0.200	0	95.6	80	120			
Cobalt	0.195	0.0500	0.200	0	97.4	80	120			
Lead	0.204	0.0100	0.200	0	102	80	120			
Lithium	0.215	0.100	0.200	0	108	80	120			
Molybdenum	1.48	0.0500	0.200	1.21	135	80	120			S
Selenium	0.175	0.0500	0.200	0	87.3	80	120			
Thallium	0.199	0.0150	0.200	0	99.5	80	120			

Sample ID	1608135-04A MSD	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 1:29:00 PM	Prep Date:	8/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.213	0.0250	0.200	0	106	80	120	3.19	15	
Arsenic	0.873	0.0500	0.200	0.668	103	80	120	2.08	15	
Barium	0.213	0.100	0.200	0	106	80	120	0.965	15	
Beryllium	0.184	0.0100	0.200	0	91.8	80	120	1.18	15	
Cadmium	0.192	0.0100	0.200	0	95.9	80	120	2.08	15	
Calcium	10.3	3.00	5.00	5.68	91.6	80	120	0.674	15	
Chromium	0.189	0.0500	0.200	0	94.7	80	120	0.972	15	
Cobalt	0.192	0.0500	0.200	0	95.8	80	120	1.70	15	
Lead	0.199	0.0100	0.200	0	99.4	80	120	2.38	15	
Lithium	0.206	0.100	0.200	0	103	80	120	4.42	15	
Molybdenum	1.48	0.0500	0.200	1.21	134	80	120	0.179	15	S
Selenium	0.164	0.0500	0.200	0	82.1	80	120	6.17	15	
Thallium	0.200	0.0150	0.200	0	99.8	80	120	0.341	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID	ICV-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 10:42:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.104	0.00250	0.100	0	104	90	110			
Arsenic	0.101	0.00500	0.100	0	101	90	110			
Barium	0.0993	0.0100	0.100	0	99.3	90	110			
Beryllium	0.100	0.00100	0.100	0	100	90	110			
Cadmium	0.0985	0.00100	0.100	0	98.5	90	110			
Calcium	2.34	0.300	2.50	0	93.8	90	110			
Chromium	0.104	0.00500	0.100	0	104	90	110			
Cobalt	0.103	0.00500	0.100	0	103	90	110			
Lead	0.101	0.00100	0.100	0	101	90	110			
Lithium	0.0976	0.0100	0.100	0	97.6	90	110			
Molybdenum	0.0952	0.00500	0.100	0	95.2	90	110			
Selenium	0.101	0.00500	0.100	0	101	90	110			
Thallium	0.101	0.00150	0.100	0	101	90	110			

Sample ID	LCVL-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 10:46:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00221	0.00250	0.00200	0	110	70	130			
Arsenic	0.00526	0.00500	0.00500	0	105	70	130			
Barium	0.00513	0.0100	0.00500	0	103	70	130			
Beryllium	0.000783	0.00100	0.00100	0	78.3	70	130			
Cadmium	0.00104	0.00100	0.00100	0	104	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00526	0.00500	0.00500	0	105	70	130			
Cobalt	0.00522	0.00500	0.00500	0	104	70	130			
Lead	0.00111	0.00100	0.00100	0	110	70	130			
Lithium	0.0100	0.0100	0.0100	0	100	70	130			
Molybdenum	0.00524	0.00500	0.00500	0	105	70	130			
Selenium	0.00555	0.00500	0.00500	0	111	70	130			
Thallium	0.00105	0.00150	0.00100	0	105	70	130			

Sample ID	CCV2-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 12:28:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.205	0.00250	0.200	0	103	90	110			
Arsenic	0.214	0.00500	0.200	0	107	90	110			
Barium	0.204	0.0100	0.200	0	102	90	110			
Beryllium	0.210	0.00100	0.200	0	105	90	110			
Cadmium	0.208	0.00100	0.200	0	104	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID	CCV2-160817			Batch ID:	R87663		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV			Run ID:	ICP-MS4_160817A		Analysis Date:	8/17/2016 12:28:00 PM		Prep Date:		
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.66	0.300	5.00	0	93.1	90	110			
Chromium	0.208	0.00500	0.200	0	104	90	110			
Cobalt	0.211	0.00500	0.200	0	106	90	110			
Lead	0.210	0.00100	0.200	0	105	90	110			
Lithium	0.215	0.0100	0.200	0	107	90	110			
Molybdenum	0.207	0.00500	0.200	0	103	90	110			
Selenium	0.212	0.00500	0.200	0	106	90	110			
Thallium	0.217	0.00150	0.200	0	108	90	110			

Sample ID	LCVL2-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 12:38:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00214	0.00250	0.00200	0	107	70	130			
Arsenic	0.00520	0.00500	0.00500	0	104	70	130			
Barium	0.00517	0.0100	0.00500	0	103	70	130			
Beryllium	0.00109	0.00100	0.00100	0	109	70	130			
Cadmium	0.00104	0.00100	0.00100	0	104	70	130			
Calcium	0.0990	0.300	0.100	0	99.0	70	130			
Chromium	0.00514	0.00500	0.00500	0	103	70	130			
Cobalt	0.00494	0.00500	0.00500	0	98.9	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Lithium	0.0104	0.0100	0.0100	0	104	70	130			
Molybdenum	0.00489	0.00500	0.00500	0	97.8	70	130			
Selenium	0.00491	0.00500	0.00500	0	98.1	70	130			
Thallium	0.00105	0.00150	0.00100	0	105	70	130			

Sample ID	CCV3-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 1:39:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.203	0.00250	0.200	0	102	90	110			
Arsenic	0.210	0.00500	0.200	0	105	90	110			
Barium	0.203	0.0100	0.200	0	102	90	110			
Beryllium	0.209	0.00100	0.200	0	104	90	110			
Cadmium	0.206	0.00100	0.200	0	103	90	110			
Calcium	4.76	0.300	5.00	0	95.3	90	110			
Chromium	0.209	0.00500	0.200	0	105	90	110			
Cobalt	0.206	0.00500	0.200	0	103	90	110			
Lead	0.202	0.00100	0.200	0	101	90	110			
Lithium	0.217	0.0100	0.200	0	109	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID	CCV3-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 1:39:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.202	0.00500	0.200	0	101	90	110			
Selenium	0.205	0.00500	0.200	0	103	90	110			
Thallium	0.208	0.00150	0.200	0	104	90	110			

Sample ID	LCVL3-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 1:46:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00226	0.00250	0.00200	0	113	70	130			
Arsenic	0.00537	0.00500	0.00500	0	107	70	130			
Barium	0.00514	0.0100	0.00500	0	103	70	130			
Beryllium	0.000885	0.00100	0.00100	0	88.5	70	130			
Cadmium	0.00103	0.00100	0.00100	0	103	70	130			
Calcium	0.103	0.300	0.100	0	103	70	130			
Chromium	0.00517	0.00500	0.00500	0	103	70	130			
Cobalt	0.00528	0.00500	0.00500	0	106	70	130			
Lead	0.000995	0.00100	0.00100	0	99.5	70	130			
Lithium	0.0101	0.0100	0.0100	0	101	70	130			
Molybdenum	0.00491	0.00500	0.00500	0	98.2	70	130			
Selenium	0.00497	0.00500	0.00500	0	99.5	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Sample ID	CCV4-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 2:11:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.207	0.00250	0.200	0	103	90	110			
Arsenic	0.209	0.00500	0.200	0	105	90	110			
Barium	0.208	0.0100	0.200	0	104	90	110			
Beryllium	0.207	0.00100	0.200	0	103	90	110			
Cadmium	0.208	0.00100	0.200	0	104	90	110			
Chromium	0.207	0.00500	0.200	0	103	90	110			
Cobalt	0.208	0.00500	0.200	0	104	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Lithium	0.214	0.0100	0.200	0	107	90	110			
Molybdenum	0.205	0.00500	0.200	0	103	90	110			
Selenium	0.203	0.00500	0.200	0	101	90	110			
Thallium	0.210	0.00150	0.200	0	105	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID	LCVL4-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 2:15:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00226	0.00250	0.00200	0	113	70	130			
Arsenic	0.00509	0.00500	0.00500	0	102	70	130			
Barium	0.00516	0.0100	0.00500	0	103	70	130			
Beryllium	0.00123	0.00100	0.00100	0	123	70	130			
Cadmium	0.00108	0.00100	0.00100	0	108	70	130			
Chromium	0.00521	0.00500	0.00500	0	104	70	130			
Cobalt	0.00503	0.00500	0.00500	0	101	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Lithium	0.0104	0.0100	0.0100	0	104	70	130			
Molybdenum	0.00495	0.00500	0.00500	0	99.0	70	130			
Selenium	0.00460	0.00500	0.00500	0	91.9	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Sample ID	CCV6-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 3:33:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.203	0.00250	0.200	0	102	90	110			
Arsenic	0.204	0.00500	0.200	0	102	90	110			
Barium	0.208	0.0100	0.200	0	104	90	110			
Beryllium	0.202	0.00100	0.200	0	101	90	110			
Cadmium	0.202	0.00100	0.200	0	101	90	110			
Chromium	0.201	0.00500	0.200	0	101	90	110			
Cobalt	0.195	0.00500	0.200	0	97.7	90	110			
Lead	0.206	0.00100	0.200	0	103	90	110			
Molybdenum	0.200	0.00500	0.200	0	99.8	90	110			
Selenium	0.198	0.00500	0.200	0	99.2	90	110			
Thallium	0.210	0.00150	0.200	0	105	90	110			

Sample ID	LCVL6-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 3:38:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00230	0.00250	0.00200	0	115	70	130			
Arsenic	0.00526	0.00500	0.00500	0	105	70	130			
Barium	0.00533	0.0100	0.00500	0	107	70	130			
Beryllium	0.00128	0.00100	0.00100	0	128	70	130			
Cadmium	0.000952	0.00100	0.00100	0	95.2	70	130			
Chromium	0.00519	0.00500	0.00500	0	104	70	130			
Cobalt	0.00517	0.00500	0.00500	0	103	70	130			
Lead	0.00101	0.00100	0.00100	0	101	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160817A

Sample ID	LCVL6-160817	Batch ID:	R87663	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160817A	Analysis Date:	8/17/2016 3:38:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.00482	0.00500	0.00500	0	96.4	70	130			
Selenium	0.00483	0.00500	0.00500	0	96.7	70	130			
Thallium	0.00102	0.00150	0.00100	0	102	70	130			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160818B

The QC data in batch 76816 applies to the following samples: 1608133-01A, 1608133-02A

Sample ID	MB-76816	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L				
SampType:	MBLK	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 2:32:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron <0.0100 0.0300

Sample ID	LCS-76816	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCS	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 2:34:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.193 0.0300 0.200 0 96.3 80 120

Sample ID	LCSD-76816	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 2:36:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.185 0.0300 0.200 0 92.7 80 120 3.82 15

Sample ID	1608135-04A SD	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L				
SampType:	SD	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 2:42:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 1.97 1.50 0 1.87 5.13 10

Sample ID	1608135-04A PDS	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L				
SampType:	PDS	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 2:44:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 3.60 0.300 2.00 1.87 86.7 80 120

Sample ID	1608135-04A MS	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L				
SampType:	MS	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 3:04:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 2.18 0.300 0.200 1.87 158 80 120 S

Sample ID	1608135-04A MSD	Batch ID:	76816	TestNo:	SW6020A	Units:	mg/L				
SampType:	MSD	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 3:06:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 2.07 0.300 0.200 1.87 102 80 120 5.26 15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160818B

Sample ID	ICV2-160818	Batch ID:	R87690	TestNo:	SW6020A	Units:	mg/L
SampType:	ICV	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 2:06:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Boron	0.0920	0.0300	0.100	0	92.0	90	110
Calcium	2.39	0.300	2.50	0	95.8	90	110

Sample ID	ILCVL2-160818	Batch ID:	R87690	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 2:11:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Boron	0.0190	0.0300	0.0200	0	95.0	70	130
Calcium	0.102	0.300	0.100	0	102	70	130

Sample ID	CCV2-160818	Batch ID:	R87690	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 3:08:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Boron	0.195	0.0300	0.200	0	97.6	90	110
Calcium	4.88	0.300	5.00	0	97.6	90	110

Sample ID	LCVL2-160818	Batch ID:	R87690	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 3:16:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Boron	0.0176	0.0300	0.0200	0	87.8	70	130
Calcium	0.0995	0.300	0.100	0	99.5	70	130

Sample ID	CCV3-160818	Batch ID:	R87690	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 3:42:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Boron	0.193	0.0300	0.200	0	96.6	90	110
Calcium	4.89	0.300	5.00	0	97.8	90	110

Sample ID	LCVL3-160818	Batch ID:	R87690	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160818B	Analysis Date:	8/18/2016 3:54:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Boron	0.00902	0.0300	0.0200	0	45.1	70	130
Calcium	0.100	0.300	0.100	0	100	70	130

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160819A

The QC data in batch 76817 applies to the following samples: 1608133-03A, 1608133-04A, 1608133-05A, 1608133-06A, 1608133-07A, 1608133-08A, 1608133-09A, 1608133-10A, 1608133-11A, 1608133-12A, 1608133-13A, 1608133-14A, 1608133-15A

Sample ID MB-76817	Batch ID: 76817	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 5:26:00 PM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-76817	Batch ID: 76817	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 5:28:00 PM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.6	80	120			
Arsenic	0.200	0.00500	0.200	0	100	80	120			
Barium	0.194	0.0100	0.200	0	97.1	80	120			
Cadmium	0.190	0.00100	0.200	0	95.2	80	120			
Calcium	4.76	0.300	5.00	0	95.3	80	120			
Chromium	0.196	0.00500	0.200	0	97.9	80	120			
Cobalt	0.200	0.00500	0.200	0	100	80	120			
Lead	0.200	0.00100	0.200	0	99.8	80	120			
Molybdenum	0.186	0.00500	0.200	0	93.2	80	120			
Selenium	0.203	0.00500	0.200	0	102	80	120			
Thallium	0.200	0.00150	0.200	0	100	80	120			

Sample ID LCSD-76817	Batch ID: 76817	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160819A	Analysis Date: 8/19/2016 5:30:00 PM	Prep Date: 8/16/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	100	80	120	0.615	15	
Arsenic	0.201	0.00500	0.200	0	100	80	120	0.198	15	
Barium	0.195	0.0100	0.200	0	97.3	80	120	0.243	15	
Cadmium	0.192	0.00100	0.200	0	96.0	80	120	0.767	15	
Calcium	4.81	0.300	5.00	0	96.2	80	120	0.929	15	
Chromium	0.196	0.00500	0.200	0	97.8	80	120	0.039	15	
Cobalt	0.201	0.00500	0.200	0	100	80	120	0.213	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160819A

Sample ID	LCSD-76817	Batch ID:	76817	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 5:30:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Lead	0.199	0.00100	0.200	0	99.3	80	120	0.462	15	
Molybdenum	0.189	0.00500	0.200	0	94.5	80	120	1.31	15	
Selenium	0.203	0.00500	0.200	0	102	80	120	0.159	15	
Thallium	0.199	0.00150	0.200	0	99.3	80	120	0.824	15	

Sample ID	1608136-06A SD		Batch ID:	76817		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD		Run ID:	ICP-MS4_160819A		Analysis Date:	8/19/2016 5:36:00 PM		Prep Date:	8/16/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	0.190	0.0250	0	0.193				1.47	10	
Barium	0.0413	0.0500	0	0.0412				0.187	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Calcium	5.17	1.50	0	5.22				0.967	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0.00742				0	10	
Lead	<0.00150	0.00500	0	0.000484				0	10	
Molybdenum	0.364	0.0250	0	0.374				2.56	10	
Selenium	<0.0100	0.0250	0	0.00282				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID	1608136-06A PDS	Batch ID:	76817	TestNo:	SW6020A	Units:	mg/L				
SampType:	PDS	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 5:56:00 PM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.209	0.00250	0.200	0	104	80	120			
Arsenic	0.386	0.00500	0.200	0.193	96.6	80	120			
Barium	0.238	0.0100	0.200	0.0412	98.6	80	120			
Cadmium	0.177	0.00100	0.200	0	88.4	80	120			
Calcium	9.50	0.300	5.00	5.22	85.7	80	120			
Chromium	0.186	0.00500	0.200	0	93.0	80	120			
Cobalt	0.197	0.00500	0.200	0.00742	94.6	80	120			
Lead	0.202	0.00100	0.200	0.000484	101	80	120			
Molybdenum	0.524	0.00500	0.200	0.374	74.9	80	120			S
Selenium	0.210	0.00500	0.200	0.00282	103	80	120			
Thallium	0.201	0.00150	0.200	0	101	80	120			

Sample ID	1608136-06A MS		Batch ID:	76817		TestNo:	SW6020A		Units:	mg/L	
SampType:	MS		Run ID:	ICP-MS4_160819A		Analysis Date:	8/19/2016 5:58:00 PM		Prep Date:	8/16/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160819A

Sample ID	1608136-06A MS	Batch ID:	76817	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 5:58:00 PM	Prep Date:	8/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.204	0.00250	0.200	0	102	80	120			
Arsenic	0.633	0.00500	0.200	0.193	220	80	120			S
Barium	0.535	0.0100	0.200	0.0412	247	80	120			S
Cadmium	0.173	0.00100	0.200	0	86.5	80	120			
Calcium	5.64	0.300	5.00	5.22	8.36	80	120			S
Chromium	0.174	0.00500	0.200	0	87.1	80	120			
Cobalt	0.181	0.00500	0.200	0.00742	86.7	80	120			
Lead	0.201	0.00100	0.200	0.000484	100	80	120			
Molybdenum	2.66	0.00500	0.200	0.374	1140	80	120			S
Selenium	0.206	0.00500	0.200	0.00282	102	80	120			
Thallium	0.201	0.00150	0.200	0	101	80	120			

Sample ID	1608136-06A MSD	Batch ID:	76817	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 6:00:00 PM	Prep Date:	8/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.198	0.00250	0.200	0	99.2	80	120	2.74	15	
Arsenic	0.612	0.00500	0.200	0.193	210	80	120	3.36	15	S
Barium	0.506	0.0100	0.200	0.0412	232	80	120	5.57	15	S
Cadmium	0.167	0.00100	0.200	0	83.7	80	120	3.24	15	
Calcium	5.63	0.300	5.00	5.22	8.09	80	120	0.238	15	S
Chromium	0.171	0.00500	0.200	0	85.6	80	120	1.72	15	
Cobalt	0.178	0.00500	0.200	0.00742	85.3	80	120	1.57	15	
Lead	0.199	0.00100	0.200	0.000484	99.2	80	120	1.03	15	
Molybdenum	2.51	0.00500	0.200	0.374	1070	80	120	5.76	15	S
Selenium	0.207	0.00500	0.200	0.00282	102	80	120	0.267	15	
Thallium	0.198	0.00150	0.200	0	98.9	80	120	1.84	15	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160819A

Sample ID	ICV-160819	Batch ID:	R87706	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 12:09:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.104	0.00250	0.100	0	104	90	110			
Arsenic	0.101	0.00500	0.100	0	101	90	110			
Barium	0.101	0.0100	0.100	0	101	90	110			
Cadmium	0.0995	0.00100	0.100	0	99.5	90	110			
Calcium	2.40	0.300	2.50	0	96.1	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.105	0.00500	0.100	0	105	90	110			
Lead	0.0999	0.00100	0.100	0	99.9	90	110			
Molybdenum	0.0938	0.00500	0.100	0	93.8	90	110			
Selenium	0.103	0.00500	0.100	0	103	90	110			
Thallium	0.0989	0.00150	0.100	0	98.9	90	110			

Sample ID	LCVL-160819	Batch ID:	R87706	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 12:13:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00224	0.00250	0.00200	0	112	70	130			
Arsenic	0.00546	0.00500	0.00500	0	109	70	130			
Barium	0.00533	0.0100	0.00500	0	107	70	130			
Cadmium	0.00105	0.00100	0.00100	0	105	70	130			
Calcium	0.103	0.300	0.100	0	103	70	130			
Chromium	0.00543	0.00500	0.00500	0	109	70	130			
Cobalt	0.00554	0.00500	0.00500	0	111	70	130			
Lead	0.00113	0.00100	0.00100	0	113	70	130			
Molybdenum	0.00515	0.00500	0.00500	0	103	70	130			
Selenium	0.00608	0.00500	0.00500	0	122	70	130			
Thallium	0.00106	0.00150	0.00100	0	106	70	130			

Sample ID	CCV5-160819			Batch ID:	R87706		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV			Run ID:	ICP-MS4_160819A		Analysis Date:	8/19/2016 5:18:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.208	0.00250	0.200	0	104	90	110			
Arsenic	0.206	0.00500	0.200	0	103	90	110			
Barium	0.201	0.0100	0.200	0	100	90	110			
Cadmium	0.195	0.00100	0.200	0	97.3	90	110			
Calcium	4.99	0.300	5.00	0	99.9	90	110			
Chromium	0.202	0.00500	0.200	0	101	90	110			
Cobalt	0.204	0.00500	0.200	0	102	90	110			
Lead	0.203	0.00100	0.200	0	102	90	110			
Molybdenum	0.193	0.00500	0.200	0	96.7	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160819A

Sample ID	CCV5-160819	Batch ID:	R87706	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 5:18:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Selenium	0.207	0.00500	0.200	0	104	90	110			
Thallium	0.207	0.00150	0.200	0	104	90	110			

Sample ID	LCVL5-160819	Batch ID:	R87706	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 5:22:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00232	0.00250	0.00200	0	116	70	130			
Arsenic	0.00549	0.00500	0.00500	0	110	70	130			
Barium	0.00536	0.0100	0.00500	0	107	70	130			
Cadmium	0.00103	0.00100	0.00100	0	103	70	130			
Calcium	0.108	0.300	0.100	0	108	70	130			
Chromium	0.00549	0.00500	0.00500	0	110	70	130			
Cobalt	0.00548	0.00500	0.00500	0	110	70	130			
Lead	0.00113	0.00100	0.00100	0	113	70	130			
Molybdenum	0.00488	0.00500	0.00500	0	97.5	70	130			
Selenium	0.00563	0.00500	0.00500	0	113	70	130			
Thallium	0.00111	0.00150	0.00100	0	111	70	130			

Sample ID	CCV6-160819			Batch ID:	R87706		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV			Run ID:	ICP-MS4_160819A		Analysis Date:	8/19/2016 6:02:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.205	0.00250	0.200	0	103	90	110			
Arsenic	0.207	0.00500	0.200	0	103	90	110			
Barium	0.196	0.0100	0.200	0	97.9	90	110			
Cadmium	0.185	0.00100	0.200	0	92.6	90	110			
Calcium	5.07	0.300	5.00	0	101	90	110			
Chromium	0.188	0.00500	0.200	0	93.9	90	110			
Cobalt	0.196	0.00500	0.200	0	97.9	90	110			
Lead	0.202	0.00100	0.200	0	101	90	110			
Molybdenum	0.189	0.00500	0.200	0	94.5	90	110			
Selenium	0.215	0.00500	0.200	0	108	90	110			
Thallium	0.203	0.00150	0.200	0	102	90	110			

Sample ID	LCVL6-160819	Batch ID:	R87706	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 6:06:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00238	0.00250	0.00200	0	119	70	130			
Arsenic	0.00547	0.00500	0.00500	0	109	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160819A

Sample ID	LCVL6-160819	Batch ID:	R87706	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 6:06:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.00542	0.0100	0.00500	0	108	70	130			
Cadmium	0.00101	0.00100	0.00100	0	101	70	130			
Calcium	0.109	0.300	0.100	0	109	70	130			
Chromium	0.00524	0.00500	0.00500	0	105	70	130			
Cobalt	0.00530	0.00500	0.00500	0	106	70	130			
Lead	0.00109	0.00100	0.00100	0	109	70	130			
Molybdenum	0.00510	0.00500	0.00500	0	102	70	130			
Selenium	0.00645	0.00500	0.00500	0	129	70	130			
Thallium	0.00111	0.00150	0.00100	0	111	70	130			

Sample ID	CCV7-160819	Batch ID:	R87706	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 6:31:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.205	0.00250	0.200	0	102	90	110			
Arsenic	0.208	0.00500	0.200	0	104	90	110			
Barium	0.198	0.0100	0.200	0	99.0	90	110			
Cadmium	0.190	0.00100	0.200	0	94.9	90	110			
Calcium	4.94	0.300	5.00	0	98.8	90	110			
Chromium	0.200	0.00500	0.200	0	99.8	90	110			
Cobalt	0.205	0.00500	0.200	0	102	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Molybdenum	0.189	0.00500	0.200	0	94.3	90	110			
Selenium	0.208	0.00500	0.200	0	104	90	110			
Thallium	0.204	0.00150	0.200	0	102	90	110			

Sample ID	LCVL7-160819	Batch ID:	R87706	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160819A	Analysis Date:	8/19/2016 6:35:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00228	0.00250	0.00200	0	114	70	130			
Arsenic	0.00552	0.00500	0.00500	0	110	70	130			
Barium	0.00510	0.0100	0.00500	0	102	70	130			
Cadmium	0.000970	0.00100	0.00100	0	97.0	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			
Chromium	0.00536	0.00500	0.00500	0	107	70	130			
Cobalt	0.00541	0.00500	0.00500	0	108	70	130			
Lead	0.00108	0.00100	0.00100	0	108	70	130			
Molybdenum	0.00480	0.00500	0.00500	0	96.1	70	130			
Selenium	0.00607	0.00500	0.00500	0	121	70	130			
Thallium	0.00111	0.00150	0.00100	0	111	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160822B

The QC data in batch 76817 applies to the following samples: 1608133-03A, 1608133-04A, 1608133-05A, 1608133-06A, 1608133-07A, 1608133-08A, 1608133-09A, 1608133-10A, 1608133-11A, 1608133-12A, 1608133-13A, 1608133-14A, 1608133-15A

Sample ID	MB-76817	Batch ID:	76817	TestNo:	SW6020A	Units:	mg/L			
SampType:	MBLK	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 1:51:00 PM	Prep Date:	8/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	<0.000300	0.00100								
Boron	<0.0100	0.0300								
Lithium	<0.00500	0.0100								

Sample ID	LCS-76817			Batch ID:	76817		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS			Run ID:	ICP-MS4_160822B		Analysis Date:	8/22/2016 1:53:00 PM		Prep Date:	8/16/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Beryllium	0.200	0.00100	0.200	0	99.8	80	120			
Boron	0.196	0.0300	0.200	0	98.2	80	120			
Lithium	0.200	0.0100	0.200	0	100	80	120			

Sample ID	LCSD-76817		Batch ID:	76817		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCSD		Run ID:	ICP-MS4_160822B		Analysis Date:	8/22/2016 1:55:00 PM		Prep Date:	8/16/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.201	0.00100	0.200	0	100	80	120	0.617	15	
Boron	0.199	0.0300	0.200	0	99.4	80	120	1.23	15	
Lithium	0.207	0.0100	0.200	0	104	80	120	3.27	15	

Sample ID	1608136-06A SD	Batch ID:	76817	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 2:01:00 PM	Prep Date:	8/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	<0.0150	0.0500	0	0				0	10	
Boron	1.40	1.50	0	1.19				16.8	10	R
Lithium	<0.250	0.500	0	0				0	10	

Sample ID	1608136-06A PDS			Batch ID:	76817		TestNo:	SW6020A		Units:	mg/L		
SampType:	PDS			Run ID:	ICP-MS4_160822B		Analysis Date:	8/22/2016 2:03:00 PM		Prep Date:	8/16/2016		
Analyte				Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	1.86	0.0100	2.00	0	93.0	80	120			
Boron	3.08	0.300	2.00	1.19	94.9	80	120			
Lithium	1.82	0.100	2.00	0	91.1	80	120			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160822B

Sample ID	1608136-06A MS	Batch ID:	76817	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 2:23:00 PM	Prep Date:	8/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.171	0.0100	0.200	0	85.3	80	120			
Boron	1.15	0.300	0.200	1.19	-18.0	80	120			S
Lithium	0.189	0.100	0.200	0	94.3	80	120			

Sample ID	1608136-06A MSD	Batch ID:	76817	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 2:25:00 PM	Prep Date:	8/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.174	0.0100	0.200	0	87.2	80	120	2.20	15	
Boron	1.15	0.300	0.200	1.19	-18.1	80	120	0.025	15	S
Lithium	0.176	0.100	0.200	0	87.9	80	120	7.03	15	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160822B

Sample ID	ICV2-160822	Batch ID:	R87729	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 1:35:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.100	0.00100	0.100	0	100	90	110			
Boron	0.0948	0.0300	0.100	0	94.8	90	110			
Calcium	2.32	0.300	2.50	0	92.9	90	110			
Lithium	0.0966	0.0100	0.100	0	96.6	90	110			

Sample ID	ILCVL2-160822		Batch ID:	R87729		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCVL		Run ID:	ICP-MS4_160822B		Analysis Date:	8/22/2016 1:44:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.00125	0.00100	0.00100	0	125	70	130			
Boron	0.0215	0.0300	0.0200	0	108	70	130			
Calcium	0.106	0.300	0.100	0	106	70	130			
Lithium	0.0114	0.0100	0.0100	0	114	70	130			

Sample ID	CCV2-160822	Batch ID:	R87729	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 2:35:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.209	0.00100	0.200	0	105	90	110			
Boron	0.213	0.0300	0.200	0	106	90	110			
Calcium	4.78	0.300	5.00	0	95.5	90	110			
Lithium	0.213	0.0100	0.200	0	107	90	110			

Sample ID	LCVL2-160822	Batch ID:	R87729	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 2:46:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.00131	0.00100	0.00100	0	131	70	130			S
Boron	0.0245	0.0300	0.0200	0	123	70	130			
Calcium	0.0981	0.300	0.100	0	98.1	70	130			
Lithium	0.0113	0.0100	0.0100	0	113	70	130			

Sample ID	CCV3-160822	Batch ID:	R87729	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 3:07:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.208	0.00100	0.200	0	104	90	110			
Boron	0.220	0.0300	0.200	0	110	90	110			
Lithium	0.219	0.0100	0.200	0	110	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160822B

Sample ID	LCVL3-160822	Batch ID:	R87729	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 3:17:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium		0.00108	0.00100	0.00100	0	108	70	130			
Boron		0.0214	0.0300	0.0200	0	107	70	130			
Lithium		0.0113	0.0100	0.0100	0	113	70	130			

Sample ID	CCV4-160822	Batch ID:	R87729	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 3:35:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.192	0.00100	0.200	0	96.0	90	110			
Lithium	0.202	0.0100	0.200	0	101	90	110			

Sample ID	LCVL4-160822	Batch ID:	R87729	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160822B	Analysis Date:	8/22/2016 3:46:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium		0.00104	0.00100	0.00100	0	104	70	130			
Lithium		0.0101	0.0100	0.0100	0	101	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823B

The QC data in batch 76893 applies to the following samples: 1608133-16A, 1608133-17A, 1608133-18A, 1608133-19A, 1608133-20A, 1608133-21A, 1608133-22A

Sample ID	MB-76893		Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L	
SampType:	MBLK		Run ID:	ICP-MS4_160823B		Analysis Date:	8/23/2016 12:12:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID	LCS-76893		Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS		Run ID:	ICP-MS4_160823B		Analysis Date:	8/23/2016 12:14:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.203	0.00250	0.200	0	101	80	120			
Arsenic	0.199	0.00500	0.200	0	99.5	80	120			
Barium	0.196	0.0100	0.200	0	97.8	80	120			
Beryllium	0.201	0.00100	0.200	0	101	80	120			
Cadmium	0.203	0.00100	0.200	0	101	80	120			
Calcium	4.82	0.300	5.00	0	96.4	80	120			
Chromium	0.203	0.00500	0.200	0	101	80	120			
Cobalt	0.202	0.00500	0.200	0	101	80	120			
Lead	0.196	0.00100	0.200	0	98.2	80	120			
Lithium	0.199	0.0100	0.200	0	99.6	80	120			
Molybdenum	0.201	0.00500	0.200	0	100	80	120			
Selenium	0.197	0.00500	0.200	0	98.5	80	120			
Thallium	0.196	0.00150	0.200	0	98.0	80	120			

Sample ID	LCSD-76893	Batch ID:	76893	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 12:16:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.208	0.00250	0.200	0	104	80	120	2.52	15	
Arsenic	0.199	0.00500	0.200	0	99.3	80	120	0.240	15	
Barium	0.196	0.0100	0.200	0	98.1	80	120	0.297	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823B

Sample ID	LCSD-76893			Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCSD			Run ID:	ICP-MS4_160823B		Analysis Date:	8/23/2016 12:16:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Beryllium	0.198	0.00100	0.200	0	98.9	80	120	1.69	15	
Cadmium	0.202	0.00100	0.200	0	101	80	120	0.195	15	
Calcium	4.79	0.300	5.00	0	95.9	80	120	0.478	15	
Chromium	0.201	0.00500	0.200	0	101	80	120	0.842	15	
Cobalt	0.203	0.00500	0.200	0	101	80	120	0.425	15	
Lead	0.200	0.00100	0.200	0	99.8	80	120	1.66	15	
Lithium	0.197	0.0100	0.200	0	98.4	80	120	1.20	15	
Molybdenum	0.202	0.00500	0.200	0	101	80	120	0.688	15	
Selenium	0.198	0.00500	0.200	0	98.9	80	120	0.390	15	
Thallium	0.197	0.00150	0.200	0	98.4	80	120	0.336	15	

Sample ID	1608181-05A SD		Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD		Run ID:	ICP-MS4_160823B		Analysis Date:	8/23/2016 12:22:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00722	0.0125	0	0.00670				7.61	10	
Arsenic	0.0275	0.0250	0	0.0274				0.353	10	
Barium	0.0761	0.0500	0	0.0743				2.38	10	
Beryllium	<0.00150	0.00500	0	0.000692				0	10	
Cadmium	<0.00150	0.00500	0	0.000325				0	10	
Chromium	<0.0100	0.0250	0	0.00533				0	10	
Cobalt	<0.0150	0.0250	0	0.00556				0	10	
Lead	0.00462	0.00500	0	0.00469				1.55	10	
Lithium	0.267	0.0500	0	0.242				9.42	10	
Molybdenum	<0.0100	0.0250	0	0.00903				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID: 1608181-05A PDS	Batch ID: 76893	TestNo: SW6020A	Units: mg/L							
SampType: PDS	Run ID: ICP-MS4_160823B	Analysis Date: 8/23/2016 12:42:00 PM	Prep Date: 8/22/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.219	0.00250	0.200	0.00670	106	80	120			
Arsenic	0.235	0.00500	0.200	0.0274	104	80	120			
Barium	0.267	0.0100	0.200	0.0743	96.4	80	120			
Beryllium	0.174	0.00100	0.200	0.000692	86.7	80	120			
Cadmium	0.185	0.00100	0.200	0.000325	92.6	80	120			
Chromium	0.193	0.00500	0.200	0.00533	93.6	80	120			
Cobalt	0.191	0.00500	0.200	0.00556	92.9	80	120			
Lead	0.203	0.00100	0.200	0.00469	99.3	80	120			
Lithium	0.368	0.0100	0.200	0.243	63.0	80	120			S

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823B

Sample ID	1608181-05A PDS	Batch ID:	76893	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 12:42:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.197	0.00500	0.200	0.00903	93.9	80	120			
Selenium	0.210	0.00500	0.200	0	105	80	120			
Thallium	0.198	0.00150	0.200	0	98.8	80	120			

Sample ID	1608181-05A MS	Batch ID:	76893	TestNo:	SW6020A	Units:	mg/L				
SampType:	MS	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 12:44:00 PM	Prep Date:	8/22/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony		0.207	0.00250	0.200	0.00670	100	80	120			
Arsenic		0.241	0.00500	0.200	0.0274	107	80	120			
Barium		0.269	0.0100	0.200	0.0743	97.2	80	120			
Beryllium		0.178	0.00100	0.200	0.000692	88.7	80	120			
Cadmium		0.188	0.00100	0.200	0.000325	93.6	80	120			
Calcium		587	0.300	5.00	573	282	80	120			S
Chromium		0.191	0.00500	0.200	0.00533	92.6	80	120			
Cobalt		0.192	0.00500	0.200	0.00556	93.0	80	120			
Lead		0.203	0.00100	0.200	0.00469	99.1	80	120			
Lithium		0.388	0.0100	0.200	0.243	72.5	80	120			S
Molybdenum		0.207	0.00500	0.200	0.00903	98.8	80	120			
Selenium		0.210	0.00500	0.200	0	105	80	120			
Thallium		0.198	0.00150	0.200	0	98.8	80	120			

Sample ID	1608181-05A MSD	Batch ID:	76893	TestNo:	SW6020A			Units:	mg/L		
SampType:	MSD	Run ID:	ICP-MS4_160823B	Analysis Date: 8/23/2016 12:46:00 PM				Prep Date:	8/22/2016		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony		0.209	0.00250	0.200	0.00670	101	80	120	0.721	15	
Arsenic		0.240	0.00500	0.200	0.0274	106	80	120	0.404	15	
Barium		0.270	0.0100	0.200	0.0743	97.9	80	120	0.517	15	
Beryllium		0.175	0.00100	0.200	0.000692	86.9	80	120	1.95	15	
Cadmium		0.185	0.00100	0.200	0.000325	92.5	80	120	1.27	15	
Calcium		591	0.300	5.00	573	357	80	120	0.637	15	S
Chromium		0.190	0.00500	0.200	0.00533	92.1	80	120	0.519	15	
Cobalt		0.191	0.00500	0.200	0.00556	92.9	80	120	0.044	15	
Lead		0.206	0.00100	0.200	0.00469	100	80	120	1.30	15	
Lithium		0.392	0.0100	0.200	0.243	74.9	80	120	1.21	15	S
Molybdenum		0.205	0.00500	0.200	0.00903	98.2	80	120	0.647	15	
Selenium		0.218	0.00500	0.200	0	109	80	120	3.68	15	
Thallium		0.200	0.00150	0.200	0	100	80	120	1.23	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823B

The QC data in batch 76895 applies to the following samples: 1608133-23A, 1608133-24A, 1608133-25A, 1608133-26A, 1608133-27A

Sample ID MB-76895	Batch ID: 76895	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_160823B	Analysis Date: 8/23/2016 2:47:00 PM	Prep Date: 8/22/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-76895	Batch ID: 76895	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_160823B	Analysis Date: 8/23/2016 2:49:00 PM	Prep Date: 8/22/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.211	0.00250	0.200	0	106	80	120			
Barium	0.199	0.0100	0.200	0	99.7	80	120			
Beryllium	0.195	0.00100	0.200	0	97.6	80	120			
Cadmium	0.200	0.00100	0.200	0	100	80	120			
Calcium	4.95	0.300	5.00	0	98.9	80	120			
Chromium	0.200	0.00500	0.200	0	99.8	80	120			
Cobalt	0.199	0.00500	0.200	0	99.6	80	120			
Lead	0.199	0.00100	0.200	0	99.3	80	120			
Lithium	0.193	0.0100	0.200	0	96.7	80	120			
Molybdenum	0.195	0.00500	0.200	0	97.6	80	120			
Thallium	0.197	0.00150	0.200	0	98.5	80	120			

Sample ID LCSD-76895	Batch ID: 76895	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_160823B	Analysis Date: 8/23/2016 2:51:00 PM	Prep Date: 8/22/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.210	0.00250	0.200	0	105	80	120	0.404	15	
Barium	0.199	0.0100	0.200	0	99.6	80	120	0.096	15	
Beryllium	0.194	0.00100	0.200	0	97.1	80	120	0.534	15	
Cadmium	0.200	0.00100	0.200	0	99.8	80	120	0.137	15	
Calcium	4.83	0.300	5.00	0	96.7	80	120	2.29	15	
Chromium	0.196	0.00500	0.200	0	98.2	80	120	1.60	15	
Cobalt	0.200	0.00500	0.200	0	99.9	80	120	0.293	15	
Lead	0.198	0.00100	0.200	0	98.8	80	120	0.463	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823B

Sample ID	LCSD-76895	Batch ID:	76895	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 2:51:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lithium	0.195	0.0100	0.200	0	97.5	80	120	0.771	15	
Molybdenum	0.196	0.00500	0.200	0	98.2	80	120	0.676	15	
Thallium	0.197	0.00150	0.200	0	98.4	80	120	0.125	15	

Sample ID	1608210-05A MS	Batch ID:	76895	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 3:18:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.186	0.00250	0.200	0.00110	92.5	80	120			
Barium	0.366	0.0100	0.200	0.175	95.9	80	120			
Beryllium	0.123	0.00100	0.200	0.00194	60.3	80	120			S
Cadmium	0.177	0.00100	0.200	0.000340	88.5	80	120			
Calcium	1100	0.300	5.00	1070	657	80	120			S
Chromium	0.329	0.00500	0.200	0.191	68.8	80	120			S
Cobalt	0.190	0.00500	0.200	0.0273	81.1	80	120			
Lead	0.225	0.00100	0.200	0.0238	101	80	120			
Lithium	1.82	0.0100	0.200	1.98	-80.3	80	120			S
Molybdenum	0.197	0.00500	0.200	0.00359	96.6	80	120			
Thallium	0.201	0.00150	0.200	0	100	80	120			

Sample ID	1608210-05A MSD	Batch ID:	76895	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 3:20:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.175	0.00250	0.200	0.00110	87.1	80	120	6.01	15	
Barium	0.364	0.0100	0.200	0.175	94.5	80	120	0.800	15	
Beryllium	0.118	0.00100	0.200	0.00194	58.0	80	120	3.79	15	S
Cadmium	0.178	0.00100	0.200	0.000340	88.9	80	120	0.375	15	
Calcium	1090	0.300	5.00	1070	503	80	120	0.700	15	S
Chromium	0.318	0.00500	0.200	0.191	63.1	80	120	3.49	15	S
Cobalt	0.189	0.00500	0.200	0.0273	80.6	80	120	0.584	15	
Lead	0.224	0.00100	0.200	0.0238	100	80	120	0.170	15	
Lithium	1.70	0.0100	0.200	1.98	-138	80	120	6.61	15	S
Molybdenum	0.195	0.00500	0.200	0.00359	95.6	80	120	0.984	15	
Thallium	0.202	0.00150	0.200	0	101	80	120	0.458	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823B

Sample ID	ICV-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 11:07:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.104	0.00250	0.100	0	104	90	110			
Arsenic	0.0998	0.00500	0.100	0	99.8	90	110			
Barium	0.0969	0.0100	0.100	0	96.9	90	110			
Beryllium	0.0994	0.00100	0.100	0	99.4	90	110			
Cadmium	0.0990	0.00100	0.100	0	99.0	90	110			
Calcium	2.36	0.300	2.50	0	94.3	90	110			
Chromium	0.105	0.00500	0.100	0	105	90	110			
Cobalt	0.104	0.00500	0.100	0	104	90	110			
Lead	0.101	0.00100	0.100	0	101	90	110			
Lithium	0.0931	0.0100	0.100	0	93.1	90	110			
Molybdenum	0.0962	0.00500	0.100	0	96.2	90	110			
Selenium	0.0991	0.00500	0.100	0	99.1	90	110			
Thallium	0.0984	0.00150	0.100	0	98.4	90	110			

Sample ID	LCVL-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 11:11:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00222	0.00250	0.00200	0	111	70	130			
Arsenic	0.00516	0.00500	0.00500	0	103	70	130			
Barium	0.00518	0.0100	0.00500	0	104	70	130			
Beryllium	0.00109	0.00100	0.00100	0	109	70	130			
Cadmium	0.00103	0.00100	0.00100	0	103	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00544	0.00500	0.00500	0	109	70	130			
Cobalt	0.00534	0.00500	0.00500	0	107	70	130			
Lead	0.00107	0.00100	0.00100	0	107	70	130			
Lithium	0.0102	0.0100	0.0100	0	102	70	130			
Molybdenum	0.00527	0.00500	0.00500	0	105	70	130			
Selenium	0.00562	0.00500	0.00500	0	112	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Sample ID	CCV1-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 11:55:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.203	0.00250	0.200	0	102	90	110			
Arsenic	0.207	0.00500	0.200	0	103	90	110			
Barium	0.204	0.0100	0.200	0	102	90	110			
Beryllium	0.205	0.00100	0.200	0	103	90	110			
Cadmium	0.209	0.00100	0.200	0	104	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823B

Sample ID	CCV1-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 11:55:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.78	0.300	5.00	0	95.6	90	110			
Chromium	0.209	0.00500	0.200	0	105	90	110			
Cobalt	0.211	0.00500	0.200	0	106	90	110			
Lead	0.207	0.00100	0.200	0	104	90	110			
Lithium	0.205	0.0100	0.200	0	102	90	110			
Molybdenum	0.210	0.00500	0.200	0	105	90	110			
Selenium	0.203	0.00500	0.200	0	101	90	110			
Thallium	0.205	0.00150	0.200	0	103	90	110			

Sample ID	LCVL1-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 12:00:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00243	0.00250	0.00200	0	121	70	130			
Arsenic	0.00524	0.00500	0.00500	0	105	70	130			
Barium	0.00523	0.0100	0.00500	0	105	70	130			
Beryllium	0.000968	0.00100	0.00100	0	96.8	70	130			
Cadmium	0.00105	0.00100	0.00100	0	105	70	130			
Calcium	0.0995	0.300	0.100	0	99.5	70	130			
Chromium	0.00534	0.00500	0.00500	0	107	70	130			
Cobalt	0.00537	0.00500	0.00500	0	107	70	130			
Lead	0.00104	0.00100	0.00100	0	104	70	130			
Lithium	0.00961	0.0100	0.0100	0	96.1	70	130			
Molybdenum	0.00520	0.00500	0.00500	0	104	70	130			
Selenium	0.00528	0.00500	0.00500	0	106	70	130			
Thallium	0.00102	0.00150	0.00100	0	102	70	130			

Sample ID	CCV2-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 12:56:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.210	0.00250	0.200	0	105	90	110			
Arsenic	0.220	0.00500	0.200	0	110	90	110			
Barium	0.210	0.0100	0.200	0	105	90	110			
Beryllium	0.207	0.00100	0.200	0	103	90	110			
Cadmium	0.209	0.00100	0.200	0	105	90	110			
Calcium	4.92	0.300	5.00	0	98.4	90	110			
Chromium	0.206	0.00500	0.200	0	103	90	110			
Cobalt	0.207	0.00500	0.200	0	104	90	110			
Lead	0.208	0.00100	0.200	0	104	90	110			
Lithium	0.214	0.0100	0.200	0	107	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823B

Sample ID	CCV2-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 12:56:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.205	0.00500	0.200	0	103	90	110			
Selenium	0.216	0.00500	0.200	0	108	90	110			
Thallium	0.206	0.00150	0.200	0	103	90	110			

Sample ID	LCVL2-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 1:10:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00218	0.00250	0.00200	0	109	70	130			
Arsenic	0.00551	0.00500	0.00500	0	110	70	130			
Barium	0.00522	0.0100	0.00500	0	104	70	130			
Beryllium	0.00101	0.00100	0.00100	0	101	70	130			
Cadmium	0.00106	0.00100	0.00100	0	106	70	130			
Calcium	0.106	0.300	0.100	0	106	70	130			
Chromium	0.00524	0.00500	0.00500	0	105	70	130			
Cobalt	0.00534	0.00500	0.00500	0	107	70	130			
Lead	0.00106	0.00100	0.00100	0	106	70	130			
Lithium	0.00967	0.0100	0.0100	0	96.7	70	130			
Molybdenum	0.00483	0.00500	0.00500	0	96.5	70	130			
Selenium	0.00610	0.00500	0.00500	0	122	70	130			
Thallium	0.00102	0.00150	0.00100	0	102	70	130			

Sample ID	CCV3-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 1:48:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.210	0.00250	0.200	0	105	90	110			
Arsenic	0.214	0.00500	0.200	0	107	90	110			
Barium	0.211	0.0100	0.200	0	105	90	110			
Beryllium	0.211	0.00100	0.200	0	106	90	110			
Cadmium	0.211	0.00100	0.200	0	106	90	110			
Calcium	4.87	0.300	5.00	0	97.4	90	110			
Chromium	0.211	0.00500	0.200	0	105	90	110			
Cobalt	0.209	0.00500	0.200	0	105	90	110			
Lead	0.208	0.00100	0.200	0	104	90	110			
Lithium	0.213	0.0100	0.200	0	107	90	110			
Molybdenum	0.212	0.00500	0.200	0	106	90	110			
Selenium	0.211	0.00500	0.200	0	105	90	110			
Thallium	0.206	0.00150	0.200	0	103	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823B

Sample ID	LCVL3-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 1:58:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00218	0.00250	0.00200	0	109	70	130			
Arsenic	0.00574	0.00500	0.00500	0	115	70	130			
Barium	0.00526	0.0100	0.00500	0	105	70	130			
Beryllium	0.00110	0.00100	0.00100	0	110	70	130			
Cadmium	0.00107	0.00100	0.00100	0	107	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			
Chromium	0.00545	0.00500	0.00500	0	109	70	130			
Cobalt	0.00536	0.00500	0.00500	0	107	70	130			
Lead	0.00106	0.00100	0.00100	0	106	70	130			
Lithium	0.0114	0.0100	0.0100	0	114	70	130			
Molybdenum	0.00520	0.00500	0.00500	0	104	70	130			
Selenium	0.00575	0.00500	0.00500	0	115	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Sample ID	CCV4-160823			Batch ID:	R87756		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV			Run ID:	ICP-MS4_160823B		Analysis Date:	8/23/2016 2:23:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.208	0.00250	0.200	0	104	90	110			
Arsenic	0.215	0.00500	0.200	0	108	90	110			
Barium	0.209	0.0100	0.200	0	104	90	110			
Beryllium	0.202	0.00100	0.200	0	101	90	110			
Cadmium	0.207	0.00100	0.200	0	103	90	110			
Calcium	4.84	0.300	5.00	0	96.9	90	110			
Chromium	0.204	0.00500	0.200	0	102	90	110			
Cobalt	0.206	0.00500	0.200	0	103	90	110			
Lead	0.205	0.00100	0.200	0	103	90	110			
Lithium	0.206	0.0100	0.200	0	103	90	110			
Molybdenum	0.204	0.00500	0.200	0	102	90	110			
Selenium	0.214	0.00500	0.200	0	107	90	110			
Thallium	0.203	0.00150	0.200	0	101	90	110			

Sample ID	LCVL4-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 2:42:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00221	0.00250	0.00200	0	111	70	130			
Arsenic	0.00570	0.00500	0.00500	0	114	70	130			
Barium	0.00543	0.0100	0.00500	0	109	70	130			
Beryllium	0.00108	0.00100	0.00100	0	108	70	130			
Cadmium	0.00105	0.00100	0.00100	0	105	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160823B

Sample ID	LCVL4-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 2:42:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.110	0.300	0.100	0	110	70	130			
Chromium	0.00543	0.00500	0.00500	0	109	70	130			
Cobalt	0.00541	0.00500	0.00500	0	108	70	130			
Lead	0.00109	0.00100	0.00100	0	109	70	130			
Lithium	0.0103	0.0100	0.0100	0	103	70	130			
Molybdenum	0.00510	0.00500	0.00500	0	102	70	130			
Selenium	0.00616	0.00500	0.00500	0	123	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Sample ID	CCV5-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 3:42:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.212	0.00250	0.200	0	106	90	110			
Barium	0.213	0.0100	0.200	0	106	90	110			
Beryllium	0.194	0.00100	0.200	0	97.1	90	110			
Cadmium	0.207	0.00100	0.200	0	103	90	110			
Calcium	4.86	0.300	5.00	0	97.1	90	110			
Chromium	0.202	0.00500	0.200	0	101	90	110			
Cobalt	0.200	0.00500	0.200	0	99.8	90	110			
Lead	0.206	0.00100	0.200	0	103	90	110			
Lithium	0.190	0.0100	0.200	0	94.8	90	110			
Molybdenum	0.201	0.00500	0.200	0	101	90	110			
Thallium	0.204	0.00150	0.200	0	102	90	110			

Sample ID	LCVL5-160823	Batch ID:	R87756	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160823B	Analysis Date:	8/23/2016 3:52:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00221	0.00250	0.00200	0	111	70	130			
Barium	0.00522	0.0100	0.00500	0	104	70	130			
Beryllium	0.00102	0.00100	0.00100	0	102	70	130			
Cadmium	0.00105	0.00100	0.00100	0	105	70	130			
Calcium	0.111	0.300	0.100	0	111	70	130			
Chromium	0.00518	0.00500	0.00500	0	104	70	130			
Cobalt	0.00517	0.00500	0.00500	0	103	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Lithium	0.0111	0.0100	0.0100	0	111	70	130			
Molybdenum	0.00497	0.00500	0.00500	0	99.4	70	130			
Thallium	0.00100	0.00150	0.00100	0	100	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160824B

The QC data in batch 76893 applies to the following samples: 1608133-16A, 1608133-17A, 1608133-18A, 1608133-19A, 1608133-20A, 1608133-21A, 1608133-22A

Sample ID	MB-76893		Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L	
SampType:	MBLK		Run ID:	ICP-MS4_160824B		Analysis Date:	8/24/2016 3:18:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	<0.0100	0.0300								

Sample ID	LCS-76893			Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS			Run ID:	ICP-MS4_160824B		Analysis Date:	8/24/2016 3:20:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Boron	0.206	0.0300	0.200	0	103	80	120			

Sample ID	LCSD-76893			Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCSD			Run ID:	ICP-MS4_160824B		Analysis Date:	8/24/2016 3:22:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Boron	0.195	0.0300	0.200	0	97.3	80	120	5.62	15	

Sample ID	1608181-05A SD		Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD		Run ID:	ICP-MS4_160824B		Analysis Date:	8/24/2016 3:28:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	548	150	0	544				0.634	10	

Sample ID	1608181-05A PDS			Batch ID:	76893			TestNo:	SW6020A			Units:	mg/L		
SampType:	PDS			Run ID:	ICP-MS4_160824B			Analysis Date:	8/24/2016 3:49:00 PM			Prep Date:	8/22/2016		
Analyte				Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

Calcium	1010	30.0	500	544	92.7	80	120			

Sample ID	1608181-05A MS			Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L	
SampType:	MS			Run ID:	ICP-MS4_160824B		Analysis Date:	8/24/2016 3:51:00 PM		Prep Date:	8/22/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	1.18	3.00	0.200	1.11	36.1	80	120			S

Sample ID	1608181-05A MSD		Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L		
SampType:	MSD		Run ID:	ICP-MS4_160824B		Analysis Date:	8/24/2016 3:53:00 PM		Prep Date:	8/22/2016		
Analyte			Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	1.43	3.00	0.200	1.11	161	80	120	19.1	15	SR

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160824B

Sample ID	1608181-05A SD	Batch ID:	76893	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 4:14:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.669	0.300	0	0.596				11.6	10	R

Sample ID	1608181-05A PDS			Batch ID:	76893		TestNo:	SW6020A		Units:	mg/L	
SampType:	PDS			Run ID:	ICP-MS4_160824B		Analysis Date:	8/24/2016 4:16:00 PM		Prep Date:	8/22/2016	
Analyte	Result		RL	SPK value		Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.979		0.0600	0.400		0.596	95.8	80	120			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160824B

The QC data in batch 76895 applies to the following samples: 1608133-23A, 1608133-24A, 1608133-25A, 1608133-26A, 1608133-27A

Sample ID	MB-76895		Batch ID:	76895		TestNo:	SW6020A		Units:	mg/L	
SampType:	MBLK		Run ID:	ICP-MS4_160824B		Analysis Date:	8/24/2016 6:11:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	<0.00200	0.00500								
Boron	<0.0100	0.0300								
Selenium	<0.00200	0.00500								

Sample ID	LCS-76895			Batch ID:	76895		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS			Run ID:	ICP-MS4_160824B		Analysis Date:	8/24/2016 6:13:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Arsenic	0.191	0.00500	0.200	0	95.6	80	120			
Boron	0.206	0.0300	0.200	0	103	80	120			
Selenium	0.196	0.00500	0.200	0	97.9	80	120			

Sample ID	LCSD-76895		Batch ID:	76895		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCSD		Run ID:	ICP-MS4_160824B		Analysis Date:	8/24/2016 6:15:00 PM		Prep Date:	8/22/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.190	0.00500	0.200	0	95.1	80	120	0.519	15	
Boron	0.205	0.0300	0.200	0	103	80	120	0.554	15	
Selenium	0.194	0.00500	0.200	0	97.1	80	120	0.779	15	

Sample ID	1608210-05A SD	Batch ID:	76895	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 7:51:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	1020	150	0	1020				0.169	10	
Lithium	3.35	5.00	0	3.44				2.39	10	

Sample ID	1608210-05A PDS			Batch ID:	76895			TestNo:	SW6020A			Units:	mg/L		
SampType:	PDS			Run ID:	ICP-MS4_160824B			Analysis Date:	8/24/2016 8:11:00 PM			Prep Date:	8/22/2016		
Analyte				Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

Calcium	1500	30.0	500	1020	96.1	80	120			
Lithium	24.0	1.00	20.0	3.44	103	80	120			

Sample ID	1608210-05A MS	Batch ID:	76895	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 8:13:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.238	0.500	0.200	0	119	80	120			
Boron	5.34	3.00	0.200	4.69	326	80	120			S

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160824B

Sample ID	1608210-05A MS	Batch ID:	76895	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 8:13:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.266	0.500	0.200	0	133	80	120			S

Sample ID	1608210-05A MSD	Batch ID:	76895	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 8:15:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.216	0.500	0.200	0	108	80	120	9.91	15	
Boron	5.41	3.00	0.200	4.69	357	80	120	1.18	15	S
Selenium	0.211	0.500	0.200	0	105	80	120	23.1	15	R

Sample ID	1608210-05A SD	Batch ID:	76895	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 8:41:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.0400	0.125	0	0				0		10
Arsenic	<0.100	0.250	0	0				0		10
Barium	0.170	0.500	0	0.164				3.63		10
Beryllium	<0.0150	0.0500	0	0				0		10
Boron	4.57	1.50	0	4.16				9.40		10
Cadmium	<0.0150	0.0500	0	0				0		10
Chromium	0.224	0.250	0	0.220				2.14		10
Cobalt	<0.150	0.250	0	0.0308				0		10
Lead	0.0218	0.0500	0	0.0219				0.137		10
Molybdenum	<0.100	0.250	0	0				0		10
Selenium	<0.100	0.250	0	0				0		10
Thallium	<0.0250	0.0750	0	0				0		10

Sample ID	1608210-05A PDS	Batch ID:	76895	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 8:51:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	1.97	0.0250	2.00	0	98.3	80	120			
Arsenic	2.00	0.0500	2.00	0	100	80	120			
Barium	2.07	0.100	2.00	0.164	95.2	80	120			
Beryllium	1.84	0.0100	2.00	0	92.0	80	120			
Boron	5.78	0.300	2.00	4.16	80.9	80	120			
Cadmium	1.73	0.0100	2.00	0	86.5	80	120			
Chromium	2.08	0.0500	2.00	0.220	93.0	80	120			
Cobalt	1.90	0.0500	2.00	0.0308	93.6	80	120			
Lead	1.84	0.0100	2.00	0.0219	90.7	80	120			
Molybdenum	1.79	0.0500	2.00	0	89.5	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160824B

Sample ID	1608210-05A PDS	Batch ID:	76895	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 8:51:00 PM	Prep Date:	8/22/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	2.00	0.0500	2.00	0	99.9	80	120			
Thallium	1.82	0.0150	2.00	0	90.8	80	120			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160824B

Sample ID	ICV2-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 1:09:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.105	0.00250	0.100	0	105	90	110			
Arsenic	0.102	0.00500	0.100	0	102	90	110			
Barium	0.101	0.0100	0.100	0	101	90	110			
Beryllium	0.102	0.00100	0.100	0	102	90	110			
Boron	0.0984	0.0300	0.100	0	98.4	90	110			
Cadmium	0.0993	0.00100	0.100	0	99.3	90	110			
Calcium	2.41	0.300	2.50	0	96.5	90	110			
Chromium	0.107	0.00500	0.100	0	107	90	110			
Cobalt	0.105	0.00500	0.100	0	105	90	110			
Lead	0.100	0.00100	0.100	0	100	90	110			
Lithium	0.0948	0.0100	0.100	0	94.8	90	110			
Molybdenum	0.0973	0.00500	0.100	0	97.3	90	110			
Selenium	0.101	0.00500	0.100	0	101	90	110			
Thallium	0.0998	0.00150	0.100	0	99.8	90	110			

Sample ID	ILCVL2-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 1:23:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00205	0.00250	0.00200	0	103	70	130			
Arsenic	0.00513	0.00500	0.00500	0	103	70	130			
Barium	0.00491	0.0100	0.00500	0	98.2	70	130			
Beryllium	0.00105	0.00100	0.00100	0	105	70	130			
Boron	0.0223	0.0300	0.0200	0	111	70	130			
Cadmium	0.000996	0.00100	0.00100	0	99.6	70	130			
Calcium	0.0954	0.300	0.100	0	95.4	70	130			
Chromium	0.00509	0.00500	0.00500	0	102	70	130			
Cobalt	0.00515	0.00500	0.00500	0	103	70	130			
Lead	0.000995	0.00100	0.00100	0	99.5	70	130			
Lithium	0.00919	0.0100	0.0100	0	91.9	70	130			
Molybdenum	0.00496	0.00500	0.00500	0	99.2	70	130			
Selenium	0.00548	0.00500	0.00500	0	110	70	130			
Thallium	0.000998	0.00150	0.00100	0	99.8	70	130			

Sample ID	CCV3-140402	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 2:50:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.207	0.0300	0.200	0	103	90	110			
Calcium	4.75	0.300	5.00	0	95.0	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160824B

Sample ID	LCVL3-140402	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 3:05:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0234	0.0300	0.0200	0	117	70	130			
Calcium	0.0955	0.300	0.100	0	95.5	70	130			

Sample ID	CCV4-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 3:55:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.209	0.0300	0.200	0	104	90	110			
Calcium	4.79	0.300	5.00	0	95.8	90	110			

Sample ID	LCVL4-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 4:03:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0229	0.0300	0.0200	0	115	70	130			
Calcium	0.0911	0.300	0.100	0	91.1	70	130			

Sample ID	CCV5-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 5:12:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.217	0.0300	0.200	0	109	90	110			
Calcium	4.74	0.300	5.00	0	94.7	90	110			

Sample ID	LCVL5-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 5:24:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0246	0.0300	0.0200	0	123	70	130			
Calcium	0.0910	0.300	0.100	0	91.0	70	130			

Sample ID	CCV6-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 5:57:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Arsenic	0.193	0.00500	0.200	0	96.6	90	110			
Boron	0.211	0.0300	0.200	0	105	90	110			
Calcium	4.75	0.300	5.00	0	95.0	90	110			
Selenium	0.196	0.00500	0.200	0	98.1	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160824B

Sample ID	LCVL6-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 6:07:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00490	0.00500	0.00500	0	98.1	70	130			
Boron	0.0223	0.0300	0.0200	0	111	70	130			
Calcium	0.0897	0.300	0.100	0	89.7	70	130			
Selenium	0.00526	0.00500	0.00500	0	105	70	130			

Sample ID	CCV7-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 6:52:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.192	0.00500	0.200	0	96.2	90	110			
Boron	0.210	0.0300	0.200	0	105	90	110			
Calcium	4.77	0.300	5.00	0	95.4	90	110			
Selenium	0.199	0.00500	0.200	0	99.3	90	110			

Sample ID	LCVL7-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 7:02:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00485	0.00500	0.00500	0	97.0	70	130			
Boron	0.0239	0.0300	0.0200	0	120	70	130			
Calcium	0.0928	0.300	0.100	0	92.8	70	130			
Selenium	0.00478	0.00500	0.00500	0	95.6	70	130			

Sample ID	CCV8-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 7:35:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.190	0.00500	0.200	0	95.2	90	110			
Boron	0.206	0.0300	0.200	0	103	90	110			
Calcium	4.69	0.300	5.00	0	93.9	90	110			
Lithium	0.216	0.0100	0.200	0	108	90	110			
Selenium	0.194	0.00500	0.200	0	97.1	90	110			

Sample ID	LCVL8-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 7:45:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00499	0.00500	0.00500	0	99.7	70	130			
Boron	0.0223	0.0300	0.0200	0	111	70	130			
Calcium	0.0958	0.300	0.100	0	95.8	70	130			
Lithium	0.0105	0.0100	0.0100	0	105	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160824B

Sample ID	LCVL8-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 7:45:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.00528	0.00500	0.00500	0	106	70	130			

Sample ID	CCV9-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 8:25:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.193	0.00250	0.200	0	96.7	90	110			
Arsenic	0.194	0.00500	0.200	0	96.8	90	110			
Barium	0.193	0.0100	0.200	0	96.5	90	110			
Beryllium	0.203	0.00100	0.200	0	101	90	110			
Boron	0.212	0.0300	0.200	0	106	90	110			
Cadmium	0.187	0.00100	0.200	0	93.4	90	110			
Calcium	4.81	0.300	5.00	0	96.2	90	110			
Chromium	0.193	0.00500	0.200	0	96.6	90	110			
Cobalt	0.194	0.00500	0.200	0	97.1	90	110			
Lead	0.185	0.00100	0.200	0	92.6	90	110			
Lithium	0.219	0.0100	0.200	0	110	90	110			
Molybdenum	0.188	0.00500	0.200	0	94.0	90	110			
Selenium	0.200	0.00500	0.200	0	99.9	90	110			
Thallium	0.185	0.00150	0.200	0	92.7	90	110			

Sample ID	LCVL9-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 8:35:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00200	0.00250	0.00200	0	100	70	130			
Arsenic	0.00502	0.00500	0.00500	0	100	70	130			
Barium	0.00491	0.0100	0.00500	0	98.2	70	130			
Beryllium	0.000978	0.00100	0.00100	0	97.8	70	130			
Boron	0.0235	0.0300	0.0200	0	117	70	130			
Cadmium	0.00100	0.00100	0.00100	0	100	70	130			
Calcium	0.101	0.300	0.100	0	101	70	130			
Chromium	0.00504	0.00500	0.00500	0	101	70	130			
Cobalt	0.00506	0.00500	0.00500	0	101	70	130			
Lead	0.000944	0.00100	0.00100	0	94.4	70	130			
Lithium	0.0103	0.0100	0.0100	0	103	70	130			
Molybdenum	0.00456	0.00500	0.00500	0	91.1	70	130			
Selenium	0.00508	0.00500	0.00500	0	102	70	130			
Thallium	0.000931	0.00150	0.00100	0	93.1	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160824B

Sample ID	CCV10-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 9:02:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.191	0.00250	0.200	0	95.4	90	110			
Arsenic	0.195	0.00500	0.200	0	97.3	90	110			
Barium	0.193	0.0100	0.200	0	96.5	90	110			
Beryllium	0.204	0.00100	0.200	0	102	90	110			
Boron	0.213	0.0300	0.200	0	106	90	110			
Cadmium	0.185	0.00100	0.200	0	92.4	90	110			
Chromium	0.193	0.00500	0.200	0	96.4	90	110			
Cobalt	0.193	0.00500	0.200	0	96.7	90	110			
Lead	0.184	0.00100	0.200	0	92.1	90	110			
Molybdenum	0.185	0.00500	0.200	0	92.6	90	110			
Selenium	0.201	0.00500	0.200	0	100	90	110			
Thallium	0.185	0.00150	0.200	0	92.7	90	110			

Sample ID	LCVL10-160824	Batch ID:	R87787	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160824B	Analysis Date:	8/24/2016 9:12:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00192	0.00250	0.00200	0	96.2	70	130			
Arsenic	0.00497	0.00500	0.00500	0	99.4	70	130			
Barium	0.00487	0.0100	0.00500	0	97.5	70	130			
Beryllium	0.00120	0.00100	0.00100	0	120	70	130			
Boron	0.0213	0.0300	0.0200	0	107	70	130			
Cadmium	0.000888	0.00100	0.00100	0	88.8	70	130			
Chromium	0.00499	0.00500	0.00500	0	99.7	70	130			
Cobalt	0.00504	0.00500	0.00500	0	101	70	130			
Lead	0.000929	0.00100	0.00100	0	92.9	70	130			
Molybdenum	0.00454	0.00500	0.00500	0	90.7	70	130			
Selenium	0.00556	0.00500	0.00500	0	111	70	130			
Thallium	0.000937	0.00150	0.00100	0	93.7	70	130			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160825A

Sample ID	ICV-160825	Batch ID:	R87816	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_160825A	Analysis Date:	8/25/2016 2:28:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	2.34	0.300	2.50	0	93.6	90	110			
Lithium	0.100	0.0100	0.100	0	100	90	110			

Sample ID	LCVL-160825	Batch ID:	R87816	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160825A	Analysis Date:	8/25/2016 2:33:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.0943	0.300	0.100	0	94.3	70	130			
Lithium	0.0110	0.0100	0.0100	0	110	70	130			

Sample ID	CCV1-160825	Batch ID:	R87816	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_160825A	Analysis Date:	8/25/2016 3:19:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.63	0.300	5.00	0	92.5	90	110			
Lithium	0.187	0.0100	0.200	0	93.3	90	110			

Sample ID	LCVL1-160825	Batch ID:	R87816	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_160825A	Analysis Date:	8/25/2016 3:34:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.0931	0.300	0.100	0	93.1	70	130			
Lithium	0.00905	0.0100	0.0100	0	90.5	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_160826B

Sample ID	ICV-160826	Batch ID:	R87821	TestNo:	SW6020A	Units:	mg/L
SampType:	ICV	Run ID:	ICP-MS4_160826B	Analysis Date:	8/26/2016 11:10:00 AM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.100 0.00100 0.100 0 100 90 110

Sample ID	LCVL-160826	Batch ID:	R87821	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160826B	Analysis Date:	8/26/2016 11:15:00 AM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.000927 0.00100 0.00100 0 92.7 70 130

Sample ID	CCV1-160826	Batch ID:	R87821	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160826B	Analysis Date:	8/26/2016 11:41:00 AM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.197 0.00100 0.200 0 98.7 90 110

Sample ID	LCVL1-160826	Batch ID:	R87821	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160826B	Analysis Date:	8/26/2016 11:52:00 AM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.000948 0.00100 0.00100 0 94.8 70 130

Sample ID	CCV2-160826	Batch ID:	R87821	TestNo:	SW6020A	Units:	mg/L
SampType:	CCV	Run ID:	ICP-MS4_160826B	Analysis Date:	8/26/2016 12:36:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.207 0.00100 0.200 0 103 90 110

Sample ID	LCVL2-160826	Batch ID:	R87821	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_160826B	Analysis Date:	8/26/2016 12:41:00 PM	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual

Beryllium 0.00119 0.00100 0.00100 0 119 70 130

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160815A

The QC data in batch 76808 applies to the following samples: 1608133-01D, 1608133-02D, 1608133-03D, 1608133-04D, 1608133-05D, 1608133-06D, 1608133-07D, 1608133-08D, 1608133-09D

Sample ID	MB-76808	Batch ID:	76808	TestNo:	E300	Units:	mg/L			
SampType:	MBLK	Run ID:	IC4_160815A	Analysis Date:	8/15/2016 10:51:35 AM	Prep Date:	8/15/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-76808	Batch ID:	76808	TestNo:	E300	Units:	mg/L			
SampType:	LCS	Run ID:	IC4_160815A	Analysis Date:	8/15/2016 11:06:35 AM	Prep Date:	8/15/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.2	1.00	10.00	0	102	90	110			
Fluoride	3.99	0.400	4.000	0	99.7	90	110			
Sulfate	31.4	3.00	30.00	0	105	90	110			

Sample ID	LCSD-76808	Batch ID:	76808	TestNo:	E300	Units:	mg/L			
SampType:	LCSD	Run ID:	IC4_160815A	Analysis Date:	8/15/2016 11:21:35 AM	Prep Date:	8/15/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.2	1.00	10.00	0	102	90	110	0.064	20	
Fluoride	4.00	0.400	4.000	0	99.9	90	110	0.229	20	
Sulfate	31.5	3.00	30.00	0	105	90	110	0.566	20	

Sample ID	1608133-07DMS	Batch ID:	76808	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC4_160815A	Analysis Date:	8/15/2016 6:13:34 PM	Prep Date:	8/15/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	278	10.0	200.0	64.88	107	90	110			
Fluoride	202	4.00	200.0	0	101	90	110			
Sulfate	334	30.0	200.0	119.9	107	90	110			

Sample ID	1608133-07DMSD	Batch ID:	76808	TestNo:	E300	Units:	mg/L			
SampType:	MSD	Run ID:	IC4_160815A	Analysis Date:	8/15/2016 6:28:34 PM	Prep Date:	8/15/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	280	10.0	200.0	64.88	107	90	110	0.468	20	
Fluoride	203	4.00	200.0	0	101	90	110	0.428	20	
Sulfate	335	30.0	200.0	119.9	107	90	110	0.194	20	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160815A

Sample ID	ICV-160815	Batch ID:	R87629	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC4_160815A	Analysis Date:	8/15/2016 10:15:59 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.6	1.00	25.00	0	102	90	110			
Fluoride	9.79	0.400	10.00	0	97.9	90	110			
Sulfate	78.7	3.00	75.00	0	105	90	110			

Sample ID	CCV1-160815	Batch ID:	R87629	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC4_160815A	Analysis Date:	8/15/2016 2:54:08 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.5	1.00	10.00	0	105	90	110			
Fluoride	4.05	0.400	4.000	0	101	90	110			
Sulfate	32.5	3.00	30.00	0	108	90	110			

Sample ID	CCV2-160815	Batch ID:	R87629	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC4_160815A	Analysis Date:	8/15/2016 6:58:34 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.5	1.00	10.00	0	105	90	110			
Fluoride	4.07	0.400	4.000	0	102	90	110			
Sulfate	32.1	3.00	30.00	0	107	90	110			

Sample ID	CCV3-160815	Batch ID:	R87629	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC4_160815A	Analysis Date:	8/15/2016 8:28:34 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.5	1.00	10.00	0	105	90	110			
Fluoride	4.09	0.400	4.000	0	102	90	110			
Sulfate	32.1	3.00	30.00	0	107	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160816A

The QC data in batch 76820 applies to the following samples: 1608133-10D, 1608133-11D, 1608133-12D, 1608133-13D, 1608133-14D, 1608133-15D, 1608133-16D, 1608133-17D, 1608133-18D

Sample ID	MB-76820		Batch ID:	76820		TestNo:	E300		Units:	mg/L	
SampType:	MBLK		Run ID:	IC4_160816A		Analysis Date:	8/16/2016 10:21:13 AM		Prep Date:	8/16/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-76820		Batch ID:	76820		TestNo:	E300		Units:	mg/L	
SampType:	LCS		Run ID:	IC4_160816A		Analysis Date:	8/16/2016 10:36:13 AM		Prep Date:	8/16/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.5	1.00	10.00	0	105	90	110			
Fluoride	4.00	0.400	4.000	0	99.9	90	110			
Sulfate	32.1	3.00	30.00	0	107	90	110			

Sample ID	LCSD-76820		Batch ID:	76820		TestNo:	E300		Units:	mg/L	
SampType:	LCSD		Run ID:	IC4_160816A		Analysis Date:	8/16/2016 10:51:13 AM		Prep Date:	8/16/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.5	1.00	10.00	0	105	90	110	0.125	20	
Fluoride	4.02	0.400	4.000	0	100	90	110	0.579	20	
Sulfate	32.1	3.00	30.00	0	107	90	110	0.230	20	

Sample ID	1608133-10DMS		Batch ID:	76820		TestNo:	E300		Units:	mg/L	
SampType:	MS		Run ID:	IC4_160816A		Analysis Date:	8/16/2016 3:07:33 PM		Prep Date:	8/16/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	345	10.0	200.0	135.6	105	90	110			
Fluoride	201	4.00	200.0	0	101	90	110			
Sulfate	321	30.0	200.0	104.7	108	90	110			

Sample ID	1608133-10DMSD			Batch ID:	76820			TestNo:	E300			Units:	mg/L		
SampType:	MSD			Run ID:	IC4_160816A			Analysis Date:	8/16/2016 3:22:33 PM			Prep Date:	8/16/2016		
Analyte				Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

Chloride	346	10.0	200.0	135.6	105	90	110	0.130	20	
Fluoride	202	4.00	200.0	0	101	90	110	0.556	20	
Sulfate	322	30.0	200.0	104.7	109	90	110	0.536	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160816A

Sample ID	ICV-160816	Batch ID:	R87647	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC4_160816A	Analysis Date:	8/16/2016 9:44:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	26.1	1.00	25.00	0	104	90	110			
Fluoride	9.82	0.400	10.00	0	98.2	90	110			
Sulfate	80.4	3.00	75.00	0	107	90	110			

Sample ID	CCV1-160816	Batch ID:	R87647	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC4_160816A	Analysis Date:	8/16/2016 1:57:44 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.5	1.00	10.00	0	105	90	110			
Fluoride	4.06	0.400	4.000	0	102	90	110			
Sulfate	32.3	3.00	30.00	0	108	90	110			

Sample ID	CCV2-160816	Batch ID:	R87647	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC4_160816A	Analysis Date:	8/16/2016 4:22:33 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.6	1.00	10.00	0	106	90	110			
Fluoride	4.06	0.400	4.000	0	102	90	110			
Sulfate	32.4	3.00	30.00	0	108	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160817A

The QC data in batch 76838 applies to the following samples: 1608133-19D, 1608133-20D, 1608133-21D, 1608133-22D, 1608133-23D, 1608133-24D, 1608133-25D, 1608133-26D, 1608133-27D

Sample ID	MB-76838		Batch ID:	76838		TestNo:	E300		Units:	mg/L	
SampType:	MBLK		Run ID:	IC4_160817A		Analysis Date:	8/17/2016 10:32:13 AM		Prep Date:	8/17/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-76838			Batch ID:	76838		TestNo:	E300		Units:	mg/L	
SampType:	LCS			Run ID:	IC4_160817A		Analysis Date:	8/17/2016 10:47:13 AM		Prep Date:	8/17/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	10.4	1.00	10.00	0	104	90	110			
Fluoride	3.90	0.400	4.000	0	97.4	90	110			
Sulfate	31.7	3.00	30.00	0	106	90	110			

Sample ID	LCSD-76838	Batch ID:	76838	TestNo:	E300	Units:	mg/L				
SampType:	LCSD	Run ID:	IC4_160817A	Analysis Date:	8/17/2016 11:02:13 AM	Prep Date:	8/17/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.5	1.00	10.00	0	105	90	110	0.354	20	
Fluoride	4.04	0.400	4.000	0	101	90	110	3.66	20	
Sulfate	31.8	3.00	30.00	0	106	90	110	0.411	20	

Sample ID	1608133-27DMS		Batch ID:	76838		TestNo:	E300		Units:	mg/L	
SampType:	MS		Run ID:	IC4_160817A		Analysis Date:	8/17/2016 4:26:31 PM		Prep Date:	8/17/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	2540	100	2000	424.7	106	90	110			
Fluoride	1990	40.0	2000	0	99.5	90	110			
Sulfate	2600	300	2000	483.6	106	90	110			

Sample ID	1608133-27DMSD			Batch ID:	76838			TestNo:	E300			Units:	mg/L		
SampType:	MSD			Run ID:	IC4_160817A			Analysis Date:	8/17/2016 4:41:31 PM			Prep Date:	8/17/2016		
Analyte				Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

Chloride	2570	100	2000	424.7	107	90	110	1.18	20	
Fluoride	2020	40.0	2000	0	101	90	110	1.31	20	
Sulfate	2630	300	2000	483.6	107	90	110	1.16	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_160817A

Sample ID	ICV-160817	Batch ID:	R87682	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC4_160817A	Analysis Date:	8/17/2016 9:50:02 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	26.1	1.00	25.00	0	104	90	110			
Fluoride	9.78	0.400	10.00	0	97.8	90	110			
Sulfate	80.2	3.00	75.00	0	107	90	110			

Sample ID	CCV1-160817	Batch ID:	R87682	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC4_160817A	Analysis Date:	8/17/2016 2:01:29 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.6	1.00	10.00	0	106	90	110			
Fluoride	3.95	0.400	4.000	0	98.6	90	110			
Sulfate	32.3	3.00	30.00	0	108	90	110			

Sample ID	CCV2-160817	Batch ID:	R87682	TestNo:	E300	Units:	mg/L				
SampType:	CCV	Run ID:	IC4_160817A	Analysis Date:	8/17/2016 5:11:31 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.5	1.00	10.00	0	105	90	110			
Fluoride	3.97	0.400	4.000	0	99.2	90	110			
Sulfate	32.1	3.00	30.00	0	107	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160816A

The QC data in batch 76818 applies to the following samples: 1608133-01D, 1608133-02D, 1608133-03D, 1608133-04D, 1608133-05D, 1608133-06D, 1608133-07D, 1608133-08D, 1608133-09D, 1608133-10D

Sample ID	1608119-02D-DUP	Batch ID:	76818	TestNo:	M4500-H+ B	Units:	pH Units@18.9°C
SampType:	DUP	Run ID:	TITRATOR_160816A	Analysis Date:	8/16/2016 9:53:00 AM	Prep Date:	8/16/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		7.34	0	0	7.360		0.272 5

Sample ID	1608133-10D-DUP	Batch ID:	76818	TestNo:	M4500-H+ B	Units:	pH Units@17.7°C
SampType:	DUP	Run ID:	TITRATOR_160816A	Analysis Date:	8/16/2016 10:55:00 AM	Prep Date:	8/16/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
pH		6.18	0	0	6.190		0.162 5

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160816A

Sample ID	ICV-160816	Batch ID:	R87635	TestNo:	M4500-H+ B	Units:	pH	Units@22°C			
SampType:	ICV	Run ID:	TITRATOR_160816A	Analysis Date:	8/16/2016 8:52:00 AM	Prep Date:	8/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH 9.93 0 10.00 0 99.3 99 101

Sample ID	CCV1-160816	Batch ID:	R87635		TestNo:	M4500-H+ B		Units:	pH Units@20.6°C		
SampType:	CCV	Run ID:	TITRATOR_160816A		Analysis Date:	8/16/2016 10:11:00 AM		Prep Date:	8/16/2016		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH 6.97 0 7.000 0 99.6 97.1 102.9

Sample ID	CCV2-160816	Batch ID:	R87635	TestNo:	M4500-H+ B	Units:	pH Units@21°C			
SampType:	CCV	Run ID:	TITRATOR_160816A	Analysis Date:	8/16/2016 10:45:00 AM	Prep Date:	8/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH 6.96 0 7.000 0 99.4 97.1 102.9

Sample ID	CCV3-160816	Batch ID:	R87635	TestNo:	M4500-H+ B	Units:	pH	Units@21.4°C		
SampType:	CCV	Run ID:	TITRATOR_160816A	Analysis Date:	8/16/2016 10:56:00 AM	Prep Date:	8/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH 6.96 0 7.000 0 99.4 97.1 102.9

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160817B

The QC data in batch 76839 applies to the following samples: 1608133-11D, 1608133-12D, 1608133-13D, 1608133-14D, 1608133-15D, 1608133-16D, 1608133-17D, 1608133-18D, 1608133-19D, 1608133-20D, 1608133-21D, 1608133-22D, 1608133-23D, 1608133-24D, 1608133-25D, 1608133-26D, 1608133-27D

Sample ID	1608133-11D-DUP	Batch ID:	76839	TestNo:	M4500-H+ B	Units:	pH Units@20°C
SampType:	DUP	Run ID:	TITRATOR_160817B	Analysis Date:	8/17/2016 11:16:00 AM	Prep Date:	8/17/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	4.54	0	0	4.530				0.221		5

Sample ID	1608133-21D-DUP	Batch ID:	76839	TestNo:	M4500-H+ B	Units:	pH Units@20.7°C
SampType:	DUP	Run ID:	TITRATOR_160817B	Analysis Date:	8/17/2016 11:43:00 AM	Prep Date:	8/17/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.77	0	0	6.750				0.296		5

LUMINANT

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_160817B

Sample ID	ICV-160817	Batch ID:	R87653	TestNo:	M4500-H+ B	Units:	pH Units@22.2°C				
SampType:	ICV	Run ID:	TITRATOR_160817B	Analysis Date:	8/17/2016 9:01:00 AM	Prep Date:	8/17/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	9.93	0	10.00	0	99.3	99	101			

Sample ID	CCV1-160817	Batch ID:	R87653			TestNo:	M4500-H+ B			Units:	pH Units@22.3°C		
SampType:	CCV	Run ID:	TITRATOR_160817B			Analysis Date:	8/17/2016 10:30:00 AM			Prep Date:	8/17/2016		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		

pH	6.98	0	7.000	0	99.7	97.1	102.9			

Sample ID	CCV2-160817		Batch ID:	R87653		TestNo:	M4500-H+ B		Units:	pH Units@21.7°C	
SampType:	CCV		Run ID:	TITRATOR_160817B		Analysis Date:	8/17/2016 11:37:00 AM		Prep Date:	8/17/2016	
Analyte			Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

pH	6.96	0	7.000	0	99.4	97.1	102.9			

Sample ID	CCV3-160817		Batch ID:	R87653		TestNo:	M4500-H+ B		Units:	pH Units@22°C		
SampType:	CCV		Run ID:	TITRATOR_160817B		Analysis Date:	8/17/2016 11:58:00 AM		Prep Date:	8/17/2016		
Analyte			Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.97	0	7.000	0	99.6	97.1	102.9			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160815A

The QC data in batch 76803 applies to the following samples: 1608133-01D, 1608133-02D, 1608133-03D, 1608133-04D, 1608133-05D

Sample ID	MB-76803	Batch ID:	76803	TestNo:	M2540C	Units:	mg/L				
SampType:	MBLK	Run ID:	WC_160815A	Analysis Date:	8/16/2016 8:42:00 AM	Prep Date:	8/15/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-76803	Batch ID:	76803	TestNo:	M2540C	Units:	mg/L				
SampType:	LCS	Run ID:	WC_160815A	Analysis Date:	8/16/2016 8:42:00 AM	Prep Date:	8/15/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 761 10.0 745.6 0 102 90 113

Sample ID	1608117-05C-DUP	Batch ID:	76803	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_160815A	Analysis Date:	8/16/2016 8:42:00 AM	Prep Date:	8/15/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 782 10.0 0 801.0 2.40 5

Sample ID	1608117-06C-DUP	Batch ID:	76803	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_160815A	Analysis Date:	8/16/2016 8:42:00 AM	Prep Date:	8/15/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1590 50.0 0 1600 0.627 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160816D

The QC data in batch 76831 applies to the following samples: 1608133-06D, 1608133-07D, 1608133-08D, 1608133-09D, 1608133-10D, 1608133-11D, 1608133-12D, 1608133-13D, 1608133-14D, 1608133-15D, 1608133-16D, 1608133-17D, 1608133-18D, 1608133-19D, 1608133-20D, 1608133-21D, 1608133-22D, 1608133-23D, 1608133-24D

Sample ID	MB-76831	Batch ID:	76831	TestNo:	M2540C	Units:	mg/L			
SampType:	MBLK	Run ID:	WC_160816D	Analysis Date:	8/17/2016 8:42:00 AM	Prep Date:	8/16/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-76831	Batch ID:	76831	TestNo:	M2540C	Units:	mg/L			
SampType:	LCS	Run ID:	WC_160816D	Analysis Date:	8/17/2016 8:42:00 AM	Prep Date:	8/16/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Total Dissolved Solids (Residue, Filtera 741 10.0 745.6 0 99.4 90 113

Sample ID	1608133-21D-DUP	Batch ID:	76831	TestNo:	M2540C	Units:	mg/L			
SampType:	DUP	Run ID:	WC_160816D	Analysis Date:	8/17/2016 8:42:00 AM	Prep Date:	8/16/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Total Dissolved Solids (Residue, Filtera 3640 50.0 0 3780 3.77 5

Sample ID	1608133-24D-DUP	Batch ID:	76831	TestNo:	M2540C	Units:	mg/L			
SampType:	DUP	Run ID:	WC_160816D	Analysis Date:	8/17/2016 8:42:00 AM	Prep Date:	8/16/2016			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Total Dissolved Solids (Residue, Filtera 1120 50.0 0 1150 3.09 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1608133
Project: Luminant - Martin Lake

ANALYTICAL QC SUMMARY REPORT

RunID: WC_160818B

The QC data in batch 76858 applies to the following samples: 1608133-25D, 1608133-26D, 1608133-27D

Sample ID	MB-76858	Batch ID:	76858	TestNo:	M2540C	Units:	mg/L				
SampType:	MBLK	Run ID:	WC_160818B	Analysis Date:	8/22/2016 8:40:00 AM	Prep Date:	8/18/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-76858	Batch ID:	76858	TestNo:	M2540C	Units:	mg/L				
SampType:	LCS	Run ID:	WC_160818B	Analysis Date:	8/22/2016 8:40:00 AM	Prep Date:	8/18/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 747 10.0 745.6 0 100 90 113

Sample ID	1608133-25D-DUP	Batch ID:	76858	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_160818B	Analysis Date:	8/22/2016 8:40:00 AM	Prep Date:	8/18/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1380 50.0 0 1430 3.56 5

Sample ID	1608181-01B-DUP	Batch ID:	76858	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_160818B	Analysis Date:	8/22/2016 8:40:00 AM	Prep Date:	8/18/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 22900 200 0 22720 0.702 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

Case Narrative

Lab No: 20160784

This report contains the analytical results for the 27 sample(s) received under chain of custody by ESC Lab Sciences on 8/16/2016 10:12:00 AM. These samples are associated with your 1608133 project.

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

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

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances



Client : DHL Analytical, Inc.
Client Project : 1608133
Lab Number : 20160784
Date Reported : 09/13/16
Date Received : 08/16/16
Page Number : 2 of 9

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20160784-01

Client ID : H-28

Date Sampled : 8/9/2016 9:30:00 AM

Matrix : NPW

Radiochemical Analyses

Combined Radium		1.68 +/- 0.969	0.847	pCi/l			
Radium-226	SM 7500 Ra B M*	0.265 +/- 0.306	0.451	pCi/l	08/24/16	08/26/16	AK
Radium-228	EPA 904*/9320*	1.41 +/- 0.663	0.396	pCi/l	09/07/16	09/10/16	JR

Lab ID : 20160784-02

Client ID : H-29

Date Sampled : 8/9/2016 10:35:00 AM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.261 +/- 1.12	0.752	pCi/l			
Radium-226	SM 7500 Ra B M*	0.261 +/- 0.150	0.174	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	-0.009 +/- 0.967	0.578	pCi/l	09/07/16	09/10/16	JR

Lab ID : 20160784-03

Client ID : H-31

Date Sampled : 8/9/2016 11:50:00 AM

Matrix : NPW

Radiochemical Analyses

Combined Radium		2.21 +/- 0.942	0.523	pCi/l			
Radium-226	SM 7500 Ra B M*	1.31 +/- 0.276	0.135	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.900 +/- 0.666	0.388	pCi/l	09/07/16	09/10/16	JR

Lab ID : 20160784-04

Client ID : H-30

Date Sampled : 8/9/2016 12:45:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.927 +/- 1.00	0.813	pCi/l			
Radium-226	SM 7500 Ra B M*	0.203 +/- 0.140	0.171	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.724 +/- 0.860	0.642	pCi/l	09/07/16	09/10/16	JR



Client : DHL Analytical, Inc.
Client Project : 1608133
Lab Number : 20160784
Date Reported : 09/13/16
Date Received : 08/16/16
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Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20160784-05

Client ID : H-32

Date Sampled : 8/9/2016 1:50:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		2.56 +/- 1.35	0.870	pCi/l			
Radium-226	SM 7500 Ra B M*	2.56 +/- 0.576	0.424	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	-0.008 +/- 0.769	0.446	pCi/l	09/07/16	09/10/16	JR

Lab ID : 20160784-06

Client ID : H-27

Date Sampled : 8/9/2016 2:50:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.952 +/- 1.23	0.797	pCi/l			
Radium-226	SM 7500 Ra B M*	0.408 +/- 0.217	0.165	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.544 +/- 1.01	0.632	pCi/l	09/07/16	09/10/16	JR

Lab ID : 20160784-07

Client ID : H-33

Date Sampled : 8/9/2016 3:55:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.759 +/- 0.958	0.660	pCi/l			
Radium-226	SM 7500 Ra B M*	0.110 +/- 0.106	0.149	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.649 +/- 0.852	0.511	pCi/l	09/07/16	09/10/16	JR

Lab ID : 20160784-08

Client ID : H-26

Date Sampled : 8/9/2016 4:45:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.172 +/- 1.68	1.13	pCi/l			
Radium-226	SM 7500 Ra B M*	0.172 +/- 0.145	0.200	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	-0.529 +/- 1.53	0.932	pCi/l	09/07/16	09/10/16	JR



Client : DHL Analytical, Inc.
 Client Project : 1608133
 Lab Number : 20160784
 Date Reported : 09/13/16
 Date Received : 08/16/16
 Page Number : 4 of 9

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20160784-09

Client ID : DUP-01

Date Sampled : 8/9/2016 2:38:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		2.61 +/- 0.977	0.641	pCi/l			
Radium-226	SM 7500 Ra B M*	0.685 +/- 0.229	0.208	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	1.92 +/- 0.748	0.433	pCi/l	09/07/16	09/10/16	JR

Lab ID : 20160784-10

Client ID : PDP-25

Date Sampled : 8/10/2016 1:30:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.658 +/- 0.998	0.657	pCi/l			
Radium-226	SM 7500 Ra B M*	0.417 +/- 0.199	0.170	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.241 +/- 0.799	0.487	pCi/l	09/07/16	09/10/16	JR

Lab ID : 20160784-11

Client ID : PDP-24

Date Sampled : 8/10/2016 11:00:00 AM

Matrix : NPW

Radiochemical Analyses

Combined Radium		3.10 +/- 1.26	0.825	pCi/l			
Radium-226	SM 7500 Ra B M*	0.735 +/- 0.219	0.197	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	2.36 +/- 1.04	0.628	pCi/l	09/07/16	09/10/16	JR

Lab ID : 20160784-12

Client ID : MW-17A

Date Sampled : 8/10/2016 10:20:00 AM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.871 +/- 1.25	0.827	pCi/l			
Radium-226	SM 7500 Ra B M*	0.343 +/- 0.158	0.120	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.528 +/- 1.09	0.707	pCi/l	09/07/16	09/10/16	JR



Client : DHL Analytical, Inc.
 Client Project : 1608133
 Lab Number : 20160784
 Date Reported : 09/13/16
 Date Received : 08/16/16
 Page Number : 5 of 9

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20160784-13
Client ID : PDP-23
Date Sampled : 8/10/2016 9:10:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.670 +/- 1.90	1.42	pCi/l			
Radium-226	SM 7500 Ra B M*	-0.105 +/- 0.115	0.267	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.670 +/- 1.78	1.15	pCi/l	09/07/16	09/10/16	JR

Lab ID : 20160784-14
Client ID : MW-19
Date Sampled : 8/10/2016 3:00:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.304 +/- 1.183	0.767	pCi/l			
Radium-226	SM 7500 Ra B M*	0.223 +/- 0.133	0.144	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.081 +/- 1.05	0.623	pCi/l	09/07/16	09/12/16	JR

Lab ID : 20160784-15
Client ID : MW-20A
Date Sampled : 8/10/2016 2:10:00 PM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.66 +/- 1.16	0.715	pCi/l			
Radium-226	SM 7500 Ra B M*	0.607 +/- 0.242	0.200	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	1.05 +/- 0.918	0.515	pCi/l	09/07/16	09/12/16	JR

Lab ID : 20160784-16
Client ID : PDP-22
Date Sampled : 8/10/2016 9:20:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.42 +/- 1.04	0.567	pCi/l			
Radium-226	SM 7500 Ra B M*	0.793 +/- 0.221	0.092	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.628 +/- 0.817	0.475	pCi/l	09/07/16	09/12/16	JR



Client : DHL Analytical, Inc.
 Client Project : 1608133
 Lab Number : 20160784
 Date Reported : 09/13/16
 Date Received : 08/16/16
 Page Number : 6 of 9

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20160784-17
Client ID : PDP-26
Date Sampled : 8/10/2016 10:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.581 +/- 0.935	0.617	pCi/l			
Radium-226	SM 7500 Ra B M*	0.133 +/- 0.104	0.133	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.448 +/- 0.831	0.484	pCi/l	09/07/16	09/12/16	JR

Lab ID : 20160784-18
Client ID : MW-18A
Date Sampled : 8/10/2016 11:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.742 +/- 1.22	0.771	pCi/l			
Radium-226	SM 7500 Ra B M*	0.288 +/- 0.149	0.164	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	0.454 +/- 1.07	0.607	pCi/l	09/07/16	09/12/16	JR

Lab ID : 20160784-19
Client ID : EB-1
Date Sampled : 8/10/2016 11:45:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.45 +/- 0.992	0.729	pCi/l			
Radium-226	SM 7500 Ra B M*	0.000 +/- 0.115	0.239	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	1.45 +/- 0.877	0.490	pCi/l	09/07/16	09/12/16	JR

Lab ID : 20160784-20
Client ID : BMW-11AR
Date Sampled : 8/11/2016 8:25:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		3.23 +/- 1.45	0.838	pCi/l			
Radium-226	SM 7500 Ra B M*	0.810 +/- 0.204	0.116	pCi/l	08/24/16	08/31/16	AK
Radium-228	EPA 904*/9320*	2.42 +/- 1.25	0.722	pCi/l	09/07/16	09/12/16	JR



Client : DHL Analytical, Inc.
Client Project : 1608133
Lab Number : 20160784
Date Reported : 09/13/16
Date Received : 08/16/16
Page Number : 7 of 9

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20160784-21
Client ID : BMW-19
Date Sampled : 8/11/2016 9:20:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.19 +/- 1.17	0.933	pCi/l			
Radium-226	SM 7500 Ra B M*	0.927 +/- 0.200	0.118	pCi/l	08/25/16	08/29/16	AK
Radium-228	EPA 904*/9320*	0.262 +/- 0.695	0.815	pCi/l	09/02/16	09/08/16	JR

Lab ID : 20160784-22
Client ID : BMW-18
Date Sampled : 8/11/2016 10:15:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.117 +/- 0.983	1.29	pCi/l			
Radium-226	SM 7500 Ra B M*	0.117 +/- 0.146	0.220	pCi/l	08/25/16	08/29/16	AK
Radium-228	EPA 904*/9320*	-0.353 +/- 0.837	1.07	pCi/l	09/02/16	09/08/16	JR

Lab ID : 20160784-23
Client ID : BMW-20
Date Sampled : 8/11/2016 10:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.72 +/- 0.838	0.980	pCi/l			
Radium-226	SM 7500 Ra B M*	0.322 +/- 0.140	0.147	pCi/l	08/25/16	08/29/16	AK
Radium-228	EPA 904*/9320*	1.40 +/- 0.698	0.833	pCi/l	09/02/16	09/08/16	JR

Lab ID : 20160784-24
Client ID : BMW-24
Date Sampled : 8/11/2016 8:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.36 +/- 0.937	1.06	pCi/l			
Radium-226	SM 7500 Ra B M*	0.564 +/- 0.185	0.116	pCi/l	08/25/16	08/29/16	AK
Radium-228	EPA 904*/9320*	0.791 +/- 0.752	0.942	pCi/l	09/02/16	09/08/16	JR



Client : DHL Analytical, Inc.
 Client Project : 1608133
 Lab Number : 20160784
 Date Reported : 09/13/16
 Date Received : 08/16/16
 Page Number : 8 of 9

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20160784-25
Client ID : BMW-23
Date Sampled : 8/11/2016 9:20:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.90 +/- 0.992	1.07	pCi/l			
Radium-226	SM 7500 Ra B M*	0.963 +/- 0.218	0.164	pCi/l	08/25/16	08/29/16	AK
Radium-228	EPA 904*/9320*	1.94 +/- 0.774	0.904	pCi/l	09/02/16	09/08/16	JR

Lab ID : 20160784-26
Client ID : BMW-22
Date Sampled : 8/11/2016 10:00:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		2.54 +/- 0.798	0.823	pCi/l			
Radium-226	SM 7500 Ra B M*	0.607 +/- 0.190	0.104	pCi/l	08/25/16	08/29/16	AK
Radium-228	EPA 904*/9320*	1.93 +/- 0.608	0.719	pCi/l	09/02/16	09/08/16	JR

Lab ID : 20160784-27
Client ID : BMW-21
Date Sampled : 8/11/2016 10:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.25 +/- 0.875	1.04	pCi/l			
Radium-226	SM 7500 Ra B M*	0.655 +/- 0.290	0.312	pCi/l	08/25/16	08/29/16	AK
Radium-228	EPA 904*/9320*	0.632 +/- 0.585	0.728	pCi/l	09/02/16	09/08/16	JR

Client : DHL Analytical, Inc.
 Client Project : 1608133
 Lab Number : 20160784
 Date Reported : 09/13/16
 Date Received : 08/16/16
 Page Number : 9 of 9

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	-0.024	94.7			NC	0.923	108.0	101.0	6.5	R1125
Radium-226	-0.021	108.0			0.6	0.022	95.6	101.0	5.2	R1126
Radium-228	0.406	95.4			NC	0.159	95.1	98.8	3.8	R3850
Radium-228	0.402	84.4			NC	0.580	84.3	87.6	3.8	R3851

Lab Approval:



Ron Eidson
Director of Radiochemistry

LUMINANT

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1608133

CHAIN-OF-CUSTODY RECORD

Page 1 of 3

Subcontractor:

ESC Laboratory

311 North Aspen

Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515

FAX:

Acct #: DHLRRTX

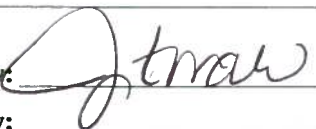
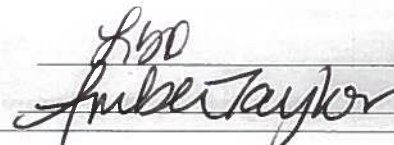
12-Aug-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E904.0	SM7500Ra-B M				
H-28	Aqueous	-01B	08/09/16 09:30 AM	500HDPEHNO3	1					
H-28	Aqueous	-01C	08/09/16 09:30 AM	500HDPEHNO3		1				
H-29	Aqueous	-02B	08/09/16 10:35 AM	500HDPEHNO3	1					
H-29	Aqueous	-02C	08/09/16 10:35 AM	500HDPEHNO3		1				
H-31	Aqueous	-03B	08/09/16 11:50 AM	500HDPEHNO3	1					
H-31	Aqueous	-03C	08/09/16 11:50 AM	500HDPEHNO3		1				
H-30	Aqueous	-04B	08/09/16 12:45 PM	500HDPEHNO3	1					
H-30	Aqueous	-04C	08/09/16 12:45 PM	500HDPEHNO3		1				
H-32	Aqueous	-05B	08/09/16 01:50 PM	500HDPEHNO3	1					
H-32	Aqueous	-05C	08/09/16 01:50 PM	500HDPEHNO3		1				
H-27	Aqueous	-06B	08/09/16 02:50 PM	500HDPEHNO3	1					
H-27	Aqueous	-06C	08/09/16 02:50 PM	500HDPEHNO3		1				
H-33	Aqueous	-07B	08/09/16 03:55 PM	500HDPEHNO3	1					
H-33	Aqueous	-07C	08/09/16 03:55 PM	500HDPEHNO3		1				
H-26	Aqueous	-08B	08/09/16 04:45 PM	500HDPEHNO3	1					
H-26	Aqueous	-08C	08/09/16 04:45 PM	500HDPEHNO3		1				
DUP-01	Aqueous	-09B	08/09/16 02:38 PM	500HDPEHNO3	1					
DUP-01	Aqueous	-09C	08/09/16 02:38 PM	500HDPEHNO3		1				

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

20160784
L854111

Relinquished by: 	Date/Time: 8/12/16 17:30	Received by: 	Date/Time: 8/12/16 17:30
Relinquished by: _____	_____	Received by: _____	Date/Time: 8/12/16 10:12

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1608133

CHAIN-OF-CUSTODY RECORD

Page 2 of 3

Subcontractor:

ESC Laboratory

311 North Aspen

Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515

FAX:

Acct #: DHLRRTX

12-Aug-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E904.0	SM7500Ra-B M				
PDP-25	Aqueous	-10B	08/10/16 01:30 PM	500HDPEHNO3	1					
PDP-25	Aqueous	-10C	08/10/16 01:30 PM	500HDPEHNO3		1				
PDP-24	Aqueous	-11B	08/10/16 11:00 AM	500HDPEHNO3	1					
PDP-24	Aqueous	-11C	08/10/16 11:00 AM	500HDPEHNO3		1				
MW-17A	Aqueous	-12B	08/10/16 10:20 AM	500HDPEHNO3	1					
MW-17A	Aqueous	-12C	08/10/16 10:20 AM	500HDPEHNO3		1				
PDP-23	Aqueous	-13B	08/10/16 09:10 AM	500HDPEHNO3	1					
PDP-23	Aqueous	-13C	08/10/16 09:10 AM	500HDPEHNO3		1				
MW-19	Aqueous	-14B	08/10/16 03:00 PM	500HDPEHNO3	1					
MW-19	Aqueous	-14C	08/10/16 03:00 PM	500HDPEHNO3		1				
MW-20A	Aqueous	-15B	08/10/16 02:10 PM	500HDPEHNO3	1					
MW-20A	Aqueous	-15C	08/10/16 02:10 PM	500HDPEHNO3		1				
PDP-22	Aqueous	-16B	08/10/16 09:20 AM	500HDPEHNO3	1					
PDP-22	Aqueous	-16C	08/10/16 09:20 AM	500HDPEHNO3		1				
PDP-26	Aqueous	-17B	08/10/16 10:30 AM	500HDPEHNO3	1					
PDP-26	Aqueous	-17C	08/10/16 10:30 AM	500HDPEHNO3		1				
MW-18A	Aqueous	-18B	08/10/16 11:30 AM	500HDPEHNO3	1					
MW-18A	Aqueous	-18C	08/10/16 11:30 AM	500HDPEHNO3		1				

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

Date/Time		Date/Time	
Relinquished by: 	8/12/16 17:30	Received by: 	8/12/16 17:30
Relinquished by: _____	_____	Received by: _____	8/16/16 10:12

DHL Analytical, Inc.

2300 Double Creek Drive
Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1608133

CHAIN-OF-CUSTODY RECORD

Page 3 of 3

Subcontractor:

ESC Laboratory
311 North Aspen
Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515
FAX:
Acct #: DHLRRTX

12-Aug-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E904.0	SM7500Ra-B M				
EB-1	Aqueous	-19B	08/10/16 11:45 AM	500HDPEHNO3	1					
EB-1	Aqueous	-19C	08/10/16 11:45 AM	500HDPEHNO3		1				
BMW-11AR	Aqueous	-20B	08/11/16 08:25 AM	500HDPEHNO3	1					
BMW-11AR	Aqueous	-20C	08/11/16 08:25 AM	500HDPEHNO3		1				
BMW-19	Aqueous	-21B	08/11/16 09:20 AM	500HDPEHNO3	1					
BMW-19	Aqueous	-21C	08/11/16 09:20 AM	500HDPEHNO3		1				
BMW-18	Aqueous	-22B	08/11/16 10:15 AM	500HDPEHNO3	1					
BMW-18	Aqueous	-22C	08/11/16 10:15 AM	500HDPEHNO3		1				
BMW-20	Aqueous	-23B	08/11/16 10:50 AM	500HDPEHNO3	1					
BMW-20	Aqueous	-23C	08/11/16 10:50 AM	500HDPEHNO3		1				
BMW-24	Aqueous	-24B	08/11/16 08:50 AM	500HDPEHNO3	1					
BMW-24	Aqueous	-24C	08/11/16 08:50 AM	500HDPEHNO3		1				
BMW-23	Aqueous	-25B	08/11/16 09:20 AM	500HDPEHNO3	1					
BMW-23	Aqueous	-25C	08/11/16 09:20 AM	500HDPEHNO3		1				
BMW-22	Aqueous	-26B	08/11/16 10:00 AM	500HDPEHNO3	1					
BMW-22	Aqueous	-26C	08/11/16 10:00 AM	500HDPEHNO3		1				
BMW-21	Aqueous	-27B	08/11/16 10:30 AM	500HDPEHNO3	1					
BMW-21	Aqueous	-27C	08/11/16 10:30 AM	500HDPEHNO3		1				

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

Date/Time

Date/Time

Relinquished by:

J. Toran

8/12/16 17:30

Received by:

Liso

8/12/16 17:30

Relinquished by:

Received by:

Amber Taylor

8/12/16 10:12

SAMPLE LOGIN

Date Received: 8/16/2016 10:12:0

Lab Number: 20160784

Due: 9/13/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20160784-01 B	H-28	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-01 A	H-28	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-02 A	H-29	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-02 B	H-29	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-03 A	H-31	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-03 B	H-31	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-04 A	H-30	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-04 B	H-30	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-05 A	H-32	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-05 B	H-32	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-06 A	H-27	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-06 B	H-27	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-07 A	H-33	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-07 B	H-33	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

20160784-08 B	H-26	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-08 A	H-26	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-09 A	DUP-01	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-09 B	DUP-01	NPW	08/09/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-10 A	PDP-25	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-10 B	PDP-25	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-11 A	PDP-24	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-11 B	PDP-24	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-12 A	MW-17A	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-12 B	MW-17A	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-13 A	PDP-23	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-13 B	PDP-23	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-14 B	MW-19	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-14 A	MW-19	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-15 A	MW-20A	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-15 B	MW-20A	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20160784-16 A	PDP-22	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-16 B	PDP-22	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes

Radium-226									
Radium-228									
20160784-17 A	PDP-26	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-17 B	PDP-26	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226									
Radium-228									
20160784-18 A	MW-18A	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-18 B	MW-18A	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226									
Radium-228									
20160784-19 A	EB-1	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-19 B	EB-1	NPW	08/10/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226									
Radium-228									
20160784-20 B	BMW-11AR	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-20 A	BMW-11AR	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226									
Radium-228									
20160784-21 A	BMW-19	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-21 B	BMW-19	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226									
Radium-228									
20160784-22 A	BMW-18	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-22 B	BMW-18	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226									
Radium-228									
20160784-23 A	BMW-20	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-23 B	BMW-20	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226									
Radium-228									
20160784-24 A	BMW-24	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-24 B	BMW-24	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes

Radium-226									
Radium-228									
20160784-25 A	BMW-23	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-25 B	BMW-23	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226									
Radium-228									
20160784-26 A	BMW-22	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-26 B	BMW-22	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226									
Radium-228									
20160784-27 B	BMW-21	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20160784-27 A	BMW-21	NPW	08/11/16	Plastic	500 ml	HNO3, pH < 2	☐	Yes	Yes
Radium-226									
Radium-228									

CONTAINER INSPECTION

Coolers 2 Custody Seals Broken ☒ Temperature: AWC Ice ☐ Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken ☒ Chain of Custody Record ☒ Labels in Tact ☒ Radiation Survey Complete N/A

Anomalies

Inspected By: Amber Taylor DATE 8/16/16

QA or Designee Review: Raymond Thomas DATE 8/16/16

Sample Custodian Review: Stu DATE 8/16/16

Project Notes:



November 17, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: MLSES-PDP-5

Order No.: 1610170

Dear Will Vienne:

DHL Analytical, Inc. received 6 sample(s) on 10/20/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-17



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Nº 69944
CHAIN-OF-CUSTODY

CLIENT: PBW
ADDRESS: 2201 DOUBLE CREEK DR ROUND ROCK, TX 78664
PHONE: 512-671-3434 FAX/E-MAIL: 512-671-3446
DATA REPORTED TO: WILL VIENNE
ADDITIONAL REPORT COPIES TO:

DATE: 10/19/16 PAGE 1 OF 1
PO #: 5164-B DHL WORK ORDER #: 11610170
PROJECT LOCATION OR NAME: MLSES - PDP-5
CLIENT PROJECT #: 5164-B COLLECTOR: J. BRAYTON

[illegible]

John Dupont

From: Sara Taube [Sara.Taube@pbwllc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 2 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

ORIGIN ID:GGGA (512) 671-3434
JOHN BRAYTON

2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 19OCT16
ACTWT: 61.20 LB
CAD: 006994166/SSFE1722
DIMS: 23x14x14 IN

BILL THIRD PARTY

TO DHL

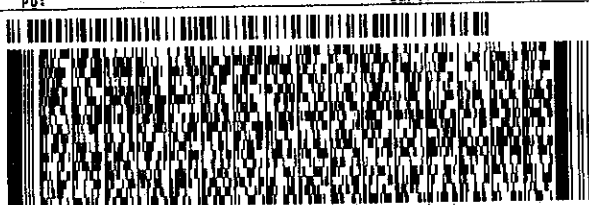
2300 DOUBLECREEK DR

ROUND ROCK TX 78664

(512) 388-8222

REF:

DEPT:



FedEx
Express



1 of 2

TRK# 7844 0276 2827
0201

MASTER

A8 BSMA

THU - 20 OCT 10:30A
PRIORITY OVERNIGHT

78664

TX-US AUS



ORIGIN ID:GGGA (512) 671-3434
JOHN BRAYTON

2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

TO DHL

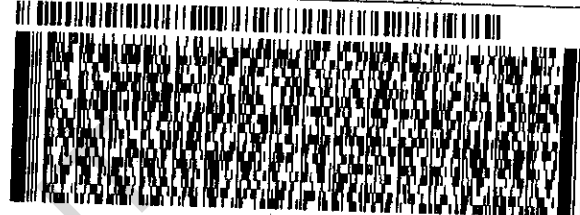
2300 DOUBLECREEK DR

ROUND ROCK TX 78664

(512) 388-8222

REF:

DEPT:



FedEx
Express



2 of 2

MPS# 7844 0276 2838
0263

Mstr# 7844 0276 2827

0201

A8 BSMA

THU - 20 OCT 10:30A
PRIORITY OVERNIGHT

78664

TX-US AUS



DHL Analytical, Inc.

Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 10/20/2016

Work Order Number 1610170

Received by JB

Checklist completed by: [Signature] 10/20/2016
Signature Date

Reviewed by: [Initials] 10/20/2016
Initials Date

Carrier name FedEx 1day

Shipping container/cooler in good condition?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☒	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☒
Chain of custody present?	Yes ☒	No ☐	
Chain of custody signed when relinquished and received?	Yes ☒	No ☐	
Chain of custody agrees with sample labels?	Yes ☒	No ☐	
Samples in proper container/bottle?	Yes ☒	No ☐	
Sample containers intact?	Yes ☒	No ☐	
Sufficient sample volume for indicated test?	Yes ☒	No ☐	
All samples received within holding time?	Yes ☒	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☒	No ☐	4.6 °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☒
Water - pH<2 acceptable upon receipt?	Yes ☒	No ☐	NA ☐ LOT # 8086
	Adjusted? <u>no</u>		Checked by <u>[Signature]</u>
Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☒ LOT #
	Adjusted? _____		Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Lab Order: 1610170

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis

Method SW7470A - Mercury Analysis

Method E300 - Anions Analysis

Method M4500-H+ B - pH of a Water Analysis

Method M2540C - TDS Analysis

Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M.
Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 10/20/16. A total of 6 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 10/28/16 the RPD for the serial dilution was above control limits for Boron. This is flagged accordingly in the QC summary report. The PDS was within control limits for this analyte. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Lab Order: 1610170**Work Order Sample Summary**

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1610170-01	MW-17A		10/18/16 03:40 PM	10/20/2016
1610170-02	PDP-24		10/18/16 04:30 PM	10/20/2016
1610170-03	PDP-25		10/19/16 07:50 AM	10/20/2016
1610170-04	PDP-26		10/19/16 08:45 AM	10/20/2016
1610170-05	MW-20A		10/19/16 09:35 AM	10/20/2016
1610170-06	PDP-23		10/19/16 10:30 AM	10/20/2016

Lab Order: 1610170
Client: Pastor, Behling & Wheeler
Project: MLSES-PDP-5

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1610170-01A	MW-17A	10/18/16 03:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	MW-17A	10/18/16 03:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	MW-17A	10/18/16 03:40 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:40 PM	77658
1610170-01D	MW-17A	10/18/16 03:40 PM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	MW-17A	10/18/16 03:40 PM	Aqueous	M4500-H+ B	pH Preparation	10/21/16 08:50 AM	77638
	MW-17A	10/18/16 03:40 PM	Aqueous	M2540C	TDS Preparation	10/25/16 03:41 PM	77673
1610170-02A	PDP-24	10/18/16 04:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	PDP-24	10/18/16 04:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	PDP-24	10/18/16 04:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:40 PM	77658
1610170-02D	PDP-24	10/18/16 04:30 PM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	PDP-24	10/18/16 04:30 PM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	PDP-24	10/18/16 04:30 PM	Aqueous	M4500-H+ B	pH Preparation	10/21/16 08:50 AM	77638
	PDP-24	10/18/16 04:30 PM	Aqueous	M2540C	TDS Preparation	10/25/16 03:41 PM	77673
	PDP-24	10/18/16 04:30 PM	Aqueous	M2540C	TDS Preparation	10/25/16 03:41 PM	77673
1610170-03A	PDP-25	10/19/16 07:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	PDP-25	10/19/16 07:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	PDP-25	10/19/16 07:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	PDP-25	10/19/16 07:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:40 PM	77658
1610170-03D	PDP-25	10/19/16 07:50 AM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	PDP-25	10/19/16 07:50 AM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	PDP-25	10/19/16 07:50 AM	Aqueous	M4500-H+ B	pH Preparation	10/21/16 08:50 AM	77638
	PDP-25	10/19/16 07:50 AM	Aqueous	M2540C	TDS Preparation	10/25/16 03:41 PM	77673
1610170-04A	PDP-26	10/19/16 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	PDP-26	10/19/16 08:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:40 PM	77658
1610170-04D	PDP-26	10/19/16 08:45 AM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	PDP-26	10/19/16 08:45 AM	Aqueous	M4500-H+ B	pH Preparation	10/21/16 08:50 AM	77638
	PDP-26	10/19/16 08:45 AM	Aqueous	M2540C	TDS Preparation	10/25/16 03:41 PM	77673
1610170-05A	MW-20A	10/19/16 09:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	MW-20A	10/19/16 09:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689

Lab Order: 1610170
Client: Pastor, Behling & Wheeler
Project: MLSES-PDP-5

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1610170-05A	MW-20A	10/19/16 09:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	MW-20A	10/19/16 09:35 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:40 PM	77658
1610170-05D	MW-20A	10/19/16 09:35 AM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	MW-20A	10/19/16 09:35 AM	Aqueous	M4500-H+ B	pH Preparation	10/21/16 08:50 AM	77638
	MW-20A	10/19/16 09:35 AM	Aqueous	M2540C	TDS Preparation	10/25/16 03:41 PM	77673
1610170-06A	PDP-23	10/19/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	PDP-23	10/19/16 10:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/27/16 08:21 AM	77689
	PDP-23	10/19/16 10:30 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:40 PM	77658
1610170-06D	PDP-23	10/19/16 10:30 AM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	PDP-23	10/19/16 10:30 AM	Aqueous	M4500-H+ B	pH Preparation	10/21/16 08:50 AM	77638
	PDP-23	10/19/16 10:30 AM	Aqueous	M2540C	TDS Preparation	10/25/16 03:41 PM	77673

Lab Order: 1610170
Client: Pastor, Behling & Wheeler
Project: MLSES-PDP-5

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1610170-01A	MW-17A	Aqueous	SW7470A	Mercury Total: Aqueous	77658	1	10/26/16 12:48 PM	CETAC2_HG_161026 A
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	1	10/31/16 01:50 PM	ICP-MS3_161031A
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	1	10/28/16 04:36 PM	ICP-MS4_161028B
1610170-01D	MW-17A	Aqueous	E300	Anions by IC method - Water	77652	1	10/24/16 10:58 AM	IC2_161024A
	MW-17A	Aqueous	M4500-H+ B	pH	77638	1	10/21/16 10:40 AM	TITRATOR_161021A
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	77673	1	10/26/16 08:43 AM	WC_161025B
1610170-02A	PDP-24	Aqueous	SW7470A	Mercury Total: Aqueous	77658	1	10/26/16 12:50 PM	CETAC2_HG_161026 A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	1	10/28/16 04:38 PM	ICP-MS4_161028B
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	10	10/31/16 01:56 PM	ICP-MS3_161031A
1610170-02D	PDP-24	Aqueous	E300	Anions by IC method - Water	77652	1	10/24/16 11:13 AM	IC2_161024A
	PDP-24	Aqueous	E300	Anions by IC method - Water	77652	10	10/24/16 03:28 PM	IC2_161024A
	PDP-24	Aqueous	M4500-H+ B	pH	77638	1	10/21/16 10:44 AM	TITRATOR_161021A
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	77673	1	10/26/16 08:43 AM	WC_161025B
1610170-03A	PDP-25	Aqueous	SW7470A	Mercury Total: Aqueous	77658	1	10/26/16 12:53 PM	CETAC2_HG_161026 A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	10	10/31/16 02:02 PM	ICP-MS3_161031A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	1	10/31/16 04:08 PM	ICP-MS3_161031A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	1	10/28/16 04:40 PM	ICP-MS4_161028B
1610170-03D	PDP-25	Aqueous	E300	Anions by IC method - Water	77652	10	10/24/16 03:43 PM	IC2_161024A
	PDP-25	Aqueous	E300	Anions by IC method - Water	77652	1	10/24/16 11:27 AM	IC2_161024A
	PDP-25	Aqueous	M4500-H+ B	pH	77638	1	10/21/16 10:47 AM	TITRATOR_161021A
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	77673	1	10/26/16 08:43 AM	WC_161025B
1610170-04A	PDP-26	Aqueous	SW7470A	Mercury Total: Aqueous	77658	1	10/26/16 12:55 PM	CETAC2_HG_161026 A
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	1	10/28/16 11:17 AM	ICP-MS4_161028A
1610170-04D	PDP-26	Aqueous	E300	Anions by IC method - Water	77652	1	10/24/16 11:42 AM	IC2_161024A
	PDP-26	Aqueous	M4500-H+ B	pH	77638	1	10/21/16 10:50 AM	TITRATOR_161021A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	77673	1	10/26/16 08:43 AM	WC_161025B

Lab Order: 1610170
Client: Pastor, Behling & Wheeler
Project: MLSES-PDP-5

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1610170-05A	MW-20A	Aqueous	SW7470A	Mercury Total: Aqueous	77658	1	10/26/16 12:57 PM	CETAC2_HG_161026 A
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	1	10/31/16 04:14 PM	ICP-MS3_161031A
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	1	10/28/16 04:42 PM	ICP-MS4_161028B
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	10	10/31/16 02:08 PM	ICP-MS3_161031A
1610170-05D	MW-20A	Aqueous	E300	Anions by IC method - Water	77652	1	10/24/16 11:56 AM	IC2_161024A
	MW-20A	Aqueous	M4500-H+ B	pH	77638	1	10/21/16 10:52 AM	TITRATOR_161021A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	77673	1	10/26/16 08:43 AM	WC_161025B
1610170-06A	PDP-23	Aqueous	SW7470A	Mercury Total: Aqueous	77658	1	10/26/16 12:59 PM	CETAC2_HG_161026 A
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	1	10/31/16 02:14 PM	ICP-MS3_161031A
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77689	1	10/28/16 04:44 PM	ICP-MS4_161028B
1610170-06D	PDP-23	Aqueous	E300	Anions by IC method - Water	77652	1	10/24/16 12:11 PM	IC2_161024A
	PDP-23	Aqueous	M4500-H+ B	pH	77638	1	10/21/16 10:54 AM	TITRATOR_161021A
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	77673	1	10/26/16 08:43 AM	WC_161025B

DHL Analytical, Inc.

Date: 17-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Project No: 5164-B
Lab Order: 1610170

Client Sample ID: MW-17A
Lab ID: 1610170-01
Collection Date: 10/18/16 03:40 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
		SW7470A					Analyst: AH
Mercury	0.0000846	0.0000800	0.000200	J	mg/L	1	10/26/16 12:48 PM
TRACE METALS: ICP-MS - WATER							
		SW6020A					Analyst: RO
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/28/16 04:36 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:36 PM
Barium	0.0908	0.00300	0.0100		mg/L	1	10/28/16 04:36 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 04:36 PM
Boron	0.375	0.0100	0.0300		mg/L	1	10/31/16 01:50 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 04:36 PM
Calcium	6.05	0.100	0.300		mg/L	1	10/28/16 04:36 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:36 PM
Cobalt	0.00617	0.00300	0.00500		mg/L	1	10/28/16 04:36 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 04:36 PM
Lithium	0.00886	0.00500	0.0100	J	mg/L	1	10/28/16 04:36 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:36 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:36 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/28/16 04:36 PM
ANIONS BY IC METHOD - WATER							
		E300					Analyst: AV
Chloride	8.01	0.300	1.00		mg/L	1	10/24/16 10:58 AM
Fluoride	0.182	0.100	0.400	J	mg/L	1	10/24/16 10:58 AM
Sulfate	30.4	1.00	3.00		mg/L	1	10/24/16 10:58 AM
PH							
		M4500-H+ B					Analyst: BJT
pH	6.13	0	0		pH Units@20.3°C	1	10/21/16 10:40 AM
TOTAL DISSOLVED SOLIDS							
		M2540C					Analyst: AJH
Total Dissolved Solids (Residue, Filterable)	108	10.0	10.0		mg/L	1	10/26/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 17-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Project No: 5164-B
Lab Order: 1610170

Client Sample ID: PDP-24
Lab ID: 1610170-02
Collection Date: 10/18/16 04:30 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
		SW7470A					Analyst: AH
Mercury	0.000178	0.0000800	0.000200	J	mg/L	1	10/26/16 12:50 PM
TRACE METALS: ICP-MS - WATER							
		SW6020A					Analyst: RO
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/28/16 04:38 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:38 PM
Barium	0.0261	0.00300	0.0100		mg/L	1	10/28/16 04:38 PM
Beryllium	0.00271	0.000300	0.00100		mg/L	1	10/28/16 04:38 PM
Boron	3.03	0.100	0.300		mg/L	10	10/31/16 01:56 PM
Cadmium	0.00104	0.000300	0.00100		mg/L	1	10/28/16 04:38 PM
Calcium	23.5	1.00	3.00		mg/L	10	10/31/16 01:56 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:38 PM
Cobalt	0.0592	0.00300	0.00500		mg/L	1	10/28/16 04:38 PM
Lead	0.00244	0.000300	0.00100		mg/L	1	10/28/16 04:38 PM
Lithium	0.0302	0.00500	0.0100		mg/L	1	10/28/16 04:38 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:38 PM
Selenium	0.00204	0.00200	0.00500	J	mg/L	1	10/28/16 04:38 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/28/16 04:38 PM
ANIONS BY IC METHOD - WATER							
		E300					Analyst: AV
Chloride	21.9	0.300	1.00		mg/L	1	10/24/16 11:13 AM
Fluoride	0.869	0.100	0.400		mg/L	1	10/24/16 11:13 AM
Sulfate	319	10.0	30.0		mg/L	10	10/24/16 03:28 PM
PH							
		M4500-H+ B					Analyst: BJT
pH	4.68	0	0		pH Units@20.9°C	1	10/21/16 10:44 AM
TOTAL DISSOLVED SOLIDS							
		M2540C					Analyst: AJH
Total Dissolved Solids (Residue, Filterable)	516	10.0	10.0		mg/L	1	10/26/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 17-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Project No: 5164-B
Lab Order: 1610170

Client Sample ID: PDP-25
Lab ID: 1610170-03
Collection Date: 10/19/16 07:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/26/16 12:53 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/28/16 04:40 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:40 PM
Barium	0.178	0.00300	0.0100		mg/L	1	10/28/16 04:40 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 04:40 PM
Boron	0.117	0.0100	0.0300		mg/L	1	10/31/16 04:08 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 04:40 PM
Calcium	37.2	1.00	3.00		mg/L	10	10/31/16 02:02 PM
Chromium	0.00684	0.00200	0.00500		mg/L	1	10/28/16 04:40 PM
Cobalt	0.0104	0.00300	0.00500		mg/L	1	10/28/16 04:40 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 04:40 PM
Lithium	0.0974	0.00500	0.0100		mg/L	1	10/28/16 04:40 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:40 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:40 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/28/16 04:40 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	129	3.00	10.0		mg/L	10	10/24/16 03:43 PM
Fluoride	0.198	0.100	0.400	J	mg/L	1	10/24/16 11:27 AM
Sulfate	98.6	1.00	3.00		mg/L	1	10/24/16 11:27 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.17	0	0		pH Units@20.4°C	1	10/21/16 10:47 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	590	10.0	10.0		mg/L	1	10/26/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 17-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Project No: 5164-B
Lab Order: 1610170

Client Sample ID: PDP-26
Lab ID: 1610170-04
Collection Date: 10/19/16 08:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/26/16 12:55 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/28/16 11:17 AM
Arsenic	0.00271	0.00200	0.00500	J	mg/L	1	10/28/16 11:17 AM
Barium	0.0287	0.00300	0.0100		mg/L	1	10/28/16 11:17 AM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 11:17 AM
Boron	0.0483	0.0100	0.0300		mg/L	1	10/28/16 11:17 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 11:17 AM
Calcium	2.31	0.100	0.300		mg/L	1	10/28/16 11:17 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 11:17 AM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	10/28/16 11:17 AM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 11:17 AM
Lithium	0.0122	0.00500	0.0100		mg/L	1	10/28/16 11:17 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 11:17 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 11:17 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/28/16 11:17 AM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	5.22	0.300	1.00		mg/L	1	10/24/16 11:42 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/24/16 11:42 AM
Sulfate	6.19	1.00	3.00		mg/L	1	10/24/16 11:42 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.61	0	0		pH Units@20.3°C	1	10/21/16 10:50 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	87.0	10.0	10.0		mg/L	1	10/26/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 17-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Project No: 5164-B
Lab Order: 1610170

Client Sample ID: MW-20A
Lab ID: 1610170-05
Collection Date: 10/19/16 09:35 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000362	0.0000800	0.000200		mg/L	1	10/26/16 12:57 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/28/16 04:42 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:42 PM
Barium	0.0282	0.00300	0.0100		mg/L	1	10/28/16 04:42 PM
Beryllium	0.000541	0.000300	0.00100	J	mg/L	1	10/28/16 04:42 PM
Boron	0.126	0.0100	0.0300		mg/L	1	10/31/16 04:14 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 04:42 PM
Calcium	10.8	1.00	3.00		mg/L	10	10/31/16 02:08 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:42 PM
Cobalt	0.00382	0.00300	0.00500	J	mg/L	1	10/28/16 04:42 PM
Lead	0.00136	0.000300	0.00100		mg/L	1	10/28/16 04:42 PM
Lithium	0.0194	0.00500	0.0100		mg/L	1	10/28/16 04:42 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:42 PM
Selenium	0.00478	0.00200	0.00500	J	mg/L	1	10/28/16 04:42 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/28/16 04:42 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	10.9	0.300	1.00		mg/L	1	10/24/16 11:56 AM
Fluoride	0.520	0.100	0.400		mg/L	1	10/24/16 11:56 AM
Sulfate	79.6	1.00	3.00		mg/L	1	10/24/16 11:56 AM
PH		M4500-H+ B		Analyst: BJT			
pH	4.80	0	0		pH Units@20.1°C	1	10/21/16 10:52 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	229	10.0	10.0		mg/L	1	10/26/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 17-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Project No: 5164-B
Lab Order: 1610170

Client Sample ID: PDP-23
Lab ID: 1610170-06
Collection Date: 10/19/16 10:30 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/26/16 12:59 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/28/16 04:44 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:44 PM
Barium	0.0413	0.00300	0.0100		mg/L	1	10/28/16 04:44 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 04:44 PM
Boron	0.0456	0.0100	0.0300		mg/L	1	10/31/16 02:14 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 04:44 PM
Calcium	1.70	0.100	0.300		mg/L	1	10/28/16 04:44 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:44 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	10/28/16 04:44 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/28/16 04:44 PM
Lithium	0.0126	0.00500	0.0100		mg/L	1	10/28/16 04:44 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:44 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/28/16 04:44 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/28/16 04:44 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	5.09	0.300	1.00		mg/L	1	10/24/16 12:11 PM
Fluoride	0.129	0.100	0.400	J	mg/L	1	10/24/16 12:11 PM
Sulfate	1.31	1.00	3.00	J	mg/L	1	10/24/16 12:11 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	5.85	0	0		pH Units@20°C	1	10/21/16 10:54 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	78.0	10.0	10.0		mg/L	1	10/26/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler

Work Order: 1610170

Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161026A

The QC data in batch 77658 applies to the following samples: 1610170-01A, 1610170-02A, 1610170-03A, 1610170-04A, 1610170-05A, 1610170-06A

Sample ID	MB-77658	Batch ID:	77658	TestNo:	SW7470A	Units:	mg/L													
SampType:	MBLK	Run ID:	CETAC2_HG_161026A	Analysis Date:	10/26/2016 12:41:45 P	Prep Date:	10/24/2016													
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual									

Mercury <0.0000800 0.000200

Sample ID	LCS-77658	Batch ID:	77658	TestNo:	SW7470A	Units:	mg/L													
SampType:	LCS	Run ID:	CETAC2_HG_161026A	Analysis Date:	10/26/2016 12:44:01 P	Prep Date:	10/24/2016													
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual									

Mercury 0.00213 0.000200 0.00200 0 106 85 115

Sample ID	LCSD-77658	Batch ID:	77658	TestNo:	SW7470A	Units:	mg/L													
SampType:	LCSD	Run ID:	CETAC2_HG_161026A	Analysis Date:	10/26/2016 12:46:17 P	Prep Date:	10/24/2016													
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual									

Mercury 0.00215 0.000200 0.00200 0 108 85 115 0.935 15

Sample ID	1610190-01B SD	Batch ID:	77658	TestNo:	SW7470A	Units:	mg/L													
SampType:	SD	Run ID:	CETAC2_HG_161026A	Analysis Date:	10/26/2016 1:27:09 PM	Prep Date:	10/24/2016													
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual									

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID	1610190-01B PDS	Batch ID:	77658	TestNo:	SW7470A	Units:	mg/L													
SampType:	PDS	Run ID:	CETAC2_HG_161026A	Analysis Date:	10/26/2016 1:29:25 PM	Prep Date:	10/24/2016													
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual									

Mercury 0.00242 0.000200 0.00250 0 96.8 85 115

Sample ID	1610190-01B MS	Batch ID:	77658	TestNo:	SW7470A	Units:	mg/L													
SampType:	MS	Run ID:	CETAC2_HG_161026A	Analysis Date:	10/26/2016 1:31:41 PM	Prep Date:	10/24/2016													
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual									

Mercury 0.00204 0.000200 0.00200 0 102 80 120

Sample ID	1610190-01B MSD	Batch ID:	77658	TestNo:	SW7470A	Units:	mg/L													
SampType:	MSD	Run ID:	CETAC2_HG_161026A	Analysis Date:	10/26/2016 1:33:58 PM	Prep Date:	10/24/2016													
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual									

Mercury 0.00202 0.000200 0.00200 0 101 80 120 0.985 15

Qualifiers:

B Analyte detected in the associated Method Blank

J Analyte detected between MDL and RL

ND Not Detected at the Method Detection Limit

RL Reporting Limit

J Analyte detected between SDL and RL

DF Dilution Factor

MDL Method Detection Limit

R RPD outside accepted control limits

S Spike Recovery outside control limits

N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161026A

Sample ID	ICV-161026	Batch ID:	R88716		TestNo:	SW7470A		Units:	mg/L		
SampType:	ICV	Run ID:	CETAC2_HG_161026A		Analysis Date:	10/26/2016 11:18:56 A		Prep Date:			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00400	0.000200	0.00400	0	100	90	110			

Sample ID	CCV2-161026	Batch ID:	R88716	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_161026A	Analysis Date:	10/26/2016 12:31:38 P	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00196	0.000200	0.00200	0	98.0	90	110			

Sample ID	CCV3-161026	Batch ID:	R88716	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_161026A	Analysis Date:	10/26/2016 1:11:14 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00197	0.000200	0.00200	0	98.5	90	110			

Sample ID	CCV4-161026	Batch ID:	R88716	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_161026A	Analysis Date:	10/26/2016 1:47:38 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00200	0.000200	0.00200	0	100	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS3_161031A

Sample ID	ICV1-161031	Batch ID:	R88782	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS3_161031A	Analysis Date:	10/31/2016 1:26:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.104	0.0300	0.100	0	104	90	110			
Calcium	2.43	0.300	2.50	0	97.2	90	110			

Sample ID	ILCVL-161031		Batch ID:	R88782		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCVL		Run ID:	ICP-MS3_161031A		Analysis Date:	10/31/2016 1:38:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0217	0.0300	0.0200	0	109	70	130			
Calcium	0.0944	0.300	0.100	0	94.4	70	130			

Sample ID	CCV1-161031	Batch ID:	R88782	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS3_161031A	Analysis Date:	10/31/2016 2:50:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.197	0.0300	0.200	0	98.3	90	110			
Calcium	4.93	0.300	5.00	0	98.6	90	110			

Sample ID	LCVL1-161031	Batch ID:	R88782	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS3_161031A	Analysis Date:	10/31/2016 3:38:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0218	0.0300	0.0200	0	109	70	130			
Calcium	0.0870	0.300	0.100	0	87.0	70	130			

Sample ID	CCV2-161031	Batch ID:	R88782	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS3_161031A	Analysis Date:	10/31/2016 4:45:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.190	0.0300	0.200	0	95.2	90	110			
Calcium	4.88	0.300	5.00	0	97.6	90	110			

Sample ID	LCVL2-161031	Batch ID:	R88782	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS3_161031A	Analysis Date:	10/31/2016 4:57:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0221	0.0300	0.0200	0	110	70	130			
Calcium	0.0909	0.300	0.100	0	90.9	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161028A

The QC data in batch 77689 applies to the following samples: 1610170-01A, 1610170-02A, 1610170-03A, 1610170-04A, 1610170-05A, 1610170-06A

Sample ID	MB-77689	Batch ID:	77689	TestNo:	SW6020A	Units:	mg/L				
SampType:	MBLK	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:09:00 A	Prep Date:	10/27/2016				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Boron	<0.0100	0.0300								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID	LCS-77689	Batch ID:	77689	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCS	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:11:00 A	Prep Date:	10/27/2016				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.201	0.00250	0.200	0	101	80	120			
Arsenic	0.205	0.00500	0.200	0	102	80	120			
Barium	0.203	0.0100	0.200	0	101	80	120			
Beryllium	0.209	0.00100	0.200	0	104	80	120			
Boron	0.195	0.0300	0.200	0	97.4	80	120			
Cadmium	0.204	0.00100	0.200	0	102	80	120			
Calcium	5.06	0.300	5.00	0	101	80	120			
Chromium	0.213	0.00500	0.200	0	106	80	120			
Cobalt	0.210	0.00500	0.200	0	105	80	120			
Lead	0.205	0.00100	0.200	0	103	80	120			
Lithium	0.197	0.0100	0.200	0	98.7	80	120			
Molybdenum	0.201	0.00500	0.200	0	101	80	120			
Selenium	0.206	0.00500	0.200	0	103	80	120			
Thallium	0.203	0.00150	0.200	0	101	80	120			

Sample ID	LCSD-77689	Batch ID:	77689	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:13:00 A	Prep Date:	10/27/2016				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.198	0.00250	0.200	0	99.2	80	120	1.50	15	
Arsenic	0.204	0.00500	0.200	0	102	80	120	0.410	15	

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161028A

Sample ID	LCSD-77689	Batch ID:	77689	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:13:00 A	Prep Date:	10/27/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.201	0.0100	0.200	0	100	80	120	0.998	15	
Beryllium	0.205	0.00100	0.200	0	103	80	120	1.73	15	
Boron	0.199	0.0300	0.200	0	99.5	80	120	2.13	15	
Cadmium	0.201	0.00100	0.200	0	100	80	120	1.58	15	
Calcium	4.92	0.300	5.00	0	98.5	80	120	2.73	15	
Chromium	0.211	0.00500	0.200	0	105	80	120	1.08	15	
Cobalt	0.209	0.00500	0.200	0	104	80	120	0.781	15	
Lead	0.207	0.00100	0.200	0	103	80	120	0.506	15	
Lithium	0.202	0.0100	0.200	0	101	80	120	2.12	15	
Molybdenum	0.200	0.00500	0.200	0	99.8	80	120	0.769	15	
Selenium	0.206	0.00500	0.200	0	103	80	120	0.244	15	
Thallium	0.205	0.00150	0.200	0	103	80	120	1.35	15	

Sample ID	1610170-04A SD			Batch ID:	77689		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD			Run ID:	ICP-MS4_161028A		Analysis Date:	10/28/2016 11:19:00 A		Prep Date:	10/27/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0.00271				0	10	
Barium	0.0288	0.0500	0	0.0287				0.279	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Boron	0.0600	0.150	0	0.0483				21.5	10	R
Cadmium	<0.00150	0.00500	0	0				0	10	
Calcium	2.34	1.50	0	2.31				1.36	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0				0	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	<0.0250	0.0500	0	0.0122				0	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID	1610170-04A PDS			Batch ID:	77689		TestNo:	SW6020A		Units:	mg/L	
SampType:	PDS			Run ID:	ICP-MS4_161028A		Analysis Date:	10/28/2016 11:21:00 A		Prep Date:	10/27/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.182	0.00250	0.200	0	90.8	80	120			
Arsenic	0.193	0.00500	0.200	0.00271	95.2	80	120			
Barium	0.227	0.0100	0.200	0.0287	99.4	80	120			
Beryllium	0.198	0.00100	0.200	0	99.2	80	120			
Boron	0.237	0.0300	0.200	0.0483	94.3	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161028A

Sample ID	1610170-04A PDS	Batch ID:	77689	TestNo:	SW6020A	Units:	mg/L				
SampType:	PDS	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:21:00 A	Prep Date:	10/27/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Cadmium	0.194	0.00100	0.200	0	96.9	80	120			
Calcium	6.81	0.300	5.00	2.31	90.0	80	120			
Chromium	0.208	0.00500	0.200	0	104	80	120			
Cobalt	0.200	0.00500	0.200	0	99.9	80	120			
Lead	0.200	0.00100	0.200	0	99.8	80	120			
Lithium	0.215	0.0100	0.200	0.0122	101	80	120			
Molybdenum	0.189	0.00500	0.200	0	94.5	80	120			
Selenium	0.190	0.00500	0.200	0	94.8	80	120			
Thallium	0.198	0.00150	0.200	0	98.8	80	120			

Sample ID	1610170-04A MS	Batch ID:	77689	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:25:00 A	Prep Date:	10/27/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.206	0.00250	0.200	0	103	80	120			
Arsenic	0.204	0.00500	0.200	0.00271	101	80	120			
Barium	0.238	0.0100	0.200	0.0287	105	80	120			
Beryllium	0.204	0.00100	0.200	0	102	80	120			
Boron	0.282	0.0300	0.200	0.0483	117	80	120			
Cadmium	0.206	0.00100	0.200	0	103	80	120			
Calcium	7.25	0.300	5.00	2.31	98.8	80	120			
Chromium	0.212	0.00500	0.200	0	106	80	120			
Cobalt	0.210	0.00500	0.200	0	105	80	120			
Lead	0.209	0.00100	0.200	0	105	80	120			
Lithium	0.220	0.0100	0.200	0.0122	104	80	120			
Molybdenum	0.206	0.00500	0.200	0	103	80	120			
Selenium	0.201	0.00500	0.200	0	101	80	120			
Thallium	0.208	0.00150	0.200	0	104	80	120			

Sample ID	1610170-04A MSD	Batch ID:	77689	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:27:00 A	Prep Date:	10/27/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.201	0.00250	0.200	0	101	80	120	2.24	15	
Arsenic	0.204	0.00500	0.200	0.00271	101	80	120	0.079	15	
Barium	0.233	0.0100	0.200	0.0287	102	80	120	2.29	15	
Beryllium	0.208	0.00100	0.200	0	104	80	120	2.07	15	
Boron	0.271	0.0300	0.200	0.0483	111	80	120	4.32	15	
Cadmium	0.204	0.00100	0.200	0	102	80	120	0.913	15	
Calcium	7.37	0.300	5.00	2.31	101	80	120	1.58	15	
Chromium	0.214	0.00500	0.200	0	107	80	120	0.945	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161028A

Sample ID	1610170-04A MSD	Batch ID:	77689	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:27:00 A	Prep Date:	10/27/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cobalt	0.208	0.00500	0.200	0	104	80	120	0.756	15	
Lead	0.212	0.00100	0.200	0	106	80	120	1.21	15	
Lithium	0.219	0.0100	0.200	0.0122	103	80	120	0.468	15	
Molybdenum	0.202	0.00500	0.200	0	101	80	120	2.09	15	
Selenium	0.201	0.00500	0.200	0	101	80	120	0.110	15	
Thallium	0.210	0.00150	0.200	0	105	80	120	1.20	15	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161028A

Sample ID	ICV-161028	Batch ID:	R88745	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 10:46:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.0994	0.00250	0.100	0	99.4	90	110			
Arsenic	0.0952	0.00500	0.100	0	95.2	90	110			
Barium	0.0946	0.0100	0.100	0	94.6	90	110			
Beryllium	0.0978	0.00100	0.100	0	97.8	90	110			
Boron	0.0954	0.0300	0.100	0	95.4	90	110			
Cadmium	0.0943	0.00100	0.100	0	94.3	90	110			
Calcium	2.37	0.300	2.50	0	94.9	90	110			
Chromium	0.103	0.00500	0.100	0	103	90	110			
Cobalt	0.100	0.00500	0.100	0	100	90	110			
Lead	0.0988	0.00100	0.100	0	98.8	90	110			
Lithium	0.0955	0.0100	0.100	0	95.5	90	110			
Molybdenum	0.0917	0.00500	0.100	0	91.7	90	110			
Selenium	0.0981	0.00500	0.100	0	98.1	90	110			
Thallium	0.0982	0.00150	0.100	0	98.2	90	110			

Sample ID	LCVL-161028	Batch ID:	R88745	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:02:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00194	0.00250	0.00200	0	97.2	70	130			
Arsenic	0.00510	0.00500	0.00500	0	102	70	130			
Barium	0.00511	0.0100	0.00500	0	102	70	130			
Beryllium	0.00126	0.00100	0.00100	0	126	70	130			
Boron	0.0206	0.0300	0.0200	0	103	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Calcium	0.0946	0.300	0.100	0	94.6	70	130			
Chromium	0.00522	0.00500	0.00500	0	104	70	130			
Cobalt	0.00519	0.00500	0.00500	0	104	70	130			
Lead	0.00104	0.00100	0.00100	0	104	70	130			
Lithium	0.0106	0.0100	0.0100	0	106	70	130			
Molybdenum	0.00499	0.00500	0.00500	0	99.9	70	130			
Selenium	0.00486	0.00500	0.00500	0	97.1	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Sample ID	CCV1-161028	Batch ID:	R88745	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:29:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.201	0.00250	0.200	0	100	90	110			
Arsenic	0.200	0.00500	0.200	0	99.9	90	110			
Barium	0.200	0.0100	0.200	0	100	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161028A

Sample ID	CCV1-161028	Batch ID:	R88745	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:29:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.196	0.00100	0.200	0	97.9	90	110			
Boron	0.207	0.0300	0.200	0	103	90	110			
Cadmium	0.201	0.00100	0.200	0	101	90	110			
Calcium	4.62	0.300	5.00	0	92.4	90	110			
Chromium	0.209	0.00500	0.200	0	104	90	110			
Cobalt	0.205	0.00500	0.200	0	102	90	110			
Lead	0.205	0.00100	0.200	0	103	90	110			
Lithium	0.203	0.0100	0.200	0	101	90	110			
Molybdenum	0.198	0.00500	0.200	0	99.0	90	110			
Selenium	0.201	0.00500	0.200	0	100	90	110			
Thallium	0.204	0.00150	0.200	0	102	90	110			

Sample ID	LCVL1-161028	Batch ID:	R88745	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161028A	Analysis Date:	10/28/2016 11:46:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00194	0.00250	0.00200	0	97.0	70	130			
Arsenic	0.00505	0.00500	0.00500	0	101	70	130			
Barium	0.00490	0.0100	0.00500	0	98.0	70	130			
Beryllium	0.00107	0.00100	0.00100	0	107	70	130			
Boron	0.0227	0.0300	0.0200	0	114	70	130			
Cadmium	0.000981	0.00100	0.00100	0	98.1	70	130			
Calcium	0.0930	0.300	0.100	0	93.0	70	130			
Chromium	0.00524	0.00500	0.00500	0	105	70	130			
Cobalt	0.00522	0.00500	0.00500	0	104	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Lithium	0.0109	0.0100	0.0100	0	109	70	130			
Molybdenum	0.00488	0.00500	0.00500	0	97.5	70	130			
Selenium	0.00562	0.00500	0.00500	0	112	70	130			
Thallium	0.000994	0.00150	0.00100	0	99.4	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161028B

Sample ID	ICV-161028	Batch ID:	R88760	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_161028B	Analysis Date:	10/28/2016 10:46:00 A	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.0994	0.00250	0.100	0	99.4	90	110			
Arsenic	0.0952	0.00500	0.100	0	95.2	90	110			
Barium	0.0946	0.0100	0.100	0	94.6	90	110			
Beryllium	0.0978	0.00100	0.100	0	97.8	90	110			
Cadmium	0.0943	0.00100	0.100	0	94.3	90	110			
Calcium	2.37	0.300	2.50	0	94.9	90	110			
Chromium	0.103	0.00500	0.100	0	103	90	110			
Cobalt	0.100	0.00500	0.100	0	100	90	110			
Lead	0.0988	0.00100	0.100	0	98.8	90	110			
Lithium	0.0955	0.0100	0.100	0	95.5	90	110			
Molybdenum	0.0917	0.00500	0.100	0	91.7	90	110			
Selenium	0.0981	0.00500	0.100	0	98.1	90	110			
Thallium	0.0982	0.00150	0.100	0	98.2	90	110			

Sample ID	LCVL-161028	Batch ID:	R88760	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161028B	Analysis Date:	10/28/2016 11:02:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00194	0.00250	0.00200	0	97.2	70	130			
Arsenic	0.00510	0.00500	0.00500	0	102	70	130			
Barium	0.00511	0.0100	0.00500	0	102	70	130			
Beryllium	0.00126	0.00100	0.00100	0	126	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Calcium	0.0946	0.300	0.100	0	94.6	70	130			
Chromium	0.00522	0.00500	0.00500	0	104	70	130			
Cobalt	0.00519	0.00500	0.00500	0	104	70	130			
Lead	0.00104	0.00100	0.00100	0	104	70	130			
Lithium	0.0106	0.0100	0.0100	0	106	70	130			
Molybdenum	0.00499	0.00500	0.00500	0	99.9	70	130			
Selenium	0.00486	0.00500	0.00500	0	97.1	70	130			
Thallium	0.00101	0.00150	0.00100	0	101	70	130			

Sample ID	CCV8-161028	Batch ID:	R88760	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161028B	Analysis Date:	10/28/2016 4:14:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.206	0.00250	0.200	0	103	90	110			
Arsenic	0.203	0.00500	0.200	0	101	90	110			
Barium	0.202	0.0100	0.200	0	101	90	110			
Beryllium	0.200	0.00100	0.200	0	99.8	90	110			
Cadmium	0.203	0.00100	0.200	0	101	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161028B

Sample ID	CCV8-161028	Batch ID:	R88760	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161028B	Analysis Date:	10/28/2016 4:14:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.77	0.300	5.00	0	95.4	90	110			
Chromium	0.208	0.00500	0.200	0	104	90	110			
Cobalt	0.206	0.00500	0.200	0	103	90	110			
Lead	0.205	0.00100	0.200	0	102	90	110			
Lithium	0.199	0.0100	0.200	0	99.5	90	110			
Molybdenum	0.201	0.00500	0.200	0	101	90	110			
Selenium	0.204	0.00500	0.200	0	102	90	110			
Thallium	0.201	0.00150	0.200	0	101	90	110			

Sample ID	LCVL8-161028	Batch ID:	R88760	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_161028B	Analysis Date:	10/28/2016 4:21:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00224	0.00250	0.00200	0	112	70	130			
Arsenic	0.00499	0.00500	0.00500	0	99.7	70	130			
Barium	0.00508	0.0100	0.00500	0	102	70	130			
Beryllium	0.00103	0.00100	0.00100	0	103	70	130			
Cadmium	0.00104	0.00100	0.00100	0	104	70	130			
Calcium	0.0974	0.300	0.100	0	97.4	70	130			
Chromium	0.00544	0.00500	0.00500	0	109	70	130			
Cobalt	0.00509	0.00500	0.00500	0	102	70	130			
Lead	0.00102	0.00100	0.00100	0	102	70	130			
Lithium	0.0104	0.0100	0.0100	0	104	70	130			
Molybdenum	0.00503	0.00500	0.00500	0	101	70	130			
Selenium	0.00580	0.00500	0.00500	0	116	70	130			
Thallium	0.00102	0.00150	0.00100	0	102	70	130			

Sample ID	CCV9-161028	Batch ID:	R88760	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_161028B	Analysis Date:	10/28/2016 4:56:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.201	0.00250	0.200	0	100	90	110			
Arsenic	0.199	0.00500	0.200	0	99.7	90	110			
Barium	0.199	0.0100	0.200	0	99.7	90	110			
Beryllium	0.197	0.00100	0.200	0	98.3	90	110			
Cadmium	0.203	0.00100	0.200	0	102	90	110			
Calcium	4.65	0.300	5.00	0	93.1	90	110			
Chromium	0.210	0.00500	0.200	0	105	90	110			
Cobalt	0.206	0.00500	0.200	0	103	90	110			
Lead	0.203	0.00100	0.200	0	101	90	110			
Lithium	0.189	0.0100	0.200	0	94.7	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161028B

Sample ID	CCV9-161028	Batch ID:	R88760	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161028B	Analysis Date:	10/28/2016 4:56:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.204	0.00500	0.200	0	102	90	110			
Selenium	0.200	0.00500	0.200	0	100	90	110			
Thallium	0.202	0.00150	0.200	0	101	90	110			

Sample ID	LCVL9-161028	Batch ID:	R88760	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161028B	Analysis Date:	10/28/2016 5:08:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00197	0.00250	0.00200	0	98.4	70	130			
Arsenic	0.00491	0.00500	0.00500	0	98.1	70	130			
Barium	0.00513	0.0100	0.00500	0	103	70	130			
Beryllium	0.000934	0.00100	0.00100	0	93.4	70	130			
Cadmium	0.00103	0.00100	0.00100	0	103	70	130			
Calcium	0.0970	0.300	0.100	0	97.0	70	130			
Chromium	0.00540	0.00500	0.00500	0	108	70	130			
Cobalt	0.00517	0.00500	0.00500	0	103	70	130			
Lead	0.000984	0.00100	0.00100	0	98.4	70	130			
Lithium	0.0112	0.0100	0.0100	0	112	70	130			
Molybdenum	0.00504	0.00500	0.00500	0	101	70	130			
Selenium	0.00522	0.00500	0.00500	0	104	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Qualifiers:	B	Analyte detected in the associated Method Blank	DF	Dilution Factor
	J	Analyte detected between MDL and RL	MDL	Method Detection Limit
	ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
	RL	Reporting Limit	S	Spike Recovery outside control limits
	J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161024A

The QC data in batch 77652 applies to the following samples: 1610170-01D, 1610170-02D, 1610170-03D, 1610170-04D, 1610170-05D, 1610170-06D

Sample ID	MB-77652	Batch ID:	77652	TestNo:	E300	Units:	mg/L			
SampType:	MBLK	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 9:41:08 AM	Prep Date:	10/24/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-77652	Batch ID:	77652	TestNo:	E300	Units:	mg/L			
SampType:	LCS	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 9:55:44 AM	Prep Date:	10/24/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.57	1.00	10.00	0	95.7	90	110			
Fluoride	3.72	0.400	4.000	0	93.0	90	110			
Sulfate	29.1	3.00	30.00	0	96.8	90	110			

Sample ID	LCSD-77652	Batch ID:	77652	TestNo:	E300	Units:	mg/L			
SampType:	LCSD	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 10:10:21 A	Prep Date:	10/24/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.57	1.00	10.00	0	95.7	90	110	0.028	20	
Fluoride	3.81	0.400	4.000	0	95.2	90	110	2.36	20	
Sulfate	29.1	3.00	30.00	0	96.9	90	110	0.099	20	

Sample ID	1610184-02DMS	Batch ID:	77652	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 4:12:46 PM	Prep Date:	10/24/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	217	10.0	200.0	12.98	102	90	110			
Fluoride	200	4.00	200.0	0	100	90	110			
Sulfate	366	30.0	200.0	159.6	103	90	110			

Sample ID	1610184-02DMSD	Batch ID:	77652	TestNo:	E300	Units:	mg/L			
SampType:	MSD	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 4:27:23 PM	Prep Date:	10/24/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	217	10.0	200.0	12.98	102	90	110	0.099	20	
Fluoride	201	4.00	200.0	0	101	90	110	0.428	20	
Sulfate	366	30.0	200.0	159.6	103	90	110	0.113	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161024A

Sample ID	ICV-161024	Batch ID:	R88687		TestNo:	E300		Units:	mg/L		
SampType:	ICV	Run ID:	IC2_161024A		Analysis Date:	10/24/2016 9:01:50 AM		Prep Date:			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride		24.8	1.00	25.00	0	99.2	90	110			
Fluoride		9.44	0.400	10.00	0	94.4	90	110			
Sulfate		75.0	3.00	75.00	0	100	90	110			

Sample ID	CCV1-161024	Batch ID:	R88687	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 1:11:06 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.73	1.00	10.00	0	97.3	90	110			
Fluoride	3.92	0.400	4.000	0	98.1	90	110			
Sulfate	29.6	3.00	30.00	0	98.8	90	110			

Sample ID	CCV2-161024	Batch ID:	R88687	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 4:41:59 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.83	1.00	10.00	0	98.3	90	110			
Fluoride	4.01	0.400	4.000	0	100	90	110			
Sulfate	29.8	3.00	30.00	0	99.2	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161021A

The QC data in batch 77638 applies to the following samples: 1610170-01D, 1610170-02D, 1610170-03D, 1610170-04D, 1610170-05D, 1610170-06D

Sample ID	1610170-01D-DUP	Batch ID:	77638	TestNo:	M4500-H+ B	Units:	pH Units@20.4°C
SampType:	DUP	Run ID:	TITRATOR_161021A	Analysis Date:	10/21/2016 10:43:00 A	Prep Date:	10/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	5.91	0	0	6.130				3.65	5	

Sample ID	1610171-08D-DUP	Batch ID:	77638	TestNo:	M4500-H+ B	Units:	pH Units@20.9°C
SampType:	DUP	Run ID:	TITRATOR_161021A	Analysis Date:	10/21/2016 11:14:00 A	Prep Date:	10/21/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.19	0	0	6.190				0	5	

LUMINANT

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161021A

Sample ID	ICV-161021	Batch ID:	R88654	TestNo:	M4500-H+ B	Units:	pH Units@21.6°C			
SampType:	ICV	Run ID:	TITRATOR_161021A	Analysis Date:	10/21/2016 9:37:00 AM	Prep Date:	10/21/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	9.90	0	10.00	0	99.0	99	101			

Sample ID	CCV-161021	Batch ID:	R88654	TestNo:	M4500-H+ B	Units:	pH	Units@21.1°C		
SampType:	CCV	Run ID:	TITRATOR_161021A	Analysis Date:	10/21/2016 11:01:00 A	Prep Date:	10/21/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.95	0	7.000	0	99.3	97.1	102.9			

Sample ID	CCV2-161021	Batch ID:	R88654	TestNo:	M4500-H+ B	Units:	pH Units@21.5°C
SampType:	CCV	Run ID:	TITRATOR_161021A	Analysis Date:	10/21/2016 11:28:00 A	Prep Date:	10/21/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual

pH	6.95	0	7.000	0	99.3	97.1	102.9			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610170
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: WC_161025B

The QC data in batch 77673 applies to the following samples: 1610170-01D, 1610170-02D, 1610170-03D, 1610170-04D, 1610170-05D, 1610170-06D

Sample ID	MB-77673	Batch ID:	77673	TestNo:	M2540C	Units:	mg/L
SampType:	MBLK	Run ID:	WC_161025B	Analysis Date:	10/26/2016 8:43:00 AM	Prep Date:	10/25/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-77673	Batch ID:	77673	TestNo:	M2540C	Units:	mg/L
SampType:	LCS	Run ID:	WC_161025B	Analysis Date:	10/26/2016 8:43:00 AM	Prep Date:	10/25/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filtera 757 10.0 745.6 0 102 90 113

Sample ID	1610176-01B-DUP	Batch ID:	77673	TestNo:	M2540C	Units:	mg/L
SampType:	DUP	Run ID:	WC_161025B	Analysis Date:	10/26/2016 8:43:00 AM	Prep Date:	10/25/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filtera 1800 50.0 0 1735 3.40 5

Sample ID	1610181-01D-DUP	Batch ID:	77673	TestNo:	M2540C	Units:	mg/L
SampType:	DUP	Run ID:	WC_161025B	Analysis Date:	10/26/2016 8:43:00 AM	Prep Date:	10/25/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual

Total Dissolved Solids (Residue, Filtera 2510 50.0 0 2395 4.49 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

Case Narrative

Lab No: 20161032

This report contains the analytical results for the 6 sample(s) received under chain of custody by ESC Lab Sciences on 10/24/2016 8:30:40 AM. These samples are associated with your 1610170 project.

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

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

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances

L867982



Client : DHL Analytical, Inc.
Client Project : 1610170
Lab Number : 20161032
Date Reported : 11/16/16
Date Received : 10/24/16
Page Number : 2 of 3

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20161032-01

Client ID : MW-17A

Date Sampled : 10/18/2016 3:40:00 AM

Matrix : NPW

Radiochemical Analyses

Combined Radium		1.19 +/- 1.01	0.641	pCi/l			
Radium-226	SM 7500 Ra B M*	0.215 +/- 0.127	0.097	pCi/l	11/09/16	11/14/16	AK
Radium-228	EPA 904*/9320*	0.975 +/- 0.881	0.544	pCi/l	10/31/16	11/03/16	JR

Lab ID : 20161032-02

Client ID : PDP-24

Date Sampled : 10/18/2016 4:30:00 AM

Matrix : NPW

Radiochemical Analyses

Combined Radium		1.21 +/- 0.926	0.571	pCi/l			
Radium-226	SM 7500 Ra B M*	0.497 +/- 0.208	0.115	pCi/l	11/09/16	11/14/16	AK
Radium-228	EPA 904*/9320*	0.713 +/- 0.718	0.456	pCi/l	10/31/16	11/03/16	JR

Lab ID : 20161032-03

Client ID : PDP-25

Date Sampled : 10/19/2016 7:50:00 AM

Matrix : NPW

Radiochemical Analyses

Combined Radium		1.78 +/- 1.12	0.803	pCi/l			
Radium-226	SM 7500 Ra B M*	0.021 +/- 0.059	0.112	pCi/l	11/09/16	11/10/16	AK
Radium-228	EPA 904*/9320*	1.76 +/- 1.06	0.691	pCi/l	10/31/16	11/03/16	JR

Lab ID : 20161032-04

Client ID : PDP-26

Date Sampled : 10/19/2016 8:45:00 AM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.705 +/- 0.861	0.647	pCi/l			
Radium-226	SM 7500 Ra B M*	-0.027 +/- 0.053	0.136	pCi/l	11/09/16	11/10/16	AK
Radium-228	EPA 904*/9320*	0.705 +/- 0.808	0.511	pCi/l	10/31/16	11/03/16	JR

Client : DHL Analytical, Inc.
Client Project : 1610170
Lab Number : 20161032
Date Reported : 11/16/16
Date Received : 10/24/16
Page Number : 3 of 3

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20161032-05							
Client ID : MW-20A							
Date Sampled : 10/19/2016 9:35:00 AM							
Matrix : NPW							

Radiochemical Analyses

Combined Radium		1.47 +/- 1.16	0.780	pCi/l			
Radium-226	SM 7500 Ra B M*	0.301 +/- 0.162	0.141	pCi/l	11/09/16	11/10/16	AK
Radium-228	EPA 904*/9320*	1.17 +/- 1.00	0.639	pCi/l	10/31/16	11/03/16	JR

Lab ID : 20161032-06
Client ID : PDP-23
Date Sampled : 10/19/2016 10:30:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.664 +/- 0.744	0.603	pCi/l			
Radium-226	SM 7500 Ra B M*	-0.029 +/- 0.082	0.165	pCi/l	11/09/16	11/10/16	AK
Radium-228	EPA 904*/9320*	0.664 +/- 0.662	0.438	pCi/l	10/31/16	11/03/16	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.013	106.0			11.2	0.690	106.0	104.0	1.8	R1158
Radium-228	-0.354	84.5			NC	0.300	99.7	98.2	1.4	R3874

Lab Approval:



Ron Eidson
Director of Radiochemistry

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1610170

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Subcontractor:

ESC Laboratory

311 North Aspen

Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515

FAX:

Acct #: DHLRRTX

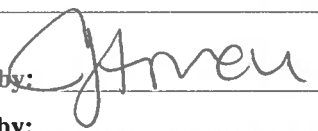
20-Oct-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E904.0	SM7500Ra-B M				
1 MW-17A	Aqueous	-01B	10/18/16 03:40 PM	500HDPEHNO3	1					
1 MW-17A	Aqueous	-01C	10/18/16 03:40 PM	500HDPEHNO3		1				
2 PDP-24	Aqueous	-02B	10/18/16 04:30 PM	500HDPEHNO3	1					
2 PDP-24	Aqueous	-02C	10/18/16 04:30 PM	500HDPEHNO3		1				
3 PDP-25	Aqueous	-03B	10/19/16 07:50 AM	500HDPEHNO3	1					
3 PDP-25	Aqueous	-03C	10/19/16 07:50 AM	500HDPEHNO3		1				
4 PDP-26	Aqueous	-04B	10/19/16 08:45 AM	500HDPEHNO3	1					
4 PDP-26	Aqueous	-04C	10/19/16 08:45 AM	500HDPEHNO3		1				
5 MW-20A	Aqueous	-05B	10/19/16 09:35 AM	500HDPEHNO3	1					
5 MW-20A	Aqueous	-05C	10/19/16 09:35 AM	500HDPEHNO3		1				
6 PDP-23	Aqueous	-06B	10/19/16 10:30 AM	500HDPEHNO3	1					
6 PDP-23	Aqueous	-06C	10/19/16 10:30 AM	500HDPEHNO3		1				

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

1867982

Date/Time		Date/Time	
Relinquished by: 	10/20/16 17:30	Received by: 	10/20/16 17:30
Relinquished by:		Received by: 	10/24/16 830
		20161032	

SAMPLE LOGIN

Date Received: 10/24/2016 8:30:4

Lab Number: 20161032

Due: 11/21/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20161032-01 B	MW-17A	NPW	10/18/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20161032-01 A	MW-17A	NPW	10/18/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161032-02 B	PDP-24	NPW	10/18/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20161032-02 A	PDP-24	NPW	10/18/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161032-03 B	PDP-25	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20161032-03 A	PDP-25	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161032-04 B	PDP-26	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20161032-04 A	PDP-26	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161032-05 B	MW-20A	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20161032-05 A	MW-20A	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161032-06 B	PDP-23	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20161032-06 A	PDP-23	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

Coolers 1 Custody Seals Broken 0 Temperature: AmbC Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken 0 Chain of Custody Record ✓ Labels in Tact ✓ Radiation Survey Complete N/A

Anomalies

Inspected By: [Signature] DATE 10/24/16

QA or Designee Review: [Signature] DATE 10/24/16

Sample Custodian Review: [Signature] DATE 10/24/16

Project Notes:

LUMINANT



November 18, 2016

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: MLSES-PDP-5

Order No.: 1610184

Dear Will Vienne:

DHL Analytical, Inc. received 4 sample(s) on 10/21/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-17



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John Dupont

From: Sara Taube [Sara.Taube@pbwfo.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

ORIGIN ID:FWHA (512) 871-3494
JOHN BRAYTON

2201 DOUBLE CREEK DR

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 20OCT16
ACTWGT: 49.60 LB
CAD: 6991003/SSFD1722
DIMS: 26x14x14 IN

BILL THIRD PARTY

Part # 156297-435 R112 EXP 06/17

TO **DHL**

2300 DOUBLE CREEK DR

ROUND ROCK TX 78664

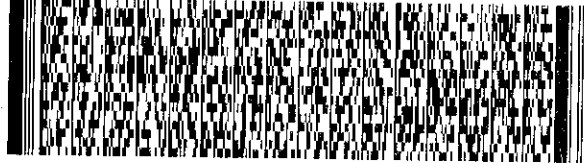
(512) 388-8222

REF:

INU:

PO:

DEPT:



FedEx
Express



TRK# 7844 1358 8380
0201

FRI - 21 OCT 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS



Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 10/21/2016

Work Order Number 1610184

Received by JB

Checklist completed by: Barker 10/21/2016
Signature Date

Reviewed by: JB 10/21/2016
Initials Date

Carrier name FedEx 1day

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐

Custody seals intact on shipping container/cooler? Yes ☒ No ☐ Not Present ☐

Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒

Chain of custody present? Yes ☒ No ☐

Chain of custody signed when relinquished and received? Yes ☒ No ☐

Chain of custody agrees with sample labels? Yes ☒ No ☐

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

Container/Temp Blank temperature in compliance? Yes ☒ No ☐ 2.4 °C

Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH<2 acceptable upon receipt? Yes ☒ No ☐ NA ☐ LOT # 8086

Adjusted? _____ Checked by _____

Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes ☐ No ☐ NA ☒ LOT #

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Lab Order: 1610184

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis

Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M.
Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 10/21/16. A total of 4 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 11/1/16 the matrix spike and matrix spike duplicate recoveries were below control limits for Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 11/1/16 the RPD for the serial dilution was above control limits for Boron. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 11/1/16 the PDS recovery was slightly above control limits for six analytes. These are flagged accordingly. The serial dilution was within control limits for these analytes. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Lab Order: 1610184**Work Order Sample Summary**

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1610184-01	MW-19		10/19/16 11:25 AM	10/21/2016
1610184-02	PDP-22		10/19/16 12:15 PM	10/21/2016
1610184-03	MW-18A		10/19/16 01:10 PM	10/21/2016
1610184-04	EB-1		10/19/16 01:30 PM	10/21/2016

Lab Order: 1610184
Client: Pastor, Behling & Wheeler
Project: MLSES-PDP-5

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1610184-01A	MW-19	10/19/16 11:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/31/16 08:22 AM	77725
	MW-19	10/19/16 11:25 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:42 PM	77659
1610184-01D	MW-19	10/19/16 11:25 AM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	MW-19	10/19/16 11:25 AM	Aqueous	M4500-H+ B	pH Preparation	10/21/16 10:10 AM	77638
	MW-19	10/19/16 11:25 AM	Aqueous	M2540C	TDS Preparation	10/25/16 03:41 PM	77673
1610184-02A	PDP-22	10/19/16 12:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/31/16 08:22 AM	77725
	PDP-22	10/19/16 12:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/31/16 08:22 AM	77725
	PDP-22	10/19/16 12:15 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:42 PM	77659
1610184-02D	PDP-22	10/19/16 12:15 PM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	PDP-22	10/19/16 12:15 PM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	PDP-22	10/19/16 12:15 PM	Aqueous	M4500-H+ B	pH Preparation	10/21/16 10:10 AM	77638
	PDP-22	10/19/16 12:15 PM	Aqueous	M2540C	TDS Preparation	10/25/16 03:41 PM	77673
1610184-03A	MW-18A	10/19/16 01:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/31/16 08:22 AM	77725
	MW-18A	10/19/16 01:10 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:42 PM	77659
	MW-18A	10/19/16 01:10 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:42 PM	77659
1610184-03D	MW-18A	10/19/16 01:10 PM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	MW-18A	10/19/16 01:10 PM	Aqueous	M4500-H+ B	pH Preparation	10/21/16 10:10 AM	77638
	MW-18A	10/19/16 01:10 PM	Aqueous	M2540C	TDS Preparation	10/25/16 03:41 PM	77673
1610184-04A	EB-1	10/19/16 01:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/31/16 08:22 AM	77725
	EB-1	10/19/16 01:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	10/24/16 12:42 PM	77659
1610184-04D	EB-1	10/19/16 01:30 PM	Aqueous	E300	Anion Preparation	10/24/16 08:56 AM	77652
	EB-1	10/19/16 01:30 PM	Aqueous	M4500-H+ B	pH Preparation	10/21/16 10:10 AM	77638
	EB-1	10/19/16 01:30 PM	Aqueous	M2540C	TDS Preparation	10/26/16 11:15 AM	77702

Lab Order: 1610184
Client: Pastor, Behling & Wheeler
Project: MLSES-PDP-5

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1610184-01A	MW-19	Aqueous	SW7470A	Mercury Total: Aqueous	77659	1	10/31/16 12:50 PM	CETAC2_HG_161031 A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77725	1	11/01/16 01:37 PM	ICP-MS4_161101A
1610184-01D	MW-19	Aqueous	E300	Anions by IC method - Water	77652	1	10/24/16 01:50 PM	IC2_161024A
	MW-19	Aqueous	M4500-H+ B	pH	77638	1	10/21/16 11:16 AM	TITRATOR_161021A
	MW-19	Aqueous	M2540C	Total Dissolved Solids	77673	1	10/26/16 08:43 AM	WC_161025B
1610184-02A	PDP-22	Aqueous	SW7470A	Mercury Total: Aqueous	77659	1	10/31/16 12:52 PM	CETAC2_HG_161031 A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77725	1	11/01/16 01:33 PM	ICP-MS4_161101A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77725	5	11/01/16 04:03 PM	ICP-MS4_161101A
1610184-02D	PDP-22	Aqueous	E300	Anions by IC method - Water	77652	1	10/24/16 02:05 PM	IC2_161024A
	PDP-22	Aqueous	E300	Anions by IC method - Water	77652	10	10/24/16 03:58 PM	IC2_161024A
	PDP-22	Aqueous	M4500-H+ B	pH	77638	1	10/21/16 11:19 AM	TITRATOR_161021A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	77673	1	10/26/16 08:43 AM	WC_161025B
1610184-03A	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	77659	20	10/31/16 01:16 PM	CETAC2_HG_161031 A
	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	77659	1	10/31/16 12:54 PM	CETAC2_HG_161031 A
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77725	1	11/01/16 01:39 PM	ICP-MS4_161101A
1610184-03D	MW-18A	Aqueous	E300	Anions by IC method - Water	77652	1	10/24/16 02:19 PM	IC2_161024A
	MW-18A	Aqueous	M4500-H+ B	pH	77638	1	10/21/16 11:23 AM	TITRATOR_161021A
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	77673	1	10/26/16 08:43 AM	WC_161025B
1610184-04A	EB-1	Aqueous	SW7470A	Mercury Total: Aqueous	77659	1	10/31/16 12:59 PM	CETAC2_HG_161031 A
	EB-1	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	77725	1	11/01/16 01:41 PM	ICP-MS4_161101A
1610184-04D	EB-1	Aqueous	E300	Anions by IC method - Water	77652	1	10/24/16 02:34 PM	IC2_161024A
	EB-1	Aqueous	M4500-H+ B	pH	77638	1	10/21/16 11:39 AM	TITRATOR_161021A
	EB-1	Aqueous	M2540C	Total Dissolved Solids	77702	1	10/27/16 08:43 AM	WC_161026D

DHL Analytical, Inc.

Date: 18-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Project No: 5164-B
Lab Order: 1610184

Client Sample ID: MW-19
Lab ID: 1610184-01
Collection Date: 10/19/16 11:25 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/31/16 12:50 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/01/16 01:37 PM
Arsenic	0.0125	0.00200	0.00500		mg/L	1	11/01/16 01:37 PM
Barium	0.0307	0.00300	0.0100		mg/L	1	11/01/16 01:37 PM
Beryllium	0.000539	0.000300	0.00100	J	mg/L	1	11/01/16 01:37 PM
Boron	0.106	0.0100	0.0300		mg/L	1	11/01/16 01:37 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/01/16 01:37 PM
Calcium	24.5	0.100	0.300		mg/L	1	11/01/16 01:37 PM
Chromium	0.00385	0.00200	0.00500	J	mg/L	1	11/01/16 01:37 PM
Cobalt	0.00325	0.00300	0.00500	J	mg/L	1	11/01/16 01:37 PM
Lead	0.00122	0.000300	0.00100		mg/L	1	11/01/16 01:37 PM
Lithium	0.0151	0.00500	0.0100		mg/L	1	11/01/16 01:37 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/01/16 01:37 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/01/16 01:37 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/01/16 01:37 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	39.1	0.300	1.00		mg/L	1	10/24/16 01:50 PM
Fluoride	0.420	0.100	0.400		mg/L	1	10/24/16 01:50 PM
Sulfate	97.8	1.00	3.00		mg/L	1	10/24/16 01:50 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.08	0	0		pH Units@20.5°C	1	10/21/16 11:16 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	381	10.0	10.0		mg/L	1	10/26/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 18-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Project No: 5164-B
Lab Order: 1610184

Client Sample ID: PDP-22
Lab ID: 1610184-02
Collection Date: 10/19/16 12:15 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/31/16 12:52 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/01/16 01:33 PM
Arsenic	0.00518	0.00200	0.00500		mg/L	1	11/01/16 01:33 PM
Barium	0.0963	0.0150	0.0500		mg/L	5	11/01/16 04:03 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/01/16 01:33 PM
Boron	0.185	0.0100	0.0300		mg/L	1	11/01/16 01:33 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/01/16 01:33 PM
Calcium	68.4	0.500	1.50		mg/L	5	11/01/16 04:03 PM
Chromium	0.0259	0.0100	0.0250		mg/L	5	11/01/16 04:03 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	11/01/16 01:33 PM
Lead	0.000417	0.000300	0.00100	J	mg/L	1	11/01/16 01:33 PM
Lithium	<0.0250	0.0250	0.0500		mg/L	5	11/01/16 04:03 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/01/16 01:33 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/01/16 01:33 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/01/16 01:33 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	13.4	0.300	1.00		mg/L	1	10/24/16 02:05 PM
Fluoride	0.264	0.100	0.400	J	mg/L	1	10/24/16 02:05 PM
Sulfate	160	10.0	30.0		mg/L	10	10/24/16 03:58 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.87	0	0		pH Units@20.9°C	1	10/21/16 11:19 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	607	10.0	10.0		mg/L	1	10/26/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 18-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Project No: 5164-B
Lab Order: 1610184

Client Sample ID: MW-18A
Lab ID: 1610184-03
Collection Date: 10/19/16 01:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.0428	0.00160	0.00400		mg/L	20	10/31/16 01:16 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/01/16 01:39 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/01/16 01:39 PM
Barium	0.0453	0.00300	0.0100		mg/L	1	11/01/16 01:39 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/01/16 01:39 PM
Boron	0.0998	0.0100	0.0300		mg/L	1	11/01/16 01:39 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/01/16 01:39 PM
Calcium	1.45	0.100	0.300		mg/L	1	11/01/16 01:39 PM
Chromium	0.00313	0.00200	0.00500	J	mg/L	1	11/01/16 01:39 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	11/01/16 01:39 PM
Lead	0.000375	0.000300	0.00100	J	mg/L	1	11/01/16 01:39 PM
Lithium	0.00852	0.00500	0.0100	J	mg/L	1	11/01/16 01:39 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/01/16 01:39 PM
Selenium	0.00234	0.00200	0.00500	J	mg/L	1	11/01/16 01:39 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/01/16 01:39 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	6.52	0.300	1.00		mg/L	1	10/24/16 02:19 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/24/16 02:19 PM
Sulfate	4.26	1.00	3.00		mg/L	1	10/24/16 02:19 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.74	0	0		pH Units@21.1°C	1	10/21/16 11:23 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	37.0	10.0	10.0		mg/L	1	10/26/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 18-Nov-16

CLIENT: Pastor, Behling & Wheeler
Project: MLSES-PDP-5
Project No: 5164-B
Lab Order: 1610184

Client Sample ID: EB-1
Lab ID: 1610184-04
Collection Date: 10/19/16 01:30 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/31/16 12:59 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: CVD			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	11/01/16 01:41 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	11/01/16 01:41 PM
Barium	<0.00300	0.00300	0.0100		mg/L	1	11/01/16 01:41 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	11/01/16 01:41 PM
Boron	0.0810	0.0100	0.0300		mg/L	1	11/01/16 01:41 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	11/01/16 01:41 PM
Calcium	0.129	0.100	0.300	J	mg/L	1	11/01/16 01:41 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	11/01/16 01:41 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	11/01/16 01:41 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	11/01/16 01:41 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	11/01/16 01:41 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	11/01/16 01:41 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	11/01/16 01:41 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	11/01/16 01:41 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	1.07	0.300	1.00		mg/L	1	10/24/16 02:34 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/24/16 02:34 PM
Sulfate	<1.00	1.00	3.00		mg/L	1	10/24/16 02:34 PM
PH		M4500-H+ B		Analyst: BJT			
pH	6.88	0	0		pH Units@21.8°C	1	10/21/16 11:39 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	43.0	10.0	10.0		mg/L	1	10/27/16 08:43 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler

Work Order: 1610184

Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161031A

The QC data in batch 77659 applies to the following samples: 1610184-01A, 1610184-02A, 1610184-03A, 1610184-04A

Sample ID	MB-77659	Batch ID:	77659	TestNo:	SW7470A	Units:	mg/L				
SampType:	MBLK	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 12:04:54 P	Prep Date:	10/24/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID	LCS-77659	Batch ID:	77659	TestNo:	SW7470A	Units:	mg/L				
SampType:	LCS	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 12:07:10 P	Prep Date:	10/24/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00213 0.000200 0.00200 0 106 85 115

Sample ID	LCSD-77659	Batch ID:	77659	TestNo:	SW7470A	Units:	mg/L				
SampType:	LCSD	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 12:09:27 P	Prep Date:	10/24/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00218 0.000200 0.00200 0 109 85 115 2.32 15

Sample ID	1610183-01B SD	Batch ID:	77659	TestNo:	SW7470A	Units:	mg/L				
SampType:	SD	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 12:27:34 P	Prep Date:	10/24/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.000400 0.00100 0 0 0 0 10

Sample ID	1610183-01B PDS	Batch ID:	77659	TestNo:	SW7470A	Units:	mg/L				
SampType:	PDS	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 12:29:50 P	Prep Date:	10/24/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00229 0.000200 0.00250 0 91.6 85 115

Sample ID	1610183-01B MS	Batch ID:	77659	TestNo:	SW7470A	Units:	mg/L				
SampType:	MS	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 12:32:05 P	Prep Date:	10/24/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00202 0.000200 0.00200 0 101 80 120

Sample ID	1610183-01B MSD	Batch ID:	77659	TestNo:	SW7470A	Units:	mg/L				
SampType:	MSD	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 12:34:21 P	Prep Date:	10/24/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00201 0.000200 0.00200 0 101 80 120 0.496 15

Qualifiers:

B Analyte detected in the associated Method Blank

J Analyte detected between MDL and RL

ND Not Detected at the Method Detection Limit

RL Reporting Limit

J Analyte detected between SDL and RL

DF Dilution Factor

MDL Method Detection Limit

R RPD outside accepted control limits

S Spike Recovery outside control limits

N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161031A

Sample ID	ICV-161031	Batch ID:	R88776	TestNo:	SW7470A	Units:	mg/L			
SampType:	ICV	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 10:38:29 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00399	0.000200	0.00400	0	99.8	90	110			

Sample ID	CCV2-161031	Batch ID:	R88776	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 11:51:11 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00200	0.000200	0.00200	0	100	90	110			

Sample ID	CCV3-161031	Batch ID:	R88776	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 12:43:28 P	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00198	0.000200	0.00200	0	99.0	90	110			

Sample ID	CCV4-161031	Batch ID:	R88776	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_161031A	Analysis Date:	10/31/2016 1:01:31 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00198	0.000200	0.00200	0	99.0	90	110			

Sample ID	CCV5-161031		Batch ID:	R88776		TestNo:	SW7470A		Units:	mg/L	
SampType:	CCV		Run ID:	CETAC2_HG_161031A		Analysis Date:	10/31/2016 1:19:00 PM		Prep Date:		
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Mercury	0.00198	0.000200	0.00200	0	99.0	90	110				

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161101A

The QC data in batch 77725 applies to the following samples: 1610184-01A, 1610184-02A, 1610184-03A, 1610184-04A

Sample ID	MB-77725		Batch ID:	77725		TestNo:	SW6020A		Units:	mg/L	
SampType:	MBLK		Run ID:	ICP-MS4_161101A		Analysis Date:	11/1/2016 1:25:00 PM		Prep Date:	10/31/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.000800	0.00250
Arsenic	<0.00200	0.00500
Barium	<0.00300	0.0100
Beryllium	<0.000300	0.00100
Boron	<0.0100	0.0300
Cadmium	<0.000300	0.00100
Calcium	<0.100	0.300
Chromium	<0.00200	0.00500
Cobalt	<0.00300	0.00500
Lead	<0.000300	0.00100
Lithium	<0.00500	0.0100
Molybdenum	<0.00200	0.00500
Selenium	<0.00200	0.00500
Thallium	<0.000500	0.00150

Sample ID	LCS-77725		Batch ID:	77725		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS		Run ID:	ICP-MS4_161101A		Analysis Date:	11/1/2016 1:27:00 PM		Prep Date:	10/31/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.192	0.00250	0.200	0	96.2	80	120
Arsenic	0.204	0.00500	0.200	0	102	80	120
Barium	0.197	0.0100	0.200	0	98.5	80	120
Beryllium	0.202	0.00100	0.200	0	101	80	120
Boron	0.181	0.0300	0.200	0	90.7	80	120
Cadmium	0.200	0.00100	0.200	0	100	80	120
Calcium	4.56	0.300	5.00	0	91.2	80	120
Chromium	0.202	0.00500	0.200	0	101	80	120
Cobalt	0.200	0.00500	0.200	0	100	80	120
Lead	0.194	0.00100	0.200	0	97.0	80	120
Lithium	0.192	0.0100	0.200	0	95.9	80	120
Molybdenum	0.194	0.00500	0.200	0	97.1	80	120
Selenium	0.201	0.00500	0.200	0	100	80	120
Thallium	0.189	0.00150	0.200	0	94.6	80	120

Sample ID	LCSD-77725	Batch ID:	77725	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 1:29:00 PM	Prep Date:	10/31/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.191	0.00250	0.200	0	95.7	80	120	0.510	15
Arsenic	0.205	0.00500	0.200	0	102	80	120	0.379	15

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161101A

Sample ID	LCSD-77725	Batch ID:	77725	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 1:29:00 PM	Prep Date:	10/31/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.195	0.0100	0.200	0	97.6	80	120	0.917	15	
Beryllium	0.204	0.00100	0.200	0	102	80	120	0.936	15	
Boron	0.198	0.0300	0.200	0	99.2	80	120	8.99	15	
Cadmium	0.199	0.00100	0.200	0	99.3	80	120	0.713	15	
Calcium	4.58	0.300	5.00	0	91.6	80	120	0.449	15	
Chromium	0.205	0.00500	0.200	0	102	80	120	1.42	15	
Cobalt	0.200	0.00500	0.200	0	99.9	80	120	0.156	15	
Lead	0.194	0.00100	0.200	0	96.8	80	120	0.134	15	
Lithium	0.200	0.0100	0.200	0	99.9	80	120	4.05	15	
Molybdenum	0.192	0.00500	0.200	0	96.2	80	120	0.992	15	
Selenium	0.203	0.00500	0.200	0	101	80	120	1.07	15	
Thallium	0.191	0.00150	0.200	0	95.4	80	120	0.864	15	

Sample ID	1610184-02A SD			Batch ID:	77725		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD			Run ID:	ICP-MS4_161101A		Analysis Date:	11/1/2016 1:35:00 PM		Prep Date:	10/31/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0.00518				0	10	
Beryllium	<0.00150	0.00500	0	0				0	10	
Boron	0.241	0.150	0	0.185				26.6	10	R
Cadmium	<0.00150	0.00500	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0				0	10	
Lead	<0.00150	0.00500	0	0.000417				0	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID	1610184-02A PDS			Batch ID:	77725		TestNo:	SW6020A		Units:	mg/L	
SampType:	PDS			Run ID:	ICP-MS4_161101A		Analysis Date:	11/1/2016 1:57:00 PM		Prep Date:	10/31/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.195	0.00250	0.200	0	97.5	80	120			
Arsenic	0.259	0.00500	0.200	0.00518	127	80	120			S
Beryllium	0.257	0.00100	0.200	0	128	80	120			S
Boron	0.423	0.0300	0.200	0.185	119	80	120			
Cadmium	0.244	0.00100	0.200	0	122	80	120			S
Cobalt	0.246	0.00500	0.200	0	123	80	120			S
Lead	0.243	0.00100	0.200	0.000417	121	80	120			S
Molybdenum	0.244	0.00500	0.200	0	122	80	120			S
Selenium	0.239	0.00500	0.200	0	119	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161101A

Sample ID	1610184-02A PDS	Batch ID:	77725	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 1:57:00 PM	Prep Date:	10/31/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.238	0.00150	0.200	0	119	80	120			

Sample ID	1610184-02A MS	Batch ID:	77725	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 1:59:00 PM	Prep Date:	10/31/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.196	0.00250	0.200	0	98.0	80	120			
Arsenic	0.211	0.00500	0.200	0.00518	103	80	120			
Barium	0.295	0.0100	0.200	0.0969	99.0	80	120			
Beryllium	0.204	0.00100	0.200	0	102	80	120			
Boron	0.406	0.0300	0.200	0.185	110	80	120			
Cadmium	0.198	0.00100	0.200	0	98.9	80	120			
Calcium	71.2	0.300	5.00	67.8	67.5	80	120			S
Chromium	0.226	0.00500	0.200	0.0253	100	80	120			
Cobalt	0.195	0.00500	0.200	0	97.6	80	120			
Lead	0.196	0.00100	0.200	0.000417	97.9	80	120			
Lithium	0.213	0.0100	0.200	0.0182	97.5	80	120			
Molybdenum	0.200	0.00500	0.200	0	100	80	120			
Selenium	0.193	0.00500	0.200	0	96.5	80	120			
Thallium	0.193	0.00150	0.200	0	96.6	80	120			

Sample ID	1610184-02A MSD	Batch ID:	77725	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 2:01:00 PM	Prep Date:	10/31/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	99.8	80	120	1.84	15	S
Arsenic	0.213	0.00500	0.200	0.00518	104	80	120	0.625	15	
Barium	0.299	0.0100	0.200	0.0969	101	80	120	1.42	15	
Beryllium	0.204	0.00100	0.200	0	102	80	120	0.084	15	
Boron	0.391	0.0300	0.200	0.185	103	80	120	3.60	15	
Cadmium	0.200	0.00100	0.200	0	100	80	120	1.21	15	
Calcium	70.9	0.300	5.00	67.8	61.0	80	120	0.461	15	
Chromium	0.229	0.00500	0.200	0.0253	102	80	120	1.31	15	
Cobalt	0.197	0.00500	0.200	0	98.5	80	120	0.905	15	
Lead	0.199	0.00100	0.200	0.000417	99.3	80	120	1.39	15	
Lithium	0.211	0.0100	0.200	0.0182	96.4	80	120	1.06	15	
Molybdenum	0.203	0.00500	0.200	0	102	80	120	1.48	15	
Selenium	0.194	0.00500	0.200	0	97.2	80	120	0.746	15	
Thallium	0.197	0.00150	0.200	0	98.4	80	120	1.89	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161101A

Sample ID	1610184-02A SD	Batch ID:	77725	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 4:05:00 PM	Prep Date:	10/31/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.0964	0.250	0	0.0963				0.046	10	
Calcium	70.2	7.50	0	68.4				2.69	10	
Chromium	<0.0500	0.125	0	0.0259				0	10	
Lithium	<0.125	0.250	0	0				0	10	

Sample ID	1610184-02A PDS	Batch ID:	77725	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 4:07:00 PM	Prep Date:	10/31/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	1.06	0.0500	1.00	0.0963	96.0	80	120			
Calcium	89.8	1.50	25.0	68.4	86.0	80	120			
Chromium	1.04	0.0250	1.00	0.0259	101	80	120			
Lithium	0.972	0.0500	1.00	0	97.2	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161101A

Sample ID	ICV-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 11:53:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.0978	0.00250	0.100	0	97.8	90	110			
Arsenic	0.105	0.00500	0.100	0	105	90	110			
Barium	0.100	0.0100	0.100	0	100	90	110			
Beryllium	0.103	0.00100	0.100	0	103	90	110			
Boron	0.106	0.0300	0.100	0	106	90	110			
Cadmium	0.101	0.00100	0.100	0	101	90	110			
Calcium	2.29	0.300	2.50	0	91.6	90	110			
Chromium	0.109	0.00500	0.100	0	109	90	110			
Cobalt	0.104	0.00500	0.100	0	104	90	110			
Lead	0.0996	0.00100	0.100	0	99.6	90	110			
Lithium	0.0986	0.0100	0.100	0	98.6	90	110			
Molybdenum	0.0975	0.00500	0.100	0	97.5	90	110			
Selenium	0.102	0.00500	0.100	0	102	90	110			
Thallium	0.0969	0.00150	0.100	0	96.9	90	110			

Sample ID	LCVL-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 11:57:00 AM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00228	0.00250	0.00200	0	114	70	130			
Arsenic	0.00545	0.00500	0.00500	0	109	70	130			
Barium	0.00526	0.0100	0.00500	0	105	70	130			
Beryllium	0.000903	0.00100	0.00100	0	90.3	70	130			
Boron	0.0230	0.0300	0.0200	0	115	70	130			
Cadmium	0.000982	0.00100	0.00100	0	98.2	70	130			
Calcium	0.0987	0.300	0.100	0	98.7	70	130			
Chromium	0.00551	0.00500	0.00500	0	110	70	130			
Cobalt	0.00522	0.00500	0.00500	0	104	70	130			
Lead	0.00105	0.00100	0.00100	0	105	70	130			
Lithium	0.00996	0.0100	0.0100	0	99.6	70	130			
Molybdenum	0.00521	0.00500	0.00500	0	104	70	130			
Selenium	0.00543	0.00500	0.00500	0	109	70	130			
Thallium	0.00102	0.00150	0.00100	0	102	70	130			

Sample ID	CCV1-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 12:42:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.198	0.00250	0.200	0	98.9	90	110			
Arsenic	0.207	0.00500	0.200	0	104	90	110			
Barium	0.201	0.0100	0.200	0	100	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161101A

Sample ID	CCV1-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 12:42:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.204	0.00100	0.200	0	102	90	110			
Boron	0.202	0.0300	0.200	0	101	90	110			
Cadmium	0.202	0.00100	0.200	0	101	90	110			
Calcium	4.56	0.300	5.00	0	91.1	90	110			
Chromium	0.206	0.00500	0.200	0	103	90	110			
Cobalt	0.200	0.00500	0.200	0	100	90	110			
Lead	0.200	0.00100	0.200	0	99.9	90	110			
Lithium	0.198	0.0100	0.200	0	99.1	90	110			
Molybdenum	0.198	0.00500	0.200	0	98.9	90	110			
Selenium	0.204	0.00500	0.200	0	102	90	110			
Thallium	0.197	0.00150	0.200	0	98.6	90	110			

Sample ID	LCVL1-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 1:08:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00200	0.00250	0.00200	0	100	70	130			
Arsenic	0.00508	0.00500	0.00500	0	102	70	130			
Barium	0.00487	0.0100	0.00500	0	97.3	70	130			
Beryllium	0.000992	0.00100	0.00100	0	99.2	70	130			
Boron	0.0247	0.0300	0.0200	0	123	70	130			
Cadmium	0.00102	0.00100	0.00100	0	102	70	130			
Calcium	0.0890	0.300	0.100	0	89.0	70	130			
Chromium	0.00511	0.00500	0.00500	0	102	70	130			
Cobalt	0.00503	0.00500	0.00500	0	101	70	130			
Lead	0.000971	0.00100	0.00100	0	97.1	70	130			
Lithium	0.0103	0.0100	0.0100	0	103	70	130			
Molybdenum	0.00475	0.00500	0.00500	0	95.0	70	130			
Selenium	0.00537	0.00500	0.00500	0	107	70	130			
Thallium	0.000957	0.00150	0.00100	0	95.7	70	130			

Sample ID	CCV2-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 2:03:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.203	0.00250	0.200	0	102	90	110			
Arsenic	0.213	0.00500	0.200	0	106	90	110			
Barium	0.206	0.0100	0.200	0	103	90	110			
Beryllium	0.208	0.00100	0.200	0	104	90	110			
Boron	0.215	0.0300	0.200	0	107	90	110			
Cadmium	0.208	0.00100	0.200	0	104	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161101A

Sample ID	CCV2-161101			Batch ID:	R88812		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV			Run ID:	ICP-MS4_161101A		Analysis Date:	11/1/2016 2:03:00 PM		Prep Date:		
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.61	0.300	5.00	0	92.3	90	110			
Chromium	0.210	0.00500	0.200	0	105	90	110			
Cobalt	0.205	0.00500	0.200	0	103	90	110			
Lead	0.197	0.00100	0.200	0	98.5	90	110			
Lithium	0.199	0.0100	0.200	0	99.5	90	110			
Molybdenum	0.203	0.00500	0.200	0	102	90	110			
Selenium	0.208	0.00500	0.200	0	104	90	110			
Thallium	0.196	0.00150	0.200	0	97.9	90	110			

Sample ID	LCVL2-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 2:37:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00198	0.00250	0.00200	0	98.9	70	130			
Arsenic	0.00520	0.00500	0.00500	0	104	70	130			
Barium	0.00510	0.0100	0.00500	0	102	70	130			
Beryllium	0.00126	0.00100	0.00100	0	126	70	130			
Boron	0.0235	0.0300	0.0200	0	117	70	130			
Cadmium	0.000964	0.00100	0.00100	0	96.4	70	130			
Calcium	0.0916	0.300	0.100	0	91.6	70	130			
Chromium	0.00519	0.00500	0.00500	0	104	70	130			
Cobalt	0.00508	0.00500	0.00500	0	102	70	130			
Lead	0.000931	0.00100	0.00100	0	93.1	70	130			
Lithium	0.00981	0.0100	0.0100	0	98.1	70	130			
Molybdenum	0.00489	0.00500	0.00500	0	97.8	70	130			
Selenium	0.00482	0.00500	0.00500	0	96.4	70	130			
Thallium	0.000962	0.00150	0.00100	0	96.2	70	130			

Sample ID	CCV5-161101		Batch ID:	R88812		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV		Run ID:	ICP-MS4_161101A		Analysis Date:	11/1/2016 3:52:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Barium	0.207	0.0100	0.200	0	103	90	110			
Calcium	4.67	0.300	5.00	0	93.4	90	110			
Chromium	0.210	0.00500	0.200	0	105	90	110			
Lithium	0.205	0.0100	0.200	0	102	90	110			

Sample ID	LCVL5-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 3:56:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161101A

Sample ID	LCVL5-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 3:56:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium		0.00516	0.0100	0.00500	0	103	70	130			
Calcium		0.0963	0.300	0.100	0	96.3	70	130			
Chromium		0.00561	0.00500	0.00500	0	112	70	130			
Lithium		0.0107	0.0100	0.0100	0	107	70	130			

Sample ID	CCV6-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 4:09:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.204	0.0100	0.200	0	102	90	110			
Calcium	4.58	0.300	5.00	0	91.7	90	110			
Chromium	0.208	0.00500	0.200	0	104	90	110			
Lithium	0.205	0.0100	0.200	0	102	90	110			

Sample ID	LCVL6-161101	Batch ID:	R88812	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161101A	Analysis Date:	11/1/2016 4:13:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.00508	0.0100	0.00500	0	102	70	130			
Calcium	0.0937	0.300	0.100	0	93.7	70	130			
Chromium	0.00540	0.00500	0.00500	0	108	70	130			
Lithium	0.0103	0.0100	0.0100	0	103	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161024A

The QC data in batch 77652 applies to the following samples: 1610184-01D, 1610184-02D, 1610184-03D, 1610184-04D

Sample ID	MB-77652	Batch ID:	77652	TestNo:	E300	Units:	mg/L			
SampType:	MBLK	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 9:41:08 AM	Prep Date:	10/24/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-77652	Batch ID:	77652	TestNo:	E300	Units:	mg/L			
SampType:	LCS	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 9:55:44 AM	Prep Date:	10/24/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.57	1.00	10.00	0	95.7	90	110			
Fluoride	3.72	0.400	4.000	0	93.0	90	110			
Sulfate	29.1	3.00	30.00	0	96.8	90	110			

Sample ID	LCSD-77652	Batch ID:	77652	TestNo:	E300	Units:	mg/L			
SampType:	LCSD	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 10:10:21 A	Prep Date:	10/24/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.57	1.00	10.00	0	95.7	90	110	0.028	20	
Fluoride	3.81	0.400	4.000	0	95.2	90	110	2.36	20	
Sulfate	29.1	3.00	30.00	0	96.9	90	110	0.099	20	

Sample ID	1610184-02DMS	Batch ID:	77652	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 4:12:46 PM	Prep Date:	10/24/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	217	10.0	200.0	12.98	102	90	110			
Fluoride	200	4.00	200.0	0	100	90	110			
Sulfate	366	30.0	200.0	159.6	103	90	110			

Sample ID	1610184-02DMSD	Batch ID:	77652	TestNo:	E300	Units:	mg/L			
SampType:	MSD	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 4:27:23 PM	Prep Date:	10/24/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	217	10.0	200.0	12.98	102	90	110	0.099	20	
Fluoride	201	4.00	200.0	0	101	90	110	0.428	20	
Sulfate	366	30.0	200.0	159.6	103	90	110	0.113	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161024A

Sample ID	ICV-161024	Batch ID:	R88687	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 9:01:50 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.8	1.00	25.00	0	99.2	90	110			
Fluoride	9.44	0.400	10.00	0	94.4	90	110			
Sulfate	75.0	3.00	75.00	0	100	90	110			

Sample ID	CCV1-161024	Batch ID:	R88687	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 1:11:06 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.73	1.00	10.00	0	97.3	90	110			
Fluoride	3.92	0.400	4.000	0	98.1	90	110			
Sulfate	29.6	3.00	30.00	0	98.8	90	110			

Sample ID	CCV2-161024	Batch ID:	R88687	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_161024A	Analysis Date:	10/24/2016 4:41:59 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.83	1.00	10.00	0	98.3	90	110			
Fluoride	4.01	0.400	4.000	0	100	90	110			
Sulfate	29.8	3.00	30.00	0	99.2	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161021A

The QC data in batch 77638 applies to the following samples: 1610184-01D, 1610184-02D, 1610184-03D, 1610184-04D

Sample ID	1610170-01D-DUP	Batch ID:	77638	TestNo:	M4500-H+ B	Units:	pH Units@20.4°C
SampType:	DUP	Run ID:	TITRATOR_161021A	Analysis Date:	10/21/2016 10:43:00 A	Prep Date:	10/21/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual

pH	5.91	0	0	6.130			3.65	5

Sample ID	1610171-08D-DUP	Batch ID:	77638	TestNo:	M4500-H+ B	Units:	pH Units@20.9°C
SampType:	DUP	Run ID:	TITRATOR_161021A	Analysis Date:	10/21/2016 11:14:00 A	Prep Date:	10/21/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual

pH	6.19	0	0	6.190			0	5

LUMINANT

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161021A

Sample ID	ICV-161021	Batch ID:	R88654	TestNo:	M4500-H+ B	Units:	pH	Units@21.6°C			
SampType:	ICV	Run ID:	TITRATOR_161021A	Analysis Date:	10/21/2016 9:37:00 AM	Prep Date:	10/21/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	9.90	0	10.00	0	99.0	99	101			

Sample ID	CCV-161021			Batch ID:	R88654		TestNo:	M4500-H+ B		Units:	pH Units@21.1°C	
SampType:	CCV			Run ID:	TITRATOR_161021A		Analysis Date:	10/21/2016 11:01:00 A		Prep Date:	10/21/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

pH	6.95	0	7.000	0	99.3	97.1	102.9			

Sample ID	CCV2-161021			Batch ID:	R88654		TestNo:	M4500-H+ B		Units:	pH Units@21.5°C	
SampType:	CCV			Run ID:	TITRATOR_161021A		Analysis Date:	10/21/2016 11:28:00 A		Prep Date:	10/21/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

pH	6.95	0	7.000	0	99.3	97.1	102.9			

Sample ID	CCV3-161021		Batch ID:	R88654		TestNo:	M4500-H+ B		Units:	pH Units@21.7°C	
SampType:	CCV		Run ID:	TITRATOR_161021A		Analysis Date:	10/21/2016 11:41:00 A		Prep Date:	10/21/2016	
Analyte			Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

pH	6.95	0	7.000	0	99.3	97.1	102.9			

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: WC_161025B

The QC data in batch 77673 applies to the following samples: 1610184-01D, 1610184-02D, 1610184-03D

Sample ID	MB-77673		Batch ID:	77673		TestNo:	M2540C		Units:	mg/L	
SampType:	MBLK		Run ID:	WC_161025B		Analysis Date:	10/26/2016 8:43:00 AM		Prep Date:	10/25/2016	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-77673		Batch ID:	77673		TestNo:	M2540C		Units:	mg/L	
SampType:	LCS		Run ID:	WC_161025B		Analysis Date:	10/26/2016 8:43:00 AM		Prep Date:	10/25/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 757 10.0 745.6 0 102 90 113

Sample ID	1610176-01B-DUP		Batch ID:	77673		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_161025B		Analysis Date:	10/26/2016 8:43:00 AM		Prep Date:	10/25/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1800 50.0 0 1735 3.40 5

Sample ID	1610181-01D-DUP		Batch ID:	77673		TestNo:	M2540C		Units:	mg/L	
SampType:	DUP		Run ID:	WC_161025B		Analysis Date:	10/26/2016 8:43:00 AM		Prep Date:	10/25/2016	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Total Dissolved Solids (Residue, Filtera 2510 50.0 0 2395 4.49 5

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1610184
Project: MLSES-PDP-5

ANALYTICAL QC SUMMARY REPORT

RunID: WC_161026D

The QC data in batch 77702 applies to the following samples: 1610184-04D

Sample ID	MB-77702	Batch ID:	77702	TestNo:	M2540C	Units:	mg/L				
SampType:	MBLK	Run ID:	WC_161026D	Analysis Date:	10/27/2016 8:43:00 AM	Prep Date:	10/26/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-77702	Batch ID:	77702	TestNo:	M2540C	Units:	mg/L				
SampType:	LCS	Run ID:	WC_161026D	Analysis Date:	10/27/2016 8:43:00 AM	Prep Date:	10/26/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 754 10.0 745.6 0 101 90 113

Sample ID	1610213-01D-DUP	Batch ID:	77702	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_161026D	Analysis Date:	10/27/2016 8:43:00 AM	Prep Date:	10/26/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1560 50.0 0 1545 0.966 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

Case Narrative

Lab No: 20161043

This report contains the analytical results for the 4 sample(s) received under chain of custody by ESC Lab Sciences on 10/25/2016 3:59:11 PM. These samples are associated with your 1610184 project.

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

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

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances

L868917



Client : DHL Analytical, Inc.
Client Project : 1610184
Lab Number : 20161043
Date Reported : 11/10/16
Date Received : 10/25/16
Page Number : 2 of 3

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20161043-01

Client ID : MW-19

Date Sampled : 10/19/2016 11:25:00 AM

Matrix : NPW

Radiochemical Analyses

Combined Radium		2.02 +/- 1.37	0.883	pCi/l			
Radium-226	SM 7500 Ra B M*	0.151 +/- 0.091	0.077	pCi/l	11/02/16	11/07/16	AK
Radium-228	EPA 904*/9320*	1.87 +/- 1.28	0.806	pCi/l	11/02/16	11/08/16	JR

Lab ID : 20161043-02

Client ID : PDP-22

Date Sampled : 10/19/2016 12:15:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		1.63 +/- 1.05	0.714	pCi/l			
Radium-226	SM 7500 Ra B M*	0.231 +/- 0.159	0.182	pCi/l	11/02/16	11/07/16	AK
Radium-228	EPA 904*/9320*	1.40 +/- 0.894	0.532	pCi/l	11/02/16	11/08/16	JR

Lab ID : 20161043-03

Client ID : MW-18A

Date Sampled : 10/19/2016 1:10:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.360 +/- 1.14	0.764	pCi/l			
Radium-226	SM 7500 Ra B M*	0.267 +/- 0.128	0.116	pCi/l	11/02/16	11/07/16	AK
Radium-228	EPA 904*/9320*	0.093 +/- 1.01	0.648	pCi/l	11/02/16	11/08/16	JR

Lab ID : 20161043-04

Client ID : EB-1

Date Sampled : 10/19/2016 1:30:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		1.14 +/- 0.965	0.669	pCi/l			
Radium-226	SM 7500 Ra B M*	0.053 +/- 0.077	0.123	pCi/l	11/02/16	11/07/16	AK
Radium-228	EPA 904*/9320*	1.09 +/- 0.888	0.546	pCi/l	11/02/16	11/08/16	JR



Client : DHL Analytical, Inc.
Client Project : 1610184
Lab Number : 20161043
Date Reported : 11/10/16
Date Received : 10/25/16
Page Number : 3 of 3

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	-0.019	107.0			NC	0.357	123.0	115.0	6.4	R1153
Radium-228	0.091	98.8			NC	0.200	98.1	101.0	2.4	R3875

Lab Approval:

Ron Eidson
Director of Radiochemistry

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1610184

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Subcontractor:

ESC Laboratory

311 North Aspen

Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515

FAX:

Acct #: DHLRRTX

21-Oct-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E904.0	SM7500Ra-B M				
MW-19	Aqueous	-01B	10/19/16 11:25 AM	500HDPEHNO3	1					
MW-19	Aqueous	-01C	10/19/16 11:25 AM	500HDPEHNO3		1				
PDP-22	Aqueous	-02B	10/19/16 12 15 PM	500HDPEHNO3	1					
PDP-22	Aqueous	-02C	10/19/16 12 15 PM	500HDPEHNO3		1				
MW-18A	Aqueous	-03B	10/19/16 01:10 PM	500HDPEHNO3	1					
MW-18A	Aqueous	-03C	10/19/16 01:10 PM	500HDPEHNO3		1				
EB-1	Aqueous	-04B	10/19/16 01 30 PM	500HDPEHNO3	1					
EB-1	Aqueous	-04C	10/19/16 01.30 PM	500HDPEHNO3		1				

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs DHLRRTX033116S.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

20161043
C 868917

Relinquished by: <u><i>[Signature]</i></u>	Date/Time: <u>10/21/16 1730</u>	Received by: <u><i>[Signature]</i></u>	Date/Time: <u>10/21/16 1730</u>
Relinquished by: _____	_____	Received by: <u><i>[Signature]</i></u>	Date/Time: <u>10/20/16 1539</u>

SAMPLE LOGIN

Date Received: 10/25/2016 3:59:1

Lab Number: 20161043

Due: 11/22/2016

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20161043-01 B	MW-19	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2			
20161043-01 A	MW-19	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2		Yes	Yes
Radium-226								Yes	Yes
Radium-228									
20161043-02 B	PDP-22	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2			
20161043-02 A	PDP-22	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2		Yes	Yes
Radium-226								Yes	Yes
Radium-228									
20161043-03 B	MW-18A	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2			
20161043-03 A	MW-18A	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2		Yes	Yes
Radium-226								Yes	Yes
Radium-228									
20161043-04 B	EB-1	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2			
20161043-04 A	EB-1	NPW	10/19/16	Plastic	500 ml	HNO3, pH < 2		Yes	Yes
Radium-226								Yes	Yes
Radium-228									

CONTAINER INSPECTION

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

SAMPLE INSPECTION

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

Anomalies

Inspected By: ROD DATE 10/25/16
QA or Designee Review: Russell Thomas DATE 10/25/16
Sample Custodian Review: _____ DATE _____

Project Notes:

LUMINANT



January 17, 2017

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: MLSES - PDP-5 Area

Order No.: 1612133

Dear Will Vienne:

DHL Analytical, Inc. received 3 sample(s) on 12/13/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-17



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John Dupont

From: Sara Taube [Sara.Taube@pbwllc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

ORIGIN ID:GGGA (512) 671-3434
JOHN BRAYTON

2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

012

1
10:30

C

0699
12.13

APPROXIMATE 09/17

TO DHL

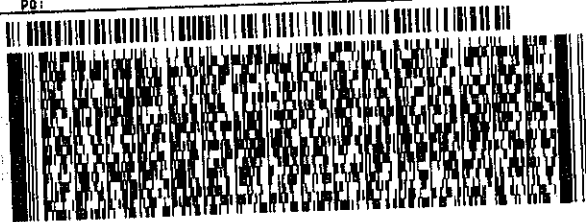
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664

(512) 388-8222
INVT
PO:

REF:

DEPT:



FedEx
Express



2 of 2

MP# 7849 6643 0699
0263

Mstr# 7849 6643 0688

0201

A8 BSMA

TUE - 13 DEC 10:30A
PRIORITY OVERNIGHT

78664
TX-US AUS



Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 12/13/2016

Work Order Number 1612133

Received by JT

Checklist completed by: [Signature] 12/13/2016
Signature Date

Reviewed by [Signature] 12/13/2016
Initials Date

Carrier name FedEx 1day

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐
Custody seals intact on shipping container/cooler? Yes ☒ No ☐ Not Present ☐
Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
Chain of custody present? Yes ☒ No ☐
Chain of custody signed when relinquished and received? Yes ☒ No ☐
Chain of custody agrees with sample labels? Yes ☒ No ☐
Samples in proper container/bottle? Yes ☒ No ☐
Sample containers intact? Yes ☒ No ☐
Sufficient sample volume for indicated test? Yes ☒ No ☐
All samples received within holding time? Yes ☒ No ☐
Container/Temp Blank temperature in compliance? Yes ☒ No ☐ 4.1 °C
Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒
Water - pH<2 acceptable upon receipt? Yes ☒ No ☐ NA ☐ LOT # 8086
Adjusted? NO Checked by [Signature]
Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes ☐ No ☐ NA ☒ LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Lab Order: 1612133

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis

Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M.
Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 12/13/16. A total of 3 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 12/15/16 the matrix spike and matrix spike duplicate recoveries were out of control limits for Boron and/or Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was not from this work order. The percent recoveries for the LCS were within control limits for these analytes. No further corrective actions were taken.

For Metals analysis performed on 12/16/16 the LCS/LCSD had the RPD slightly above control limits for twelve analytes. These are flagged accordingly. The percent recoveries were within control limits. No further corrective actions were taken.

For Metals analysis performed on 12/20/16 the RPD for the serial dilution was above control limits for Boron. This is flagged accordingly. The PDS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 12/15/16 Boron was detected above the reporting limit in CCB8-161215. The associated samples are QC samples only. No further corrective actions were taken.

For Metals analysis performed on 12/15/16 CCV7-161215, LCVL7-161215, CCV8-161215 and LCVL8-161215 were above control limits for Boron. These are flagged accordingly. The associated samples were QC samples only. No further corrective actions were taken.

For Metals analysis performed on 12/16/16 LCVL4-161216 and LCVL5-161216 were out of control

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Lab Order: 1612133

CASE NARRATIVE

limits for Boron. These are flagged accordingly. The associated CCVs were within control limits for this analyte. No further corrective actions were taken.

LUMINANT

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Lab Order: 1612133**Work Order Sample Summary**

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1612133-01	MW-18A		12/12/16 08:50 AM	12/13/2016
1612133-02	PDP-26		12/12/16 10:10 AM	12/13/2016
1612133-03	PDP-22		12/12/16 11:15 AM	12/13/2016

LUMINANT

Lab Order: 1612133
Client: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1612133-01A	MW-18A	12/12/16 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/14/16 08:47 AM	78271
	MW-18A	12/12/16 08:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/14/16 08:47 AM	78271
	MW-18A	12/12/16 08:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/16/16 08:55 AM	78325
	MW-18A	12/12/16 08:50 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/16/16 08:55 AM	78325
1612133-01D	MW-18A	12/12/16 08:50 AM	Aqueous	E300	Anion Preparation	12/16/16 09:14 AM	78329
	MW-18A	12/12/16 08:50 AM	Aqueous	M4500-H+ B	pH Preparation	12/14/16 08:12 AM	78265
	MW-18A	12/12/16 08:50 AM	Aqueous	M2540C	TDS Preparation	12/16/16 02:55 PM	78334
1612133-02A	PDP-26	12/12/16 10:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/14/16 08:47 AM	78271
	PDP-26	12/12/16 10:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/14/16 08:47 AM	78271
	PDP-26	12/12/16 10:10 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/16/16 08:55 AM	78325
1612133-02D	PDP-26	12/12/16 10:10 AM	Aqueous	E300	Anion Preparation	12/16/16 09:14 AM	78329
	PDP-26	12/12/16 10:10 AM	Aqueous	M4500-H+ B	pH Preparation	12/14/16 08:12 AM	78265
	PDP-26	12/12/16 10:10 AM	Aqueous	M2540C	TDS Preparation	12/16/16 10:42 AM	78334
1612133-03A	PDP-22	12/12/16 11:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/14/16 08:47 AM	78271
	PDP-22	12/12/16 11:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/14/16 08:47 AM	78271
	PDP-22	12/12/16 11:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/14/16 08:47 AM	78271
	PDP-22	12/12/16 11:15 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/16/16 08:55 AM	78325
1612133-03D	PDP-22	12/12/16 11:15 AM	Aqueous	E300	Anion Preparation	12/16/16 09:14 AM	78329
	PDP-22	12/12/16 11:15 AM	Aqueous	M4500-H+ B	pH Preparation	12/14/16 08:12 AM	78265
	PDP-22	12/12/16 11:15 AM	Aqueous	M2540C	TDS Preparation	12/16/16 10:42 AM	78334

Lab Order: 1612133
Client: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1612133-01A	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	78325	50	12/20/16 05:38 PM	CETAC2_HG_161220 B
	MW-18A	Aqueous	SW7470A	Mercury Total: Aqueous	78325	1	12/20/16 04:47 PM	CETAC2_HG_161220 B
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78271	1	12/15/16 05:19 PM	ICP-MS4_161215D
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78271	1	12/21/16 01:32 PM	ICP-MS4_161221A
1612133-01D	MW-18A	Aqueous	E300	Anions by IC method - Water	78329	1	12/16/16 11:05 AM	IC2_161216A
	MW-18A	Aqueous	M4500-H+ B	pH	78265	1	12/14/16 09:20 AM	TITRATOR_161214A
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	78334	1	12/19/16 08:42 AM	WC_161216B
1612133-02A	PDP-26	Aqueous	SW7470A	Mercury Total: Aqueous	78325	1	12/20/16 04:53 PM	CETAC2_HG_161220 B
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78271	1	12/21/16 01:34 PM	ICP-MS4_161221A
	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78271	1	12/15/16 05:21 PM	ICP-MS4_161215D
1612133-02D	PDP-26	Aqueous	E300	Anions by IC method - Water	78329	1	12/16/16 11:19 AM	IC2_161216A
	PDP-26	Aqueous	M4500-H+ B	pH	78265	1	12/14/16 09:26 AM	TITRATOR_161214A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	78334	1	12/19/16 08:42 AM	WC_161216B
1612133-03A	PDP-22	Aqueous	SW7470A	Mercury Total: Aqueous	78325	1	12/20/16 04:55 PM	CETAC2_HG_161220 B
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78271	1	12/15/16 05:37 PM	ICP-MS4_161215D
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78271	10	12/21/16 01:36 PM	ICP-MS4_161221A
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78271	1	12/21/16 01:38 PM	ICP-MS4_161221A
1612133-03D	PDP-22	Aqueous	E300	Anions by IC method - Water	78329	1	12/16/16 11:34 AM	IC2_161216A
	PDP-22	Aqueous	M4500-H+ B	pH	78265	1	12/14/16 09:28 AM	TITRATOR_161214A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	78334	1	12/19/16 08:42 AM	WC_161216B

DHL Analytical, Inc.

Date: 17-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Project No: 5164-B
Lab Order: 1612133

Client Sample ID: MW-18A
Lab ID: 1612133-01
Collection Date: 12/12/16 08:50 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.0610	0.00400	0.0100		mg/L	50	12/20/16 05:38 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	12/15/16 05:19 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	12/15/16 05:19 PM
Barium	0.0413	0.00300	0.0100		mg/L	1	12/15/16 05:19 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	12/15/16 05:19 PM
Boron	0.113	0.0100	0.0300		mg/L	1	12/21/16 01:32 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/15/16 05:19 PM
Calcium	2.28	0.100	0.300		mg/L	1	12/15/16 05:19 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	12/15/16 05:19 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	12/15/16 05:19 PM
Lead	0.000353	0.000300	0.00100	J	mg/L	1	12/15/16 05:19 PM
Lithium	0.00908	0.00500	0.0100	J	mg/L	1	12/15/16 05:19 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	12/15/16 05:19 PM
Selenium	0.00311	0.00200	0.00500	J	mg/L	1	12/15/16 05:19 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	12/15/16 05:19 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	7.68	0.300	1.00		mg/L	1	12/16/16 11:05 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/16/16 11:05 AM
Sulfate	5.48	1.00	3.00		mg/L	1	12/16/16 11:05 AM
PH		M4500-H+ B		Analyst: BJT			
pH	5.78	0	0		pH Units@18.5°C	1	12/14/16 09:20 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	80.0	10.0	10.0		mg/L	1	12/19/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 17-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Project No: 5164-B
Lab Order: 1612133

Client Sample ID: PDP-26
Lab ID: 1612133-02
Collection Date: 12/12/16 10:10 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/20/16 04:53 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	12/15/16 05:21 PM
Arsenic	0.00206	0.00200	0.00500	J	mg/L	1	12/15/16 05:21 PM
Barium	0.0286	0.00300	0.0100		mg/L	1	12/15/16 05:21 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	12/15/16 05:21 PM
Boron	0.0470	0.0100	0.0300		mg/L	1	12/21/16 01:34 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/15/16 05:21 PM
Calcium	2.43	0.100	0.300		mg/L	1	12/15/16 05:21 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	12/15/16 05:21 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	12/15/16 05:21 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	12/15/16 05:21 PM
Lithium	0.0134	0.00500	0.0100		mg/L	1	12/15/16 05:21 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	12/15/16 05:21 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	12/15/16 05:21 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	12/15/16 05:21 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: AV			
Chloride	5.56	0.300	1.00		mg/L	1	12/16/16 11:19 AM
Fluoride	0.251	0.100	0.400	J	mg/L	1	12/16/16 11:19 AM
Sulfate	6.69	1.00	3.00		mg/L	1	12/16/16 11:19 AM
PH		M4500-H+ B		Analyst: BJT			
pH	6.51	0	0		pH Units@18.8°C	1	12/14/16 09:26 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	84.0	10.0	10.0		mg/L	1	12/19/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 17-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Project No: 5164-B
Lab Order: 1612133

Client Sample ID: PDP-22
Lab ID: 1612133-03
Collection Date: 12/12/16 11:15 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/20/16 04:55 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	12/15/16 05:37 PM
Arsenic	0.00470	0.00200	0.00500	J	mg/L	1	12/15/16 05:37 PM
Barium	0.258	0.00300	0.0100		mg/L	1	12/15/16 05:37 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	12/15/16 05:37 PM
Boron	0.163	0.0100	0.0300		mg/L	1	12/21/16 01:38 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/15/16 05:37 PM
Calcium	122	1.00	3.00		mg/L	10	12/21/16 01:36 PM
Chromium	0.0361	0.00200	0.00500		mg/L	1	12/15/16 05:37 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	12/15/16 05:37 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	12/15/16 05:37 PM
Lithium	0.116	0.00500	0.0100		mg/L	1	12/15/16 05:37 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	12/15/16 05:37 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	12/15/16 05:37 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	12/15/16 05:37 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: AV			
Chloride	8.27	0.300	1.00		mg/L	1	12/16/16 11:34 AM
Fluoride	0.201	0.100	0.400	J	mg/L	1	12/16/16 11:34 AM
Sulfate	105	1.00	3.00		mg/L	1	12/16/16 11:34 AM
PH							
M4500-H+ B				Analyst: BJT			
pH	11.7	0	0		pH Units@18.9°C	1	12/14/16 09:28 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	710	50.0	50.0		mg/L	1	12/19/16 08:42 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2 HG 161220B

Sample ID	MB-78325		Batch ID:	78325		TestNo:	SW7470A		Units:	mg/L	
SamPType:	MBLK		Run ID:	CETAC2_HG_161220B		Analysis Date:	12/20/2016 4:22:41 PM		Prep Date:	12/16/2016	
Analyte			Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit

Sample ID: LCS-78325	Batch ID: 78325	TestNo: SW7470A	Units: mg/L							
SampType: LCS	Run ID: CETAC2_HG_161220B	Analysis Date: 12/20/2016 4:24:56 PM	Prep Date: 12/16/2016							
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sample ID	LCSD-78325			Batch ID:	78325		TestNo:	SW7470A		Units:	mg/L	
SampType:	LCSD			Run ID:	CETAC2_HG_161220B		Analysis Date:	12/20/2016 4:27:13 PM		Prep Date:	12/16/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Sample ID	1612083-03B SD	Batch ID:	78325	TestNo:	SW7470A	Units:	mg/L			
SampType:	SD	Run ID:	CETAC2_HG_161220B	Analysis Date:	12/20/2016 4:36:17 PM	Prep Date:	12/16/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sample ID	1612083-03B PDS	Batch ID:	78325	TestNo:	SW7470A	Units:	mg/L				
SampType:	PDS	Run ID:	CETAC2_HG_161220B	Analysis Date:	12/20/2016 4:38:32 PM	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sample ID	1612083-03B MS	Batch ID:	78325	TestNo:	SW7470A	Units:	mg/L				
SampType:	MS	Run ID:	CETAC2_HG_161220B	Analysis Date:	12/20/2016 4:40:48 PM	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sample ID	1612083-03B MSD	Batch ID:	78325	TestNo:	SW7470A	Units:	mg/L
SampType:	MSD	Run ID:	CETAC2_HG_161220B	Analysis Date:	12/20/2016 4:43:05 PM	Prep Date:	12/16/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161220B

Sample ID	ICV-161220	Batch ID:	R89562	TestNo:	SW7470A	Units:	mg/L			
SampType:	ICV	Run ID:	CETAC2_HG_161220B	Analysis Date:	12/20/2016 3:03:08 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00395	0.000200	0.00400	0	98.8	90	110			

Sample ID	CCV2-161220	Batch ID:	R89562	TestNo:	SW7470A	Units:	mg/L				
SampType:	CCV	Run ID:	CETAC2_HG_161220B	Analysis Date:	12/20/2016 4:18:07 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury		0.00200	0.000200	0.00200	0	100	90	110			

Sample ID	CCV3-161220	Batch ID:	R89562	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_161220B	Analysis Date:	12/20/2016 5:07:07 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00200	0	102	90	110			

Sample ID	CCV4-161220	Batch ID:	R89562	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_161220B	Analysis Date:	12/20/2016 5:33:34 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00205	0.000200	0.00200	0	103	90	110			

Sample ID	CCV5-161220	Batch ID:	R89562	TestNo:	SW7470A	Units:	mg/L			
SampType:	CCV	Run ID:	CETAC2_HG_161220B	Analysis Date:	12/20/2016 5:40:27 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00200	0	102	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler

Work Order: 1612133

Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161215D

The QC data in batch 78271 applies to the following samples: 1612133-01A, 1612133-02A, 1612133-03A

Sample ID	MB-78271	Batch ID:	78271	TestNo:	SW6020A	Units:	mg/L
SampType:	MBLK	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 4:53:00 PM	Prep Date:	12/14/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Boron	<0.0100	0.0300								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID	1612132-02A SD	Batch ID:	78271	TestNo:	SW6020A	Units:	mg/L
SampType:	SD	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 5:03:00 PM	Prep Date:	12/14/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0.00875				0	10	
Barium	0.0188	0.0500	0	0.0189				0.903	10	
Beryllium	0.0211	0.00500	0	0.0197				6.80	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0.00386				0	10	
Cobalt	0.237	0.0250	0	0.230				3.00	10	
Lead	<0.00150	0.00500	0	0				0	10	
Lithium	0.205	0.0500	0	0.198				3.89	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	0.0381	0.0250	0	0.0365				4.28	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID	1612132-02A PDS	Batch ID:	78271	TestNo:	SW6020A	Units:	mg/L
SampType:	PDS	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 5:23:00 PM	Prep Date:	12/14/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.202	0.00250	0.200	0	101	80	120			
Arsenic	0.210	0.00500	0.200	0.00875	101	80	120			
Barium	0.219	0.0100	0.200	0.0189	100	80	120			
Beryllium	0.211	0.00100	0.200	0.0197	95.9	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161215D

Sample ID	1612132-02A PDS	Batch ID:	78271	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 5:23:00 PM	Prep Date:	12/14/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Cadmium	0.187	0.00100	0.200	0	93.5	80	120			
Chromium	0.201	0.00500	0.200	0.00386	98.7	80	120			
Cobalt	0.408	0.00500	0.200	0.230	89.2	80	120			
Lead	0.200	0.00100	0.200	0	99.8	80	120			
Lithium	0.367	0.0100	0.200	0.198	84.8	80	120			
Molybdenum	0.193	0.00500	0.200	0	96.5	80	120			
Selenium	0.246	0.00500	0.200	0.0365	105	80	120			
Thallium	0.197	0.00150	0.200	0	98.3	80	120			

Sample ID	1612132-02A MS		Batch ID:	78271		TestNo:	SW6020A		Units:	mg/L		
SampType:	MS		Run ID:	ICP-MS4_161215D		Analysis Date:	12/15/2016 5:25:00 PM		Prep Date:	12/14/2016		
Analyte			Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.199	0.00250	0.200	0	99.4	80	120			
Arsenic	0.210	0.00500	0.200	0.00875	100	80	120			
Barium	0.213	0.0100	0.200	0.0189	96.9	80	120			
Beryllium	0.204	0.00100	0.200	0.0197	92.1	80	120			
Boron	22.0	0.0300	0.200	22.2	-120	80	120			S
Cadmium	0.184	0.00100	0.200	0	91.9	80	120			
Calcium	255	0.300	5.00	251	90.0	80	120			
Chromium	0.189	0.00500	0.200	0.00386	92.8	80	120			
Cobalt	0.413	0.00500	0.200	0.230	91.8	80	120			
Lead	0.196	0.00100	0.200	0	98.1	80	120			
Lithium	0.367	0.0100	0.200	0.198	84.9	80	120			
Molybdenum	0.194	0.00500	0.200	0	97.2	80	120			
Selenium	0.231	0.00500	0.200	0.0365	97.5	80	120			
Thallium	0.195	0.00150	0.200	0	97.4	80	120			

Sample ID	1612132-02A MSD	Batch ID:	78271	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 5:27:00 PM	Prep Date:	12/14/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.200	0.00250	0.200	0	99.9	80	120	0.497	15	
Arsenic	0.216	0.00500	0.200	0.00875	104	80	120	3.10	15	
Barium	0.218	0.0100	0.200	0.0189	99.6	80	120	2.46	15	
Beryllium	0.207	0.00100	0.200	0.0197	93.7	80	120	1.57	15	
Boron	21.7	0.0300	0.200	22.2	-227	80	120	0.981	15	S
Cadmium	0.190	0.00100	0.200	0	94.8	80	120	3.10	15	
Calcium	260	0.300	5.00	251	181	80	120	1.76	15	S
Chromium	0.194	0.00500	0.200	0.00386	94.8	80	120	2.13	15	
Cobalt	0.417	0.00500	0.200	0.230	93.6	80	120	0.851	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161215D

Sample ID	1612132-02A MSD	Batch ID:	78271	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 5:27:00 PM	Prep Date:	12/14/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.203	0.00100	0.200	0	102	80	120	3.44	15	
Lithium	0.371	0.0100	0.200	0.198	86.8	80	120	1.02	15	
Molybdenum	0.197	0.00500	0.200	0	98.4	80	120	1.31	15	
Selenium	0.241	0.00500	0.200	0.0365	102	80	120	4.09	15	
Thallium	0.200	0.00150	0.200	0	100	80	120	2.67	15	

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161215D

Sample ID	ICV-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 11:10:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.101	0.00250	0.100	0	101	90	110			
Arsenic	0.0999	0.00500	0.100	0	99.9	90	110			
Barium	0.102	0.0100	0.100	0	102	90	110			
Beryllium	0.102	0.00100	0.100	0	102	90	110			
Boron	0.0983	0.0300	0.100	0	98.3	90	110			
Cadmium	0.101	0.00100	0.100	0	101	90	110			
Calcium	2.30	0.300	2.50	0	92.0	90	110			
Chromium	0.106	0.00500	0.100	0	106	90	110			
Cobalt	0.104	0.00500	0.100	0	104	90	110			
Lead	0.101	0.00100	0.100	0	101	90	110			
Lithium	0.102	0.0100	0.100	0	102	90	110			
Molybdenum	0.0978	0.00500	0.100	0	97.8	90	110			
Selenium	0.0995	0.00500	0.100	0	99.5	90	110			
Thallium	0.0993	0.00150	0.100	0	99.3	90	110			

Sample ID	LCVL-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 11:16:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00209	0.00250	0.00200	0	104	70	130			
Arsenic	0.00529	0.00500	0.00500	0	106	70	130			
Barium	0.00526	0.0100	0.00500	0	105	70	130			
Beryllium	0.000885	0.00100	0.00100	0	88.5	70	130			
Boron	0.0171	0.0300	0.0200	0	85.5	70	130			
Cadmium	0.00107	0.00100	0.00100	0	107	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00548	0.00500	0.00500	0	110	70	130			
Cobalt	0.00544	0.00500	0.00500	0	109	70	130			
Lead	0.00109	0.00100	0.00100	0	109	70	130			
Lithium	0.0108	0.0100	0.0100	0	108	70	130			
Molybdenum	0.00513	0.00500	0.00500	0	103	70	130			
Selenium	0.00571	0.00500	0.00500	0	114	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Sample ID	CCV7-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 4:30:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.201	0.00250	0.200	0	101	90	110			
Arsenic	0.206	0.00500	0.200	0	103	90	110			
Barium	0.200	0.0100	0.200	0	99.8	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler

Work Order: 1612133

Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161215D

Sample ID	CCV7-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 4:30:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Beryllium	0.206	0.00100	0.200	0	103	90	110			
Boron	0.241	0.0300	0.200	0	120	90	110			S
Cadmium	0.199	0.00100	0.200	0	99.6	90	110			
Calcium	5.11	0.300	5.00	0	102	90	110			
Chromium	0.205	0.00500	0.200	0	102	90	110			
Cobalt	0.205	0.00500	0.200	0	103	90	110			
Lead	0.199	0.00100	0.200	0	99.4	90	110			
Lithium	0.205	0.0100	0.200	0	102	90	110			
Molybdenum	0.196	0.00500	0.200	0	97.8	90	110			
Selenium	0.209	0.00500	0.200	0	104	90	110			
Thallium	0.197	0.00150	0.200	0	98.6	90	110			

Sample ID	LCVL7-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 4:35:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00215	0.00250	0.00200	0	108	70	130			
Arsenic	0.00532	0.00500	0.00500	0	106	70	130			
Barium	0.00528	0.0100	0.00500	0	106	70	130			
Beryllium	0.00108	0.00100	0.00100	0	108	70	130			
Boron	0.0406	0.0300	0.0200	0	203	70	130			S
Cadmium	0.00100	0.00100	0.00100	0	100	70	130			
Calcium	0.113	0.300	0.100	0	113	70	130			
Chromium	0.00531	0.00500	0.00500	0	106	70	130			
Cobalt	0.00531	0.00500	0.00500	0	106	70	130			
Lead	0.00102	0.00100	0.00100	0	102	70	130			
Lithium	0.0114	0.0100	0.0100	0	114	70	130			
Molybdenum	0.00488	0.00500	0.00500	0	97.5	70	130			
Selenium	0.00561	0.00500	0.00500	0	112	70	130			
Thallium	0.00106	0.00150	0.00100	0	106	70	130			

Sample ID	CCV8-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 5:29:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.202	0.00250	0.200	0	101	90	110			
Arsenic	0.207	0.00500	0.200	0	104	90	110			
Barium	0.203	0.0100	0.200	0	101	90	110			
Beryllium	0.198	0.00100	0.200	0	98.9	90	110			
Boron	0.735	0.0300	0.200	0	368	90	110			S
Cadmium	0.198	0.00100	0.200	0	98.9	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161215D

Sample ID	CCV8-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 5:29:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	5.06	0.300	5.00	0	101	90	110			
Chromium	0.204	0.00500	0.200	0	102	90	110			
Cobalt	0.203	0.00500	0.200	0	102	90	110			
Lead	0.201	0.00100	0.200	0	101	90	110			
Lithium	0.194	0.0100	0.200	0	97.0	90	110			
Molybdenum	0.195	0.00500	0.200	0	97.3	90	110			
Selenium	0.210	0.00500	0.200	0	105	90	110			
Thallium	0.197	0.00150	0.200	0	98.5	90	110			

Sample ID	LCVL8-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 5:33:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00212	0.00250	0.00200	0	106	70	130			
Arsenic	0.00548	0.00500	0.00500	0	110	70	130			
Barium	0.00525	0.0100	0.00500	0	105	70	130			
Beryllium	0.000848	0.00100	0.00100	0	84.8	70	130			
Boron	0.328	0.0300	0.0200	0	1640	70	130			S
Cadmium	0.00106	0.00100	0.00100	0	106	70	130			
Calcium	0.116	0.300	0.100	0	116	70	130			
Chromium	0.00534	0.00500	0.00500	0	107	70	130			
Cobalt	0.00538	0.00500	0.00500	0	108	70	130			
Lead	0.00102	0.00100	0.00100	0	102	70	130			
Lithium	0.0112	0.0100	0.0100	0	112	70	130			
Molybdenum	0.00487	0.00500	0.00500	0	97.3	70	130			
Selenium	0.00612	0.00500	0.00500	0	122	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Sample ID	CCV9-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 5:57:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.199	0.00250	0.200	0	99.6	90	110			
Arsenic	0.209	0.00500	0.200	0	104	90	110			
Barium	0.201	0.0100	0.200	0	100	90	110			
Beryllium	0.196	0.00100	0.200	0	98.1	90	110			
Cadmium	0.197	0.00100	0.200	0	98.6	90	110			
Chromium	0.200	0.00500	0.200	0	100	90	110			
Cobalt	0.204	0.00500	0.200	0	102	90	110			
Lead	0.197	0.00100	0.200	0	98.4	90	110			
Lithium	0.198	0.0100	0.200	0	98.9	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161215D

Sample ID	CCV9-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 5:57:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.191	0.00500	0.200	0	95.3	90	110			
Selenium	0.210	0.00500	0.200	0	105	90	110			
Thallium	0.195	0.00150	0.200	0	97.4	90	110			

Sample ID	LCVL9-161215	Batch ID:	R89469	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161215D	Analysis Date:	12/15/2016 6:01:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00202	0.00250	0.00200	0	101	70	130			
Arsenic	0.00550	0.00500	0.00500	0	110	70	130			
Barium	0.00518	0.0100	0.00500	0	104	70	130			
Beryllium	0.000899	0.00100	0.00100	0	89.9	70	130			
Cadmium	0.00101	0.00100	0.00100	0	101	70	130			
Chromium	0.00537	0.00500	0.00500	0	107	70	130			
Cobalt	0.00529	0.00500	0.00500	0	106	70	130			
Lead	0.000975	0.00100	0.00100	0	97.5	70	130			
Lithium	0.0108	0.0100	0.0100	0	108	70	130			
Molybdenum	0.00468	0.00500	0.00500	0	93.7	70	130			
Selenium	0.00590	0.00500	0.00500	0	118	70	130			
Thallium	0.00100	0.00150	0.00100	0	100	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161216D

The QC data in batch 78271 applies to the following samples: 1612133-01A, 1612133-02A, 1612133-03A

Sample ID	LCS-78271			Batch ID:	78271		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCS			Run ID:	ICP-MS4_161216D		Analysis Date:	12/16/2016 3:22:00 PM		Prep Date:	12/14/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.200	0.00250	0.200	0	100	80	120			
Arsenic	0.204	0.00500	0.200	0	102	80	120			
Barium	0.200	0.0100	0.200	0	100	80	120			
Beryllium	0.210	0.00100	0.200	0	105	80	120			
Boron	0.206	0.0300	0.200	0	103	80	120			
Cadmium	0.202	0.00100	0.200	0	101	80	120			
Calcium	4.86	0.300	5.00	0	97.3	80	120			
Chromium	0.204	0.00500	0.200	0	102	80	120			
Cobalt	0.209	0.00500	0.200	0	105	80	120			
Lead	0.195	0.00100	0.200	0	97.7	80	120			
Lithium	0.199	0.0100	0.200	0	99.4	80	120			
Molybdenum	0.199	0.00500	0.200	0	99.5	80	120			
Selenium	0.208	0.00500	0.200	0	104	80	120			
Thallium	0.196	0.00150	0.200	0	98.0	80	120			

Sample ID	LCSD-78271	Batch ID:	78271	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_161216D	Analysis Date:	12/16/2016 3:24:00 PM	Prep Date:	12/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.196	0.00250	0.200	0	98.1	80	120	1.95	15	
Arsenic	0.168	0.00500	0.200	0	84.2	80	120	19.1	15	R
Barium	0.163	0.0100	0.200	0	81.4	80	120	20.6	15	R
Beryllium	0.170	0.00100	0.200	0	84.8	80	120	21.4	15	R
Boron	0.166	0.0300	0.200	0	83.2	80	120	21.4	15	R
Cadmium	0.164	0.00100	0.200	0	81.8	80	120	20.9	15	R
Calcium	4.85	0.300	5.00	0	97.1	80	120	0.204	15	
Chromium	0.166	0.00500	0.200	0	82.9	80	120	20.6	15	R
Cobalt	0.171	0.00500	0.200	0	85.4	80	120	20.3	15	R
Lead	0.163	0.00100	0.200	0	81.3	80	120	18.3	15	R
Lithium	0.162	0.0100	0.200	0	80.8	80	120	20.6	15	R
Molybdenum	0.162	0.00500	0.200	0	81.0	80	120	20.6	15	R
Selenium	0.168	0.00500	0.200	0	83.9	80	120	21.5	15	R
Thallium	0.163	0.00150	0.200	0	81.7	80	120	18.2	15	R

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161216D

Sample ID	ICV-161216	Batch ID:	R89509	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_161216D	Analysis Date:	12/16/2016 11:21:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.100	0.00250	0.100	0	100	90	110			
Arsenic	0.101	0.00500	0.100	0	101	90	110			
Barium	0.101	0.0100	0.100	0	101	90	110			
Beryllium	0.103	0.00100	0.100	0	103	90	110			
Boron	0.0983	0.0300	0.100	0	98.3	90	110			
Cadmium	0.102	0.00100	0.100	0	102	90	110			
Calcium	2.31	0.300	2.50	0	92.2	90	110			
Chromium	0.107	0.00500	0.100	0	107	90	110			
Cobalt	0.106	0.00500	0.100	0	106	90	110			
Lead	0.101	0.00100	0.100	0	101	90	110			
Lithium	0.0990	0.0100	0.100	0	99.0	90	110			
Molybdenum	0.0976	0.00500	0.100	0	97.6	90	110			
Selenium	0.103	0.00500	0.100	0	103	90	110			
Thallium	0.101	0.00150	0.100	0	101	90	110			

Sample ID	LCVL-161216	Batch ID:	R89509	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161216D	Analysis Date:	12/16/2016 11:33:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00207	0.00250	0.00200	0	103	70	130			
Arsenic	0.00548	0.00500	0.00500	0	110	70	130			
Barium	0.00541	0.0100	0.00500	0	108	70	130			
Beryllium	0.00120	0.00100	0.00100	0	120	70	130			
Cadmium	0.00110	0.00100	0.00100	0	110	70	130			
Calcium	0.103	0.300	0.100	0	103	70	130			
Chromium	0.00564	0.00500	0.00500	0	113	70	130			
Cobalt	0.00561	0.00500	0.00500	0	112	70	130			
Lead	0.00111	0.00100	0.00100	0	111	70	130			
Lithium	0.0112	0.0100	0.0100	0	112	70	130			
Molybdenum	0.00530	0.00500	0.00500	0	106	70	130			
Selenium	0.00575	0.00500	0.00500	0	115	70	130			
Thallium	0.00110	0.00150	0.00100	0	110	70	130			

Sample ID	CCV4-161216	Batch ID:	R89509	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161216D	Analysis Date:	12/16/2016 2:52:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.196	0.00250	0.200	0	97.9	90	110			
Arsenic	0.206	0.00500	0.200	0	103	90	110			
Barium	0.199	0.0100	0.200	0	99.6	90	110			
Beryllium	0.208	0.00100	0.200	0	104	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161216D

Sample ID	CCV4-161216	Batch ID:	R89509	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161216D	Analysis Date:	12/16/2016 2:52:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.220	0.0300	0.200	0	110	90	110			
Cadmium	0.200	0.00100	0.200	0	99.9	90	110			
Calcium	4.92	0.300	5.00	0	98.4	90	110			
Chromium	0.204	0.00500	0.200	0	102	90	110			
Cobalt	0.209	0.00500	0.200	0	104	90	110			
Lead	0.198	0.00100	0.200	0	98.8	90	110			
Lithium	0.202	0.0100	0.200	0	101	90	110			
Molybdenum	0.199	0.00500	0.200	0	99.5	90	110			
Selenium	0.207	0.00500	0.200	0	103	90	110			
Thallium	0.199	0.00150	0.200	0	99.5	90	110			

Sample ID	LCVL4-161216	Batch ID:	R89509	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161216D	Analysis Date:	12/16/2016 3:01:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00206	0.00250	0.00200	0	103	70	130			
Arsenic	0.00549	0.00500	0.00500	0	110	70	130			
Barium	0.00528	0.0100	0.00500	0	106	70	130			
Beryllium	0.00119	0.00100	0.00100	0	119	70	130			
Boron	0.0312	0.0300	0.0200	0	156	70	130			S
Cadmium	0.00107	0.00100	0.00100	0	107	70	130			
Calcium	0.110	0.300	0.100	0	110	70	130			
Chromium	0.00543	0.00500	0.00500	0	109	70	130			
Cobalt	0.00552	0.00500	0.00500	0	110	70	130			
Lead	0.00105	0.00100	0.00100	0	105	70	130			
Lithium	0.0105	0.0100	0.0100	0	105	70	130			
Molybdenum	0.00521	0.00500	0.00500	0	104	70	130			
Selenium	0.00549	0.00500	0.00500	0	110	70	130			
Thallium	0.00106	0.00150	0.00100	0	106	70	130			

Sample ID	CCV5-161216	Batch ID:	R89509	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161216D	Analysis Date:	12/16/2016 3:58:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.201	0.00250	0.200	0	100	90	110			
Arsenic	0.206	0.00500	0.200	0	103	90	110			
Barium	0.202	0.0100	0.200	0	101	90	110			
Beryllium	0.200	0.00100	0.200	0	100	90	110			
Boron	0.202	0.0300	0.200	0	101	90	110			
Cadmium	0.203	0.00100	0.200	0	102	90	110			
Calcium	4.98	0.300	5.00	0	99.6	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161216D

Sample ID	CCV5-161216			Batch ID:	R89509		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV			Run ID:	ICP-MS4_161216D		Analysis Date:	12/16/2016 3:58:00 PM		Prep Date:		
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chromium	0.203	0.00500	0.200	0	102	90	110			
Cobalt	0.208	0.00500	0.200	0	104	90	110			
Lead	0.197	0.00100	0.200	0	98.4	90	110			
Lithium	0.199	0.0100	0.200	0	99.5	90	110			
Molybdenum	0.203	0.00500	0.200	0	101	90	110			
Selenium	0.206	0.00500	0.200	0	103	90	110			
Thallium	0.198	0.00150	0.200	0	98.8	90	110			

Sample ID	LCVL5-161216			Batch ID:	R89509		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCVL			Run ID:	ICP-MS4_161216D		Analysis Date:	12/16/2016 4:18:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.00198	0.00250	0.00200	0	99.0	70	130			
Arsenic	0.00526	0.00500	0.00500	0	105	70	130			
Barium	0.00525	0.0100	0.00500	0	105	70	130			
Beryllium	0.000977	0.00100	0.00100	0	97.7	70	130			
Boron	0.00708	0.0300	0.0200	0	35.4	70	130			S
Cadmium	0.00107	0.00100	0.00100	0	107	70	130			
Calcium	0.109	0.300	0.100	0	109	70	130			
Chromium	0.00540	0.00500	0.00500	0	108	70	130			
Cobalt	0.00553	0.00500	0.00500	0	111	70	130			
Lead	0.00103	0.00100	0.00100	0	103	70	130			
Lithium	0.0108	0.0100	0.0100	0	108	70	130			
Molybdenum	0.00501	0.00500	0.00500	0	100	70	130			
Selenium	0.00586	0.00500	0.00500	0	117	70	130			
Thallium	0.00103	0.00150	0.00100	0	103	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161220B

The QC data in batch 78271 applies to the following samples: 1612133-01A, 1612133-02A, 1612133-03A

Sample ID	1612132-02A SD	Batch ID:	78271	TestNo:	SW6020A	Units:	mg/L				
SampType:	SD	Run ID:	ICP-MS4_161220B	Analysis Date:	12/20/2016 2:03:00 PM	Prep Date:	12/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		30.9	15.0	0	22.3				32.3	10	R
Calcium		257	150	0	246				4.41	10	

Sample ID	1612132-02A PDS	Batch ID:	78271	TestNo:	SW6020A	Units:	mg/L				
SampType:	PDS	Run ID:	ICP-MS4_161220B	Analysis Date:	12/20/2016 2:10:00 PM	Prep Date:	12/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		43.9	3.00	20.0	22.3	108	80	120			
Calcium		725	30.0	500	246	95.8	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161220B

Sample ID	ICV-161220	Batch ID:	R89557	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_161220B	Analysis Date:	12/20/2016 11:39:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.102	0.0300	0.100	0	102	90	110			
Calcium	2.37	0.300	2.50	0	95.0	90	110			

Sample ID	LCVL-161220	Batch ID:	R89557	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161220B	Analysis Date:	12/20/2016 11:49:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0230	0.0300	0.0200	0	115	70	130			
Calcium	0.0965	0.300	0.100	0	96.5	70	130			

Sample ID	CCV1-161220		Batch ID:	R89557		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV		Run ID:	ICP-MS4_161220B		Analysis Date:	12/20/2016 1:02:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.215	0.0300	0.200	0	108	90	110			
Calcium	4.94	0.300	5.00	0	98.8	90	110			

Sample ID	LCVL1-161220	Batch ID:	R89557	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161220B	Analysis Date:	12/20/2016 1:08:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0236	0.0300	0.0200	0	118	70	130			
Calcium	0.109	0.300	0.100	0	109	70	130			

Sample ID	CCV2-161220	Batch ID:	R89557	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161220B	Analysis Date:	12/20/2016 2:52:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.208	0.0300	0.200	0	104	90	110			
Calcium	4.97	0.300	5.00	0	99.3	90	110			

Sample ID	LCVL2-161220	Batch ID:	R89557	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161220B	Analysis Date:	12/20/2016 2:59:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0231	0.0300	0.0200	0	115	70	130			
Calcium	0.103	0.300	0.100	0	103	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161221A

Sample ID	ICV-161221	Batch ID:	R89593	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_161221A	Analysis Date:	12/21/2016 10:50:00 A	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.103	0.0300	0.100	0	103	90	110			
Calcium	2.28	0.300	2.50	0	91.1	90	110			

Sample ID	LCVL-161221		Batch ID:	R89593		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCVL		Run ID:	ICP-MS4_161221A		Analysis Date:	12/21/2016 11:06:00 A		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0234	0.0300	0.0200	0	117	70	130			
Calcium	0.104	0.300	0.100	0	104	70	130			

Sample ID	CCV2-161221		Batch ID:	R89593		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV		Run ID:	ICP-MS4_161221A		Analysis Date:	12/21/2016 12:49:00 P		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.208	0.0300	0.200	0	104	90	110			
Calcium	4.71	0.300	5.00	0	94.2	90	110			

Sample ID	LCVL2-161221		Batch ID:	R89593		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCVL		Run ID:	ICP-MS4_161221A		Analysis Date:	12/21/2016 1:06:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0259	0.0300	0.0200	0	130	70	130			
Calcium	0.0983	0.300	0.100	0	98.3	70	130			

Sample ID	CCV3-161221	Batch ID:	R89593	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161221A	Analysis Date:	12/21/2016 1:42:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.214	0.0300	0.200	0	107	90	110			
Calcium	4.70	0.300	5.00	0	94.1	90	110			

Sample ID	LCVL3-161221	Batch ID:	R89593	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_161221A	Analysis Date:	12/21/2016 1:59:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0234	0.0300	0.0200	0	117	70	130			
Calcium	0.100	0.300	0.100	0	100	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161216A

The QC data in batch 78329 applies to the following samples: 1612133-01D, 1612133-02D, 1612133-03D

Sample ID	MB-78329	Batch ID:	78329	TestNo:	E300	Units:	mg/L				
SampType:	MBLK	Run ID:	IC2_161216A	Analysis Date:	12/16/2016 10:04:36 A	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00									
Fluoride	<0.100	0.400									
Sulfate	<1.00	3.00									

Sample ID	LCS-78329	Batch ID:	78329	TestNo:	E300	Units:	mg/L				
SampType:	LCS	Run ID:	IC2_161216A	Analysis Date:	12/16/2016 10:19:12 A	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.84	1.00	10.00	0	98.4	90	110				
Fluoride	3.75	0.400	4.000	0	93.7	90	110				
Sulfate	30.2	3.00	30.00	0	101	90	110				

Sample ID	LCSD-78329	Batch ID:	78329	TestNo:	E300	Units:	mg/L				
SampType:	LCSD	Run ID:	IC2_161216A	Analysis Date:	12/16/2016 10:33:49 A	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.1	1.00	10.00	0	101	90	110	2.91	20		
Fluoride	3.92	0.400	4.000	0	98.0	90	110	4.46	20		
Sulfate	30.9	3.00	30.00	0	103	90	110	2.29	20		

Sample ID	1612133-02DMS	Batch ID:	78329	TestNo:	E300	Units:	mg/L				
SampType:	MS	Run ID:	IC2_161216A	Analysis Date:	12/16/2016 12:01:55 P	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	26.3	1.00	20.00	5.560	104	90	110				
Fluoride	20.1	0.400	20.00	0.2512	99.4	90	110				
Sulfate	27.5	3.00	20.00	6.690	104	90	110				

Sample ID	1612133-02DMSD	Batch ID:	78329	TestNo:	E300	Units:	mg/L				
SampType:	MSD	Run ID:	IC2_161216A	Analysis Date:	12/16/2016 12:16:31 P	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	26.6	1.00	20.00	5.560	105	90	110	1.27	20		
Fluoride	20.7	0.400	20.00	0.2512	102	90	110	2.77	20		
Sulfate	28.0	3.00	20.00	6.690	106	90	110	1.67	20		

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161216A

Sample ID	ICV-161216	Batch ID:	R89500	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC2_161216A	Analysis Date:	12/16/2016 9:10:38 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.8	1.00	25.00	0	103	90	110			
Fluoride	10.1	0.400	10.00	0	101	90	110			
Sulfate	79.6	3.00	75.00	0	106	90	110			

Sample ID	CCV1-161216	Batch ID:	R89500	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_161216A	Analysis Date:	12/16/2016 1:57:56 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.85	1.00	10.00	0	98.5	90	110			
Fluoride	3.94	0.400	4.000	0	98.6	90	110			
Sulfate	30.3	3.00	30.00	0	101	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161214A

The QC data in batch 78265 applies to the following samples: 1612133-01D, 1612133-02D, 1612133-03D

Sample ID	1612132-01D-DUP	Batch ID:	78265	TestNo:	M4500-H+ B	Units:	pH Units@17°C
SampType:	DUP	Run ID:	TITRATOR_161214A	Analysis Date:	12/14/2016 9:00:00 AM	Prep Date:	12/14/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual

pH	7.60	0	0	7.380			2.94	5

Sample ID	1612133-01D-DUP	Batch ID:	78265	TestNo:	M4500-H+ B	Units:	pH Units@18.9°C
SampType:	DUP	Run ID:	TITRATOR_161214A	Analysis Date:	12/14/2016 9:24:00 AM	Prep Date:	12/14/2016
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual

pH	5.69	0	0	5.780			1.57	5

LUMINANT

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161214A

Sample ID	ICV-161214	Batch ID:	R89416	TestNo:	M4500-H+ B	Units:	pH Units@22.2°C				
SampType:	ICV	Run ID:	TITRATOR_161214A	Analysis Date:	12/14/2016 8:31:00 AM	Prep Date:	12/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH		9.91	0	10.00	0	99.1	99	101			

Sample ID	CCV1-161214	Batch ID:	R89416	TestNo:	M4500-H+ B	Units:	pH Units@21.4°C			
SampType:	CCV	Run ID:	TITRATOR_161214A	Analysis Date:	12/14/2016 9:21:00 AM	Prep Date:	12/14/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.96	0	7.000	0	99.4	97.1	102.9			

Sample ID	CCV2-161214	Batch ID:	R89416	TestNo:	M4500-H+ B	Units:	pH Units@21.6°C				
SampType:	CCV	Run ID:	TITRATOR_161214A	Analysis Date:	12/14/2016 9:30:00 AM	Prep Date:	12/14/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH		6.99	0	7.000	0	99.9	97.1	102.9			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612133
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: WC_161216B

The QC data in batch 78334 applies to the following samples: 1612133-01D, 1612133-02D, 1612133-03D

Sample ID	MB-78334	Batch ID:	78334	TestNo:	M2540C	Units:	mg/L				
SampType:	MBLK	Run ID:	WC_161216B	Analysis Date:	12/19/2016 8:42:00 AM	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-78334	Batch ID:	78334	TestNo:	M2540C	Units:	mg/L				
SampType:	LCS	Run ID:	WC_161216B	Analysis Date:	12/19/2016 8:42:00 AM	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 751 10.0 745.6 0 101 90 113

Sample ID	1612137-01C-DUP	Batch ID:	78334	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_161216B	Analysis Date:	12/19/2016 8:42:00 AM	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 3580 50.0 0 3515 1.83 5

Sample ID	1612137-04C-DUP	Batch ID:	78334	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_161216B	Analysis Date:	12/19/2016 8:42:00 AM	Prep Date:	12/16/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 3600 50.0 0 3445 4.26 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

Case Narrative

Lab No: 20161234

This report contains the analytical results for the 3 sample(s) received under chain of custody by ESC Lab Sciences on 12/15/2016 1:00:18 PM. These samples are associated with your 1612133 project.

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

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

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances

L879332



Client : DHL Analytical, Inc.
 Client Project : 1612133
 Lab Number : 20161234
 Date Reported : 01/16/17
 Date Received : 12/15/16
 Page Number : 2 of 3

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20161234-01
Client ID : MW-18A
Date Sampled : 12/12/2016 8:50:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.118 +/- 0.749	0.889	pCi/l			
Radium-226	SM 7500 Ra B M*	0.118 +/- 0.125	0.181	pCi/l	12/27/16	01/05/17	AK
Radium-228	EPA 904*/9320*	-0.109 +/- 0.624	0.708	pCi/l	01/09/17	01/14/17	JR

Lab ID : 20161234-02
Client ID : PDP-26
Date Sampled : 12/12/2016 10:10:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		0.193 +/- 0.663	0.796	pCi/l			
Radium-226	SM 7500 Ra B M*	0.193 +/- 0.129	0.165	pCi/l	12/27/16	01/05/17	AK
Radium-228	EPA 904*/9320*	-0.537 +/- 0.534	0.631	pCi/l	01/09/17	01/14/17	JR

Lab ID : 20161234-03
Client ID : PDP-22
Date Sampled : 12/12/2016 11:15:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		3.46 +/- 1.00	1.02	pCi/l			
Radium-226	SM 7500 Ra B M*	1.16 +/- 0.275	0.214	pCi/l	12/27/16	01/05/17	AK
Radium-228	EPA 904*/9320*	2.30 +/- 0.727	0.802	pCi/l	01/09/17	01/14/17	JR

Client : DHL Analytical, Inc.
 Client Project : 1612133
 Lab Number : 20161234
 Date Reported : 01/16/17
 Date Received : 12/15/16
 Page Number : 3 of 3

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.000	120.0			NC	0.321	118.0	110.0	6.7	R1175
Radium-228	0.018	98.4			140.0	1.680	97.1	92.1	4.5	R3904

Lab Approval:



Ron Eidson
Director of Radiochemistry

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1612133

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Subcontractor:

ESC Laboratory

311 North Aspen

Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515

FAX:

Acct #: DHLRRTX

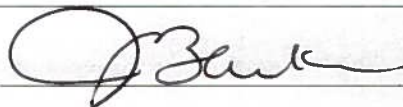
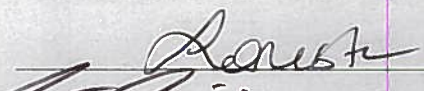
13-Dec-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests							
					E904.0	SM7500Ra-B M						
1 MW-18A	Aqueous	-01B	12/12/16 08:50 AM	1LHDPEHNO3	1							
1 MW-18A	Aqueous	-01C	12/12/16 08:50 AM	500HDPEHNO3		1						
2 PDP-26	Aqueous	-02B	12/12/16 10:10 AM	1LHDPEHNO3	1							
2 PDP-26	Aqueous	-02C	12/12/16 10:10 AM	500HDPEHNO3		1						
3 PDP-22	Aqueous	-03B	12/12/16 11:15 AM	1LHDPEHNO3	1							
3 PDP-22	Aqueous	-03C	12/12/16 11:15 AM	500HDPEHNO3		1						

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

6879332

Relinquished by:	Date/Time	Received by:	Date/Time
	12/13/16 1730		12/13/16 1730
Relinquished by:		Received by:	12/15/16 1240

2016 1234

SAMPLE LOGIN

Date Received: 12/15/2016 1:00:1

Lab Number: 20161234

Due: 1/16/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20161234-01 B	MW-18A	NPW	12/12/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20161234-01 A	MW-18A	NPW	12/12/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161234-02 B	PDP-26	NPW	12/12/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20161234-02 A	PDP-26	NPW	12/12/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						
20161234-03 B	PDP-22	NPW	12/12/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
20161234-03 A	PDP-22	NPW	12/12/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
Radium-226			SM 7500 Ra B M*						
Radium-228			EPA 904*/9320*						

CONTAINER INSPECTION

Coolers 1 Custody Seals Broken ☒ Temperature: 4°C Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken ☒ Chain of Custody Record ☒ Labels in Tact ☒ Radiation Survey Complete ☒ N/A

Anomalles

Inspected By: [Signature] DATE 12/15/16

QA or Designee Review: Russell Thomas DATE 12/15/16

Sample Custodian Review: Laura M. [Signature] DATE 12/15/16

Project Notes:



January 26, 2017

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: MLSES - PDP-5 Area

Order No.: 1612144

Dear Will Vienne:

DHL Analytical, Inc. received 6 sample(s) on 12/14/2016 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink, appearing to read "John DuPont".

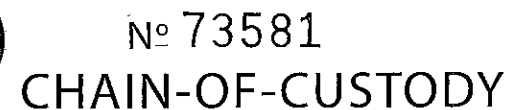
John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-16-17



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DATE: 12-13-16 PAGE 1 OF 1
PO #: 5164-B DHL WORK ORDER #: 1612144
PROJECT LOCATION OR NAME: MLSES - PDP 5 AREA
CLIENT PROJECT #: 5164-B COLLECTOR: J. BRAYTON

[illegible]

John Dupont

From: Sara Taube [Sara.Taube@pbwflc.com]
Sent: Wednesday, July 22, 2015 12:05 PM
To: John Dupont
Subject: CCR Appendix III and IV
Follow Up Flag: Follow up
Flag Status: Completed

Hi John,

Here are the Appendix III and Appendix IV constituents that we will need to have analyzed under the CCR Rule.

Appendix III

Boron
Calcium
Chloride
Fluoride
pH
sulfate
TDS

Appendix IV

Antimony
Arsenic
Barium
Beryllium
Cadmium
Chromium
Cobalt
Fluoride
Lead
Lithium
Mercury
Molybdenum
Selenium
Thallium
Radium 226 and 228

We are looking to have approximately 74 wells sampled 8 times over the course of the next two years. Please let me know if there is any more information you might need.

Cheers,

Sara

10/26/2015

ORIGIN ID:GGGA (512) 871-3434

PBW
2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 13DEC
ACTWGT: 83.20
CAD: 006894
DIMS: 25

BILL

TO DHL

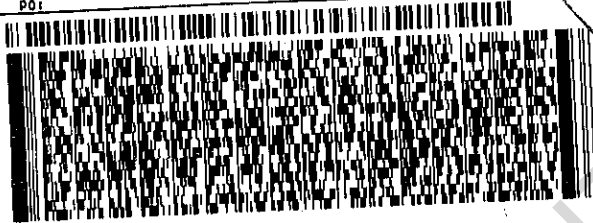
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664

(512) 388-8222

REF:

DEPT:



FedEx
Express



2 of 2

MPS# 7849 8448 6565

Mstr# 7849 8448 6554

0201

A8 BSMA

WED - 14 DEC 10:30A
PRIORITY OVERNIGHT

78664

TX-US AUS



Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 12/14/2016

Work Order Number 1612144

Received by JT

Checklist completed by: [Signature] 12/14/2016
Signature Date

Reviewed by [Initials] 12/14/2016
Initials Date

Carrier name FedEx 1day

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐
Custody seals intact on shipping container/cooler? Yes ☐ No ☐ Not Present ☒
Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒
Chain of custody present? Yes ☒ No ☐
Chain of custody signed when relinquished and received? Yes ☒ No ☐
Chain of custody agrees with sample labels? Yes ☒ No ☐
Samples in proper container/bottle? Yes ☒ No ☐
Sample containers intact? Yes ☒ No ☐
Sufficient sample volume for indicated test? Yes ☒ No ☐
All samples received within holding time? Yes ☒ No ☐
Container/Temp Blank temperature in compliance? Yes ☒ No ☐ 3.6 °C
Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒
Water - pH<2 acceptable upon receipt? Yes ☒ No ☐ NA ☐ LOT # 8086
Adjusted? no Checked by [Signature]
Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes ☐ No ☐ NA ☒ LOT #
Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Lab Order: 1612144

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M4500-H+ B - pH of a Water Analysis
Method M2540C - TDS Analysis

Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M.
Analyzed at ESC Lab Sciences.

LOG IN

The samples were received and log-in performed on 12/14/16. A total of 6 samples were received. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals analysis performed on 12/23/16 LCVL6-161223 was slightly above control limits for Beryllium. This is flagged accordingly in the QC summary report. The associated CCV was within control limits for this analyte. No further corrective actions were taken.

ANIONS ANALYSIS

For Anions analysis performed on 12/21/16 the matrix spike and matrix spike duplicate recoveries were below control limits for Chloride. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Lab Order: 1612144**Work Order Sample Summary**

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1612144-01	PDP-25		12/12/16 12:20 PM	12/14/2016
1612144-02	MW-20A		12/12/16 02:25 PM	12/14/2016
1612144-03	PDP-23		12/12/16 03:20 PM	12/14/2016
1612144-04	MW-19		12/12/16 04:30 PM	12/14/2016
1612144-05	MW-17A		12/13/16 08:45 AM	12/14/2016
1612144-06	PDP-24		12/13/16 09:45 AM	12/14/2016

Lab Order: 1612144
Client: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1612144-01A	PDP-25	12/12/16 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	PDP-25	12/12/16 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	PDP-25	12/12/16 12:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	PDP-25	12/12/16 12:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/20/16 10:36 AM	78390
1612144-01D	PDP-25	12/12/16 12:20 PM	Aqueous	E300	Anion Preparation	12/21/16 11:54 AM	78420
	PDP-25	12/12/16 12:20 PM	Aqueous	E300	Anion Preparation	12/21/16 11:54 AM	78420
	PDP-25	12/12/16 12:20 PM	Aqueous	M4500-H+ B	pH Preparation	12/15/16 07:51 AM	78292
	PDP-25	12/12/16 12:20 PM	Aqueous	M2540C	TDS Preparation	12/19/16 03:40 PM	78352
1612144-02A	MW-20A	12/12/16 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	MW-20A	12/12/16 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	MW-20A	12/12/16 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	MW-20A	12/12/16 02:25 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/20/16 10:36 AM	78390
1612144-02D	MW-20A	12/12/16 02:25 PM	Aqueous	E300	Anion Preparation	12/21/16 11:54 AM	78420
	MW-20A	12/12/16 02:25 PM	Aqueous	M4500-H+ B	pH Preparation	12/15/16 07:51 AM	78292
	MW-20A	12/12/16 02:25 PM	Aqueous	M2540C	TDS Preparation	12/19/16 03:40 PM	78352
1612144-03A	PDP-23	12/12/16 03:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	PDP-23	12/12/16 03:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	PDP-23	12/12/16 03:20 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/20/16 10:36 AM	78390
1612144-03D	PDP-23	12/12/16 03:20 PM	Aqueous	E300	Anion Preparation	12/21/16 11:54 AM	78420
	PDP-23	12/12/16 03:20 PM	Aqueous	M4500-H+ B	pH Preparation	12/15/16 07:51 AM	78292
	PDP-23	12/12/16 03:20 PM	Aqueous	M2540C	TDS Preparation	12/19/16 03:40 PM	78352
1612144-04A	MW-19	12/12/16 04:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	MW-19	12/12/16 04:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	MW-19	12/12/16 04:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	MW-19	12/12/16 04:30 PM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/20/16 10:36 AM	78390
1612144-04D	MW-19	12/12/16 04:30 PM	Aqueous	E300	Anion Preparation	12/21/16 11:54 AM	78420
	MW-19	12/12/16 04:30 PM	Aqueous	E300	Anion Preparation	12/21/16 11:54 AM	78420
	MW-19	12/12/16 04:30 PM	Aqueous	M4500-H+ B	pH Preparation	12/15/16 07:51 AM	78292

Lab Order: 1612144
Client: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1612144-04D	MW-19	12/12/16 04:30 PM	Aqueous	M2540C	TDS Preparation	12/19/16 03:40 PM	78352
1612144-05A	MW-17A	12/13/16 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	MW-17A	12/13/16 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	MW-17A	12/13/16 08:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/20/16 10:36 AM	78390
1612144-05D	MW-17A	12/13/16 08:45 AM	Aqueous	E300	Anion Preparation	12/21/16 11:54 AM	78420
	MW-17A	12/13/16 08:45 AM	Aqueous	M4500-H+ B	pH Preparation	12/15/16 07:51 AM	78292
	MW-17A	12/13/16 08:45 AM	Aqueous	M2540C	TDS Preparation	12/19/16 03:40 PM	78352
1612144-06A	PDP-24	12/13/16 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	PDP-24	12/13/16 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	PDP-24	12/13/16 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	12/20/16 09:03 AM	78380
	PDP-24	12/13/16 09:45 AM	Aqueous	SW7470A	Mercury Aq Prep, Total	12/20/16 10:36 AM	78390
1612144-06D	PDP-24	12/13/16 09:45 AM	Aqueous	E300	Anion Preparation	12/21/16 11:54 AM	78420
	PDP-24	12/13/16 09:45 AM	Aqueous	E300	Anion Preparation	12/21/16 11:54 AM	78420
	PDP-24	12/13/16 09:45 AM	Aqueous	M4500-H+ B	pH Preparation	12/15/16 07:51 AM	78292
	PDP-24	12/13/16 09:45 AM	Aqueous	M2540C	TDS Preparation	12/19/16 03:40 PM	78352

Lab Order: 1612144
Client: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1612144-01A	PDP-25	Aqueous	SW7470A	Mercury Total: Aqueous	78390	1	12/21/16 12:13 PM	CETAC2_HG_161221A
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/23/16 05:36 PM	ICP-MS4_161223B
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/28/16 05:07 PM	ICP-MS4_161228C
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	10	12/28/16 11:26 PM	ICP-MS4_161228C
1612144-01D	PDP-25	Aqueous	E300	Anions by IC method - Water	78420	1	12/21/16 12:27 PM	IC2_161221A
	PDP-25	Aqueous	E300	Anions by IC method - Water	78420	10	12/21/16 02:56 PM	IC2_161221A
	PDP-25	Aqueous	M4500-H+ B	pH	78292	1	12/15/16 09:09 AM	TITRATOR_161215A
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	78352	1	12/20/16 08:41 AM	WC_161219C
1612144-02A	MW-20A	Aqueous	SW7470A	Mercury Total: Aqueous	78390	1	12/21/16 12:15 PM	CETAC2_HG_161221A
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/23/16 02:13 PM	ICP-MS4_161223B
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/28/16 02:29 PM	ICP-MS4_161228B
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	10	12/28/16 11:22 PM	ICP-MS4_161228C
1612144-02D	MW-20A	Aqueous	E300	Anions by IC method - Water	78420	1	12/21/16 12:42 PM	IC2_161221A
	MW-20A	Aqueous	M4500-H+ B	pH	78292	1	12/15/16 09:12 AM	TITRATOR_161215A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	78352	1	12/20/16 08:41 AM	WC_161219C
1612144-03A	PDP-23	Aqueous	SW7470A	Mercury Total: Aqueous	78390	1	12/21/16 12:26 PM	CETAC2_HG_161221A
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/23/16 05:38 PM	ICP-MS4_161223B
	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/28/16 05:09 PM	ICP-MS4_161228C
1612144-03D	PDP-23	Aqueous	E300	Anions by IC method - Water	78420	1	12/21/16 12:57 PM	IC2_161221A
	PDP-23	Aqueous	M4500-H+ B	pH	78292	1	12/15/16 09:15 AM	TITRATOR_161215A
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	78352	1	12/20/16 08:41 AM	WC_161219C
1612144-04A	MW-19	Aqueous	SW7470A	Mercury Total: Aqueous	78390	1	12/21/16 12:29 PM	CETAC2_HG_161221A
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/23/16 05:40 PM	ICP-MS4_161223B
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/28/16 05:11 PM	ICP-MS4_161228C
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	10	12/28/16 11:28 PM	ICP-MS4_161228C
1612144-04D	MW-19	Aqueous	E300	Anions by IC method - Water	78420	1	12/21/16 01:42 PM	IC2_161221A

Lab Order: 1612144
Client: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1612144-04D	MW-19	Aqueous	E300	Anions by IC method - Water	78420	10	12/21/16 03:40 PM	IC2_161221A
	MW-19	Aqueous	M4500-H+ B	pH	78292	1	12/15/16 09:18 AM	TITRATOR_161215A
	MW-19	Aqueous	M2540C	Total Dissolved Solids	78352	1	12/20/16 08:41 AM	WC_161219C
1612144-05A	MW-17A	Aqueous	SW7470A	Mercury Total: Aqueous	78390	1	12/21/16 12:31 PM	CETAC2_HG_161221A
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/28/16 05:13 PM	ICP-MS4_161228C
	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/23/16 05:42 PM	ICP-MS4_161223B
1612144-05D	MW-17A	Aqueous	E300	Anions by IC method - Water	78420	1	12/21/16 01:57 PM	IC2_161221A
	MW-17A	Aqueous	M4500-H+ B	pH	78292	1	12/15/16 09:20 AM	TITRATOR_161215A
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	78352	1	12/20/16 08:41 AM	WC_161219C
1612144-06A	PDP-24	Aqueous	SW7470A	Mercury Total: Aqueous	78390	1	12/21/16 12:33 PM	CETAC2_HG_161221A
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/23/16 05:45 PM	ICP-MS4_161223B
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	1	12/28/16 05:15 PM	ICP-MS4_161228C
	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	78380	10	12/28/16 08:41 PM	ICP-MS4_161228C
1612144-06D	PDP-24	Aqueous	E300	Anions by IC method - Water	78420	1	12/21/16 02:12 PM	IC2_161221A
	PDP-24	Aqueous	E300	Anions by IC method - Water	78420	10	12/21/16 03:55 PM	IC2_161221A
	PDP-24	Aqueous	M4500-H+ B	pH	78292	1	12/15/16 09:22 AM	TITRATOR_161215A
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	78352	1	12/20/16 08:41 AM	WC_161219C

DHL Analytical, Inc.

Date: 26-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Project No: 5164-B
Lab Order: 1612144

Client Sample ID: PDP-25
Lab ID: 1612144-01
Collection Date: 12/12/16 12:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/21/16 12:13 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	12/23/16 05:36 PM
Arsenic	0.00378	0.00200	0.00500	J	mg/L	1	12/23/16 05:36 PM
Barium	0.196	0.00300	0.0100		mg/L	1	12/23/16 05:36 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 05:36 PM
Boron	0.0955	0.0100	0.0300		mg/L	1	12/28/16 05:07 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 05:36 PM
Calcium	36.3	1.00	3.00		mg/L	10	12/28/16 11:26 PM
Chromium	0.0593	0.00200	0.00500		mg/L	1	12/23/16 05:36 PM
Cobalt	0.0112	0.00300	0.00500		mg/L	1	12/23/16 05:36 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 05:36 PM
Lithium	0.109	0.00500	0.0100		mg/L	1	12/23/16 05:36 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:36 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:36 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	12/23/16 05:36 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: BJT			
Chloride	176	3.00	10.0		mg/L	10	12/21/16 02:56 PM
Fluoride	0.135	0.100	0.400	J	mg/L	1	12/21/16 12:27 PM
Sulfate	102	1.00	3.00		mg/L	1	12/21/16 12:27 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	6.16	0	0		pH Units@19.9°C	1	12/15/16 09:09 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	565	10.0	10.0		mg/L	1	12/20/16 08:41 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 26-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Project No: 5164-B
Lab Order: 1612144

Client Sample ID: MW-20A
Lab ID: 1612144-02
Collection Date: 12/12/16 02:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000412	0.0000800	0.000200		mg/L	1	12/21/16 12:15 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	12/23/16 02:13 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 02:13 PM
Barium	0.0315	0.00300	0.0100		mg/L	1	12/23/16 02:13 PM
Beryllium	0.000553	0.000300	0.00100	J	mg/L	1	12/23/16 02:13 PM
Boron	0.131	0.0100	0.0300		mg/L	1	12/28/16 02:29 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 02:13 PM
Calcium	14.4	1.00	3.00		mg/L	10	12/28/16 11:22 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 02:13 PM
Cobalt	0.00494	0.00300	0.00500	J	mg/L	1	12/23/16 02:13 PM
Lead	0.00186	0.000300	0.00100		mg/L	1	12/23/16 02:13 PM
Lithium	0.0186	0.00500	0.0100		mg/L	1	12/23/16 02:13 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 02:13 PM
Selenium	0.00801	0.00200	0.00500		mg/L	1	12/23/16 02:13 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	12/23/16 02:13 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: BJT			
Chloride	11.0	0.300	1.00		mg/L	1	12/21/16 12:42 PM
Fluoride	0.510	0.100	0.400		mg/L	1	12/21/16 12:42 PM
Sulfate	101	1.00	3.00		mg/L	1	12/21/16 12:42 PM
PH		M4500-H+ B		Analyst: BJT			
pH	4.69	0	0		pH Units@19.9°C	1	12/15/16 09:12 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	245	10.0	10.0		mg/L	1	12/20/16 08:41 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 26-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Project No: 5164-B
Lab Order: 1612144

Client Sample ID: PDP-23
Lab ID: 1612144-03
Collection Date: 12/12/16 03:20 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/21/16 12:26 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	12/23/16 05:38 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:38 PM
Barium	0.0423	0.00300	0.0100		mg/L	1	12/23/16 05:38 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 05:38 PM
Boron	0.0294	0.0100	0.0300	J	mg/L	1	12/28/16 05:09 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 05:38 PM
Calcium	1.77	0.100	0.300		mg/L	1	12/23/16 05:38 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:38 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	12/23/16 05:38 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 05:38 PM
Lithium	0.0137	0.00500	0.0100		mg/L	1	12/23/16 05:38 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:38 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:38 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	12/23/16 05:38 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: BJT			
Chloride	4.87	0.300	1.00		mg/L	1	12/21/16 12:57 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/21/16 12:57 PM
Sulfate	1.10	1.00	3.00	J	mg/L	1	12/21/16 12:57 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.93	0	0		pH Units@20.3°C	1	12/15/16 09:15 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	78.0	10.0	10.0		mg/L	1	12/20/16 08:41 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 26-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Project No: 5164-B
Lab Order: 1612144

Client Sample ID: MW-19
Lab ID: 1612144-04
Collection Date: 12/12/16 04:30 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS							
SW7470A				Analyst: AH			
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	12/21/16 12:29 PM
TRACE METALS: ICP-MS - WATER							
SW6020A				Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	12/23/16 05:40 PM
Arsenic	0.0259	0.00200	0.00500		mg/L	1	12/23/16 05:40 PM
Barium	0.0548	0.00300	0.0100		mg/L	1	12/23/16 05:40 PM
Beryllium	0.000660	0.000300	0.00100	J	mg/L	1	12/28/16 05:11 PM
Boron	0.203	0.0100	0.0300		mg/L	1	12/28/16 05:11 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 05:40 PM
Calcium	65.4	1.00	3.00		mg/L	10	12/28/16 11:28 PM
Chromium	0.00336	0.00200	0.00500	J	mg/L	1	12/23/16 05:40 PM
Cobalt	0.00328	0.00300	0.00500	J	mg/L	1	12/23/16 05:40 PM
Lead	0.00106	0.000300	0.00100		mg/L	1	12/23/16 05:40 PM
Lithium	0.00976	0.00500	0.0100	J	mg/L	1	12/23/16 05:40 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:40 PM
Selenium	0.00257	0.00200	0.00500	J	mg/L	1	12/23/16 05:40 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	12/23/16 05:40 PM
ANIONS BY IC METHOD - WATER							
E300				Analyst: BJT			
Chloride	39.9	0.300	1.00		mg/L	1	12/21/16 01:42 PM
Fluoride	0.145	0.100	0.400	J	mg/L	1	12/21/16 01:42 PM
Sulfate	369	10.0	30.0		mg/L	10	12/21/16 03:40 PM
PH							
M4500-H+ B				Analyst: BJT			
pH	6.59	0	0		pH Units@20.6°C	1	12/15/16 09:18 AM
TOTAL DISSOLVED SOLIDS							
M2540C				Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	786	10.0	10.0		mg/L	1	12/20/16 08:41 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 26-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Project No: 5164-B
Lab Order: 1612144

Client Sample ID: MW-17A
Lab ID: 1612144-05
Collection Date: 12/13/16 08:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.0000996	0.0000800	0.000200	J	mg/L	1	12/21/16 12:31 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	12/23/16 05:42 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:42 PM
Barium	0.116	0.00300	0.0100		mg/L	1	12/23/16 05:42 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 05:42 PM
Boron	0.366	0.0100	0.0300		mg/L	1	12/28/16 05:13 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 05:42 PM
Calcium	4.47	0.100	0.300		mg/L	1	12/23/16 05:42 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:42 PM
Cobalt	0.00820	0.00300	0.00500		mg/L	1	12/23/16 05:42 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	12/23/16 05:42 PM
Lithium	0.0161	0.00500	0.0100		mg/L	1	12/23/16 05:42 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:42 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:42 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	12/23/16 05:42 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: BJT			
Chloride	8.58	0.300	1.00		mg/L	1	12/21/16 01:57 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	12/21/16 01:57 PM
Sulfate	39.4	1.00	3.00		mg/L	1	12/21/16 01:57 PM
PH		M4500-H+ B		Analyst: BJT			
pH	5.45	0	0		pH Units@20.6°C	1	12/15/16 09:20 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	131	10.0	10.0		mg/L	1	12/20/16 08:41 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 26-Jan-17

CLIENT: Pastor, Behling & Wheeler
Project: MLSES - PDP-5 Area
Project No: 5164-B
Lab Order: 1612144

Client Sample ID: PDP-24
Lab ID: 1612144-06
Collection Date: 12/13/16 09:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
MERCURY TOTAL: AQUEOUS		SW7470A		Analyst: AH			
Mercury	0.000397	0.0000800	0.000200		mg/L	1	12/21/16 12:33 PM
TRACE METALS: ICP-MS - WATER		SW6020A		Analyst: RO			
Antimony	<0.000800	0.000800	0.00250		mg/L	1	12/23/16 05:45 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:45 PM
Barium	0.0198	0.00300	0.0100		mg/L	1	12/23/16 05:45 PM
Beryllium	0.00434	0.000300	0.00100		mg/L	1	12/28/16 05:15 PM
Boron	3.58	0.100	0.300		mg/L	10	12/28/16 08:41 PM
Cadmium	0.00215	0.000300	0.00100		mg/L	1	12/23/16 05:45 PM
Calcium	32.4	1.00	3.00		mg/L	10	12/28/16 08:41 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:45 PM
Cobalt	0.0876	0.00300	0.00500		mg/L	1	12/23/16 05:45 PM
Lead	0.00109	0.000300	0.00100		mg/L	1	12/23/16 05:45 PM
Lithium	0.0276	0.00500	0.0100		mg/L	1	12/23/16 05:45 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	12/23/16 05:45 PM
Selenium	0.00325	0.00200	0.00500	J	mg/L	1	12/23/16 05:45 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	12/23/16 05:45 PM
ANIONS BY IC METHOD - WATER		E300		Analyst: BJT			
Chloride	21.7	0.300	1.00		mg/L	1	12/21/16 02:12 PM
Fluoride	0.690	0.100	0.400		mg/L	1	12/21/16 02:12 PM
Sulfate	351	10.0	30.0		mg/L	10	12/21/16 03:55 PM
PH		M4500-H+ B		Analyst: BJT			
pH	4.46	0	0		pH Units@20.6°C	1	12/15/16 09:22 AM
TOTAL DISSOLVED SOLIDS		M2540C		Analyst: AJH			
Total Dissolved Solids (Residue, Filterable)	588	10.0	10.0		mg/L	1	12/20/16 08:41 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler

Work Order: 1612144

Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161221A

The QC data in batch 78390 applies to the following samples: 1612144-01A, 1612144-02A, 1612144-03A, 1612144-04A, 1612144-05A, 1612144-06A

Sample ID	MB-78390	Batch ID:	78390	TestNo:	SW7470A	Units:	mg/L				
SampType:	MBLK	Run ID:	CETAC2_HG_161221A	Analysis Date:	12/21/2016 12:06:32 P	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury <0.0000800 0.000200

Sample ID	LCS-78390	Batch ID:	78390	TestNo:	SW7470A	Units:	mg/L				
SampType:	LCS	Run ID:	CETAC2_HG_161221A	Analysis Date:	12/21/2016 12:08:48 P	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00197 0.000200 0.00200 0 98.5 85 115

Sample ID	LCSD-78390	Batch ID:	78390	TestNo:	SW7470A	Units:	mg/L				
SampType:	LCSD	Run ID:	CETAC2_HG_161221A	Analysis Date:	12/21/2016 12:11:04 P	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00199 0.000200 0.00200 0 99.5 85 115 1.01 15

Sample ID	1612144-02A SD	Batch ID:	78390	TestNo:	SW7470A	Units:	mg/L				
SampType:	SD	Run ID:	CETAC2_HG_161221A	Analysis Date:	12/21/2016 12:17:51 P	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.000374 0.00100 0 0.000412 9.80 10

Sample ID	1612144-02A PDS	Batch ID:	78390	TestNo:	SW7470A	Units:	mg/L				
SampType:	PDS	Run ID:	CETAC2_HG_161221A	Analysis Date:	12/21/2016 12:20:08 P	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00262 0.000200 0.00250 0.000412 88.3 85 115

Sample ID	1612144-02A MS	Batch ID:	78390	TestNo:	SW7470A	Units:	mg/L				
SampType:	MS	Run ID:	CETAC2_HG_161221A	Analysis Date:	12/21/2016 12:22:24 P	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00234 0.000200 0.00200 0.000412 96.4 80 120

Sample ID	1612144-02A MSD	Batch ID:	78390	TestNo:	SW7470A	Units:	mg/L				
SampType:	MSD	Run ID:	CETAC2_HG_161221A	Analysis Date:	12/21/2016 12:24:40 P	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Mercury 0.00233 0.000200 0.00200 0.000412 95.9 80 120 0.428 15

Qualifiers:

B Analyte detected in the associated Method Blank

J Analyte detected between MDL and RL

ND Not Detected at the Method Detection Limit

RL Reporting Limit

J Analyte detected between SDL and RL

DF Dilution Factor

MDL Method Detection Limit

R RPD outside accepted control limits

S Spike Recovery outside control limits

N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_161221A

Sample ID	ICV-161221	Batch ID:	R89576	TestNo:	SW7470A	Units:	mg/L
SampType:	ICV	Run ID:	CETAC2_HG_161221A	Analysis Date:	12/21/2016 11:43:51 A	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual
Mercury	0.00396	0.000200	0.00400	0	99.0	90	110

Sample ID	CCV1-161221	Batch ID:	R89576	TestNo:	SW7470A	Units:	mg/L
SampType:	CCV	Run ID:	CETAC2_HG_161221A	Analysis Date:	12/21/2016 12:42:51 P	Prep Date:	
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit %RPD RPDLimit Qual
Mercury	0.00198	0.000200	0.00200	0	99.0	90	110

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161223B

The QC data in batch 78380 applies to the following samples: 1612144-01A, 1612144-02A, 1612144-03A, 1612144-04A, 1612144-05A, 1612144-06A

Sample ID MB-78380	Batch ID: 78380	TestNo: SW6020A	Units: mg/L
SampType: MBLK	Run ID: ICP-MS4_161223B	Analysis Date: 12/23/2016 2:04:00 PM	Prep Date: 12/20/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID LCS-78380	Batch ID: 78380	TestNo: SW6020A	Units: mg/L
SampType: LCS	Run ID: ICP-MS4_161223B	Analysis Date: 12/23/2016 2:06:00 PM	Prep Date: 12/20/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.206	0.00250	0.200	0	103	80	120			
Arsenic	0.209	0.00500	0.200	0	104	80	120			
Barium	0.208	0.0100	0.200	0	104	80	120			
Beryllium	0.213	0.00100	0.200	0	107	80	120			
Cadmium	0.209	0.00100	0.200	0	104	80	120			
Calcium	5.05	0.300	5.00	0	101	80	120			
Chromium	0.208	0.00500	0.200	0	104	80	120			
Cobalt	0.209	0.00500	0.200	0	104	80	120			
Lead	0.202	0.00100	0.200	0	101	80	120			
Lithium	0.208	0.0100	0.200	0	104	80	120			
Molybdenum	0.205	0.00500	0.200	0	103	80	120			
Selenium	0.209	0.00500	0.200	0	105	80	120			
Thallium	0.204	0.00150	0.200	0	102	80	120			

Sample ID LCSD-78380	Batch ID: 78380	TestNo: SW6020A	Units: mg/L
SampType: LCSD	Run ID: ICP-MS4_161223B	Analysis Date: 12/23/2016 2:08:00 PM	Prep Date: 12/20/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.205	0.00250	0.200	0	102	80	120	0.460	15	
Arsenic	0.212	0.00500	0.200	0	106	80	120	1.33	15	
Barium	0.206	0.0100	0.200	0	103	80	120	0.593	15	
Beryllium	0.219	0.00100	0.200	0	109	80	120	2.37	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161223B

Sample ID	LCSD-78380	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 2:08:00 PM	Prep Date:	12/20/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Cadmium	0.209	0.00100	0.200	0	105	80	120	0.353	15	
Calcium	5.08	0.300	5.00	0	102	80	120	0.570	15	
Chromium	0.208	0.00500	0.200	0	104	80	120	0.305	15	
Cobalt	0.210	0.00500	0.200	0	105	80	120	0.492	15	
Lead	0.203	0.00100	0.200	0	102	80	120	0.341	15	
Lithium	0.213	0.0100	0.200	0	107	80	120	2.34	15	
Molybdenum	0.203	0.00500	0.200	0	101	80	120	1.35	15	
Selenium	0.214	0.00500	0.200	0	107	80	120	2.42	15	
Thallium	0.206	0.00150	0.200	0	103	80	120	0.604	15	

Sample ID	1612144-02A SD		Batch ID:	78380		TestNo:	SW6020A		Units:	mg/L	
SampType:	SD		Run ID:	ICP-MS4_161223B		Analysis Date:	12/23/2016 2:15:00 PM		Prep Date:	12/20/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	<0.00400	0.0125	0	0				0	10	
Arsenic	<0.0100	0.0250	0	0				0	10	
Barium	0.0306	0.0500	0	0.0315				2.87	10	
Beryllium	<0.00150	0.00500	0	0.000553				0	10	
Cadmium	<0.00150	0.00500	0	0				0	10	
Chromium	<0.0100	0.0250	0	0				0	10	
Cobalt	<0.0150	0.0250	0	0.00494				0	10	
Lead	0.00192	0.00500	0	0.00186				2.91	10	
Lithium	<0.0250	0.0500	0	0.0186				0	10	
Molybdenum	<0.0100	0.0250	0	0				0	10	
Selenium	<0.0100	0.0250	0	0.00801				0	10	
Thallium	<0.00250	0.00750	0	0				0	10	

Sample ID	1612144-02A PDS			Batch ID:	78380		TestNo:	SW6020A		Units:	mg/L	
SampType:	PDS			Run ID:	ICP-MS4_161223B		Analysis Date:	12/23/2016 2:35:00 PM		Prep Date:	12/20/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.200	0.00250	0.200	0	100	80	120			
Arsenic	0.206	0.00500	0.200	0	103	80	120			
Barium	0.237	0.0100	0.200	0.0315	103	80	120			
Beryllium	0.212	0.00100	0.200	0.000553	106	80	120			
Cadmium	0.202	0.00100	0.200	0	101	80	120			
Chromium	0.206	0.00500	0.200	0	103	80	120			
Cobalt	0.207	0.00500	0.200	0.00494	101	80	120			
Lead	0.199	0.00100	0.200	0.00186	98.5	80	120			
Lithium	0.223	0.0100	0.200	0.0186	102	80	120			
Molybdenum	0.194	0.00500	0.200	0	97.1	80	120			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161223B

Sample ID	1612144-02A PDS	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 2:35:00 PM	Prep Date:	12/20/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.214	0.00500	0.200	0.00801	103	80	120			
Thallium	0.199	0.00150	0.200	0	99.4	80	120			

Sample ID	1612144-02A MS	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 2:37:00 PM	Prep Date:	12/20/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.203	0.00250	0.200	0	101	80	120			
Arsenic	0.208	0.00500	0.200	0	104	80	120			
Barium	0.233	0.0100	0.200	0.0315	101	80	120			
Beryllium	0.211	0.00100	0.200	0.000553	105	80	120			
Cadmium	0.203	0.00100	0.200	0	101	80	120			
Calcium	19.4	0.300	5.00	15.1	86.8	80	120			
Chromium	0.198	0.00500	0.200	0	99.2	80	120			
Cobalt	0.204	0.00500	0.200	0.00494	99.7	80	120			
Lead	0.196	0.00100	0.200	0.00186	97.1	80	120			
Lithium	0.217	0.0100	0.200	0.0186	99.2	80	120			
Molybdenum	0.197	0.00500	0.200	0	98.7	80	120			
Selenium	0.216	0.00500	0.200	0.00801	104	80	120			
Thallium	0.195	0.00150	0.200	0	97.3	80	120			

Sample ID	1612144-02A MSD	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_161223B	Analysis Date: 12/23/2016 2:39:00 PM			Prep Date:	12/20/2016		
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.203	0.00250	0.200	0	101	80	120	0.092	15	
Arsenic	0.210	0.00500	0.200	0	105	80	120	0.776	15	
Barium	0.234	0.0100	0.200	0.0315	101	80	120	0.181	15	
Beryllium	0.214	0.00100	0.200	0.000553	107	80	120	1.49	15	
Cadmium	0.203	0.00100	0.200	0	102	80	120	0.238	15	
Calcium	19.7	0.300	5.00	15.1	91.8	80	120	1.27	15	
Chromium	0.203	0.00500	0.200	0	102	80	120	2.57	15	
Cobalt	0.208	0.00500	0.200	0.00494	101	80	120	1.69	15	
Lead	0.202	0.00100	0.200	0.00186	100	80	120	3.08	15	
Lithium	0.219	0.0100	0.200	0.0186	100	80	120	1.11	15	
Molybdenum	0.199	0.00500	0.200	0	99.4	80	120	0.673	15	
Selenium	0.212	0.00500	0.200	0.00801	102	80	120	1.82	15	
Thallium	0.202	0.00150	0.200	0	101	80	120	3.77	15	

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161223B

Sample ID	ICV-161223			Batch ID:	R89638		TestNo:	SW6020A		Units:	mg/L	
SampType:	ICV			Run ID:	ICP-MS4_161223B		Analysis Date:	12/23/2016 10:19:00 A		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Antimony	0.103	0.00250	0.100	0	103	90	110			
Arsenic	0.103	0.00500	0.100	0	103	90	110			
Barium	0.105	0.0100	0.100	0	105	90	110			
Beryllium	0.103	0.00100	0.100	0	103	90	110			
Cadmium	0.104	0.00100	0.100	0	104	90	110			
Calcium	2.41	0.300	2.50	0	96.3	90	110			
Chromium	0.107	0.00500	0.100	0	107	90	110			
Cobalt	0.107	0.00500	0.100	0	107	90	110			
Lead	0.102	0.00100	0.100	0	102	90	110			
Lithium	0.0998	0.0100	0.100	0	99.8	90	110			
Molybdenum	0.101	0.00500	0.100	0	101	90	110			
Selenium	0.105	0.00500	0.100	0	105	90	110			
Thallium	0.102	0.00150	0.100	0	102	90	110			

Sample ID	LCVL-161223	Batch ID:	R89638	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 10:28:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00206	0.00250	0.00200	0	103	70	130			
Arsenic	0.00549	0.00500	0.00500	0	110	70	130			
Barium	0.00547	0.0100	0.00500	0	109	70	130			
Beryllium	0.00117	0.00100	0.00100	0	117	70	130			
Cadmium	0.00109	0.00100	0.00100	0	109	70	130			
Calcium	0.105	0.300	0.100	0	105	70	130			
Chromium	0.00535	0.00500	0.00500	0	107	70	130			
Cobalt	0.00555	0.00500	0.00500	0	111	70	130			
Lead	0.00112	0.00100	0.00100	0	112	70	130			
Lithium	0.0114	0.0100	0.0100	0	114	70	130			
Molybdenum	0.00539	0.00500	0.00500	0	108	70	130			
Selenium	0.00566	0.00500	0.00500	0	113	70	130			
Thallium	0.00110	0.00150	0.00100	0	110	70	130			

Sample ID	CCV4-161223	Batch ID:	R89638	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 1:52:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.201	0.00250	0.200	0	101	90	110			
Arsenic	0.208	0.00500	0.200	0	104	90	110			
Barium	0.206	0.0100	0.200	0	103	90	110			
Beryllium	0.215	0.00100	0.200	0	108	90	110			
Cadmium	0.207	0.00100	0.200	0	104	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	DF	Dilution Factor
J	Analyte detected between MDL and RL	MDL	Method Detection Limit
ND	Not Detected at the Method Detection Limit	R	RPD outside accepted control limits
RL	Reporting Limit	S	Spike Recovery outside control limits
J	Analyte detected between SDL and RL	N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161223B

Sample ID	CCV4-161223	Batch ID:	R89638	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 1:52:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.92	0.300	5.00	0	98.4	90	110			
Chromium	0.207	0.00500	0.200	0	104	90	110			
Cobalt	0.209	0.00500	0.200	0	105	90	110			
Lead	0.200	0.00100	0.200	0	100	90	110			
Lithium	0.210	0.0100	0.200	0	105	90	110			
Molybdenum	0.203	0.00500	0.200	0	101	90	110			
Selenium	0.208	0.00500	0.200	0	104	90	110			
Thallium	0.201	0.00150	0.200	0	101	90	110			

Sample ID	LCVL4-161223	Batch ID:	R89638	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 1:57:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.00216	0.00250	0.00200	0	108	70	130			
Arsenic	0.00550	0.00500	0.00500	0	110	70	130			
Barium	0.00536	0.0100	0.00500	0	107	70	130			
Beryllium	0.00107	0.00100	0.00100	0	107	70	130			
Cadmium	0.00114	0.00100	0.00100	0	114	70	130			
Calcium	0.110	0.300	0.100	0	110	70	130			
Chromium	0.00553	0.00500	0.00500	0	111	70	130			
Cobalt	0.00556	0.00500	0.00500	0	111	70	130			
Lead	0.00108	0.00100	0.00100	0	108	70	130			
Lithium	0.0106	0.0100	0.0100	0	106	70	130			
Molybdenum	0.00530	0.00500	0.00500	0	106	70	130			
Selenium	0.00550	0.00500	0.00500	0	110	70	130			
Thallium	0.00110	0.00150	0.00100	0	110	70	130			

Sample ID	CCV5-161223	Batch ID:	R89638	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 2:41:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Antimony	0.203	0.00250	0.200	0	101	90	110			
Arsenic	0.212	0.00500	0.200	0	106	90	110			
Barium	0.207	0.0100	0.200	0	104	90	110			
Beryllium	0.213	0.00100	0.200	0	106	90	110			
Cadmium	0.206	0.00100	0.200	0	103	90	110			
Calcium	4.99	0.300	5.00	0	99.8	90	110			
Chromium	0.207	0.00500	0.200	0	103	90	110			
Cobalt	0.209	0.00500	0.200	0	104	90	110			
Lead	0.204	0.00100	0.200	0	102	90	110			
Lithium	0.205	0.0100	0.200	0	102	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161223B

Sample ID	CCV5-161223	Batch ID:	R89638	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 2:41:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.202	0.00500	0.200	0	101	90	110			
Selenium	0.213	0.00500	0.200	0	107	90	110			
Thallium	0.206	0.00150	0.200	0	103	90	110			

Sample ID	LCVL5-161223	Batch ID:	R89638	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 5:32:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00213	0.00250	0.00200	0	107	70	130			
Arsenic	0.00559	0.00500	0.00500	0	112	70	130			
Barium	0.00552	0.0100	0.00500	0	110	70	130			
Beryllium	0.00114	0.00100	0.00100	0	114	70	130			
Cadmium	0.00108	0.00100	0.00100	0	108	70	130			
Calcium	0.111	0.300	0.100	0	111	70	130			
Chromium	0.00549	0.00500	0.00500	0	110	70	130			
Cobalt	0.00560	0.00500	0.00500	0	112	70	130			
Lead	0.000999	0.00100	0.00100	0	99.9	70	130			
Lithium	0.0109	0.0100	0.0100	0	109	70	130			
Molybdenum	0.00518	0.00500	0.00500	0	104	70	130			
Selenium	0.00556	0.00500	0.00500	0	111	70	130			
Thallium	0.00104	0.00150	0.00100	0	104	70	130			

Sample ID	CCV6-161223	Batch ID:	R89638	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 5:55:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	100	90	110			
Arsenic	0.211	0.00500	0.200	0	106	90	110			
Barium	0.206	0.0100	0.200	0	103	90	110			
Beryllium	0.211	0.00100	0.200	0	105	90	110			
Cadmium	0.205	0.00100	0.200	0	103	90	110			
Calcium	5.00	0.300	5.00	0	100	90	110			
Chromium	0.204	0.00500	0.200	0	102	90	110			
Cobalt	0.208	0.00500	0.200	0	104	90	110			
Lead	0.200	0.00100	0.200	0	99.8	90	110			
Lithium	0.204	0.0100	0.200	0	102	90	110			
Molybdenum	0.199	0.00500	0.200	0	99.5	90	110			
Selenium	0.212	0.00500	0.200	0	106	90	110			
Thallium	0.199	0.00150	0.200	0	99.7	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL
DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161223B

Sample ID	LCVL6-161223	Batch ID:	R89638	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161223B	Analysis Date:	12/23/2016 5:59:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00208	0.00250	0.00200	0	104	70	130			
Arsenic	0.00582	0.00500	0.00500	0	116	70	130			
Barium	0.00543	0.0100	0.00500	0	109	70	130			
Beryllium	0.00136	0.00100	0.00100	0	136	70	130			S
Cadmium	0.00107	0.00100	0.00100	0	107	70	130			
Calcium	0.115	0.300	0.100	0	115	70	130			
Chromium	0.00550	0.00500	0.00500	0	110	70	130			
Cobalt	0.00561	0.00500	0.00500	0	112	70	130			
Lead	0.00105	0.00100	0.00100	0	105	70	130			
Lithium	0.0113	0.0100	0.0100	0	113	70	130			
Molybdenum	0.00528	0.00500	0.00500	0	106	70	130			
Selenium	0.00556	0.00500	0.00500	0	111	70	130			
Thallium	0.00108	0.00150	0.00100	0	108	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161228B

The QC data in batch 78380 applies to the following samples: 1612144-01A, 1612144-02A, 1612144-03A, 1612144-04A, 1612144-05A, 1612144-06A

Sample ID	MB-78380	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L				
SampType:	MBLK	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 2:23:00 PM	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron <0.0100 0.0300

Sample ID	LCS-78380	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCS	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 2:25:00 PM	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.182 0.0300 0.200 0 90.9 80 120

Sample ID	LCSD-78380	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCSD	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 2:27:00 PM	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.185 0.0300 0.200 0 92.7 80 120 2.05 15

Sample ID	1612144-02A SD	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L				
SampType:	SD	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 2:31:00 PM	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.145 0.150 0 0.131 10.0 10

Sample ID	1612144-02A PDS	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L				
SampType:	PDS	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 2:49:00 PM	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.292 0.0300 0.200 0.131 80.4 80 120

Sample ID	1612144-02A MS	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L				
SampType:	MS	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 2:51:00 PM	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.312 0.0300 0.200 0.131 90.3 80 120

Sample ID	1612144-02A MSD	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L				
SampType:	MSD	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 2:53:00 PM	Prep Date:	12/20/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.319 0.0300 0.200 0.131 94.1 80 120 2.43 15

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161228B

Sample ID	ICV-161228	Batch ID:	R89683	TestNo:	SW6020A	Units:	mg/L				
SampType:	ICV	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 10:59:00 A	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		0.0958	0.0300	0.100	0	95.8	90	110			

Sample ID	LCVL-161228	Batch ID:	R89683	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 11:04:00 A	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		0.0187	0.0300	0.0200	0	93.3	70	130			

Sample ID	CCV3-161228	Batch ID:	R89683	TestNo:	SW6020A	Units:	mg/L				
SampType:	CCV	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 1:52:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		0.194	0.0300	0.200	0	97.1	90	110			

Sample ID	LCVL3-161228	Batch ID:	R89683	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 2:11:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0210	0.0300	0.0200	0	105	70	130			

Sample ID	CCV4-161228	Batch ID:	R89683	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 3:05:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.187	0.0300	0.200	0	93.7	90	110			

Sample ID	LCVL4-161228	Batch ID:	R89683	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_161228B	Analysis Date:	12/28/2016 3:09:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		0.0215	0.0300	0.0200	0	108	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161228C

The QC data in batch 78380 applies to the following samples: 1612144-01A, 1612144-02A, 1612144-03A, 1612144-04A, 1612144-05A, 1612144-06A

Sample ID	1612144-02A SD	Batch ID:	78380	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 11:24:00 P	Prep Date:	12/20/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	14.9	15.0	0	14.4				3.08	10

Sample ID	1612144-02A PDS			Batch ID:	78380		TestNo:	SW6020A		Units:	mg/L	
SampType:	PDS			Run ID:	ICP-MS4_161228C		Analysis Date:	12/28/2016 11:45:00 P		Prep Date:	12/20/2016	
Analyte	Result			RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	60.4	3.00	50.0	14.4	92.0	80	120

LUMINANT

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161228C

Sample ID	ICV-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 10:59:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.101	0.00100	0.100	0	101	90	110			
Boron	0.0958	0.0300	0.100	0	95.8	90	110			
Calcium	2.37	0.300	2.50	0	94.8	90	110			

Sample ID	LCVL-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 11:04:00 A	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.000953	0.00100	0.00100	0	95.3	70	130			
Boron	0.0187	0.0300	0.0200	0	93.3	70	130			
Calcium	0.107	0.300	0.100	0	107	70	130			

Sample ID	CCV5-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 4:14:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.182	0.00100	0.200	0	90.8	90	110			
Boron	0.213	0.0300	0.200	0	107	90	110			

Sample ID	LCVL5-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 4:59:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.00106	0.00100	0.00100	0	106	70	130			
Boron	0.0209	0.0300	0.0200	0	104	70	130			

Sample ID	CCV6-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 5:28:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.186	0.00100	0.200	0	92.9	90	110			
Boron	0.203	0.0300	0.200	0	101	90	110			

Sample ID	LCVL6-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 6:15:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.00125	0.00100	0.00100	0	125	70	130			
Boron	0.0212	0.0300	0.0200	0	106	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161228C

Sample ID	CCV8-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 7:44:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.215	0.0300	0.200	0	107	90	110			
Calcium	4.85	0.300	5.00	0	97.1	90	110			

Sample ID	LCVL8-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 8:15:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0260	0.0300	0.0200	0	130	70	130			
Calcium	0.110	0.300	0.100	0	110	70	130			

Sample ID	CCV9-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 8:55:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.203	0.0300	0.200	0	101	90	110			
Calcium	4.89	0.300	5.00	0	97.8	90	110			

Sample ID	LCVL9-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 9:12:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0240	0.0300	0.0200	0	120	70	130			
Calcium	0.110	0.300	0.100	0	110	70	130			

Sample ID	CCV13-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 11:14:00 P	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.80	0.300	5.00	0	95.9	90	110			

Sample ID	LCVL13-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 11:18:00 P	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	0.128	0.300	0.100	0	128	70	130			

Sample ID	CCV14-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 11:47:00 P	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Calcium	4.79	0.300	5.00	0	95.7	90	110			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_161228C

Sample ID	LCVL14-161228	Batch ID:	R89687	TestNo:	SW6020A	Units:	mg/L
SampType:	LCVL	Run ID:	ICP-MS4_161228C	Analysis Date:	12/28/2016 11:51:00 P	Prep Date:	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit HighLimit %RPD RPDLimit Qual
Calcium		0.0995	0.300	0.100	0	99.5	70 130

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161221A

The QC data in batch 78420 applies to the following samples: 1612144-01D, 1612144-02D, 1612144-03D, 1612144-04D, 1612144-05D, 1612144-06D

Sample ID	MB-78420	Batch ID:	78420	TestNo:	E300	Units:	mg/L			
SampType:	MBLK	Run ID:	IC2_161221A	Analysis Date:	12/21/2016 8:38:00 AM	Prep Date:	12/21/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-78420		Batch ID:	78420		TestNo:	E300		Units:	mg/L	
SampType:	LCS		Run ID:	IC2_161221A		Analysis Date:	12/21/2016 8:52:37 AM		Prep Date:	12/21/2016	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.5	1.00	10.00	0	105	90	110			
Fluoride	3.99	0.400	4.000	0	99.8	90	110			
Sulfate	31.6	3.00	30.00	0	105	90	110			

Sample ID	LCSD-78420	Batch ID:	78420	TestNo:	E300	Units:	mg/L			
SampType:	LCSD	Run ID:	IC2_161221A	Analysis Date:	12/21/2016 9:30:55 AM	Prep Date:	12/21/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	10.4	1.00	10.00	0	104	90	110	1.00	20	
Fluoride	4.01	0.400	4.000	0	100	90	110	0.385	20	
Sulfate	31.5	3.00	30.00	0	105	90	110	0.288	20	

Sample ID	1612144-01DMS	Batch ID:	78420	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC2_161221A	Analysis Date:	12/21/2016 3:11:30 PM	Prep Date:	12/21/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	335	10.0	200.0	175.9	79.5	90	110			S
Fluoride	206	4.00	200.0	0	103	90	110			
Sulfate	309	30.0	200.0	97.57	106	90	110			

Sample ID	1612144-01DMSD			Batch ID:	78420			TestNo:	E300			Units:	mg/L		
SampType:	MSD			Run ID:	IC2_161221A			Analysis Date:	12/21/2016 3:26:06 PM			Prep Date:	12/21/2016		
Analyte	Result			RL	SPK value		Ref Val	%REC		LowLimit	HighLimit	%RPD	RPDLimit	Qual	

Chloride	343	10.0	200.0	175.9	83.5	90	110	2.33	20	S
Fluoride	212	4.00	200.0	0	106	90	110	3.01	20	
Sulfate	317	30.0	200.0	97.57	110	90	110	2.36	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_161221A

Sample ID	ICV-161221	Batch ID:	R89574	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC2_161221A	Analysis Date:	12/21/2016 8:08:47 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	26.1	1.00	25.00	0	104	90	110			
Fluoride	9.68	0.400	10.00	0	96.8	90	110			
Sulfate	79.4	3.00	75.00	0	106	90	110			

Sample ID	CCV1-161221	Batch ID:	R89574	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_161221A	Analysis Date:	12/21/2016 4:09:56 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10.00	0	102	90	110			
Fluoride	4.10	0.400	4.000	0	102	90	110			
Sulfate	30.9	3.00	30.00	0	103	90	110			

LUMINANT

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161215A

The QC data in batch 78292 applies to the following samples: 1612144-01D, 1612144-02D, 1612144-03D, 1612144-04D, 1612144-05D, 1612144-06D

Sample ID	1612144-01D-DUP	Batch ID:	78292	TestNo:	M4500-H+ B	Units:	pH Units@19.8°C
SampType:	DUP	Run ID:	TITRATOR_161215A	Analysis Date:	12/15/2016 9:11:00 AM	Prep Date:	12/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.18	0	0	6.160				0.324	5	

Sample ID	1612145-01D-DUP	Batch ID:	78292	TestNo:	M4500-H+ B	Units:	pH Units@20.2°C
SampType:	DUP	Run ID:	TITRATOR_161215A	Analysis Date:	12/15/2016 9:26:00 AM	Prep Date:	12/15/2016

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.62	0	0	6.620				0	5	

LUMINANT

Qualifiers:

B	Analyte detected in the associated Method Blank
J	Analyte detected between MDL and RL
ND	Not Detected at the Method Detection Limit
RL	Reporting Limit
J	Analyte detected between SDL and RL

DF	Dilution Factor
MDL	Method Detection Limit
R	RPD outside accepted control limits
S	Spike Recovery outside control limits
N	Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: TITRATOR_161215A

Sample ID	ICV-161215	Batch ID:	R89460	TestNo:	M4500-H+ B	Units:	pH Units@21.6°C			
SampType:	ICV	Run ID:	TITRATOR_161215A	Analysis Date:	12/15/2016 8:14:00 AM	Prep Date:	12/15/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	9.91	0	10.00	0	99.1	99	101			

Sample ID	CCV1-161215	Batch ID:	R89460	TestNo:	M4500-H+ B	Units:	pH Units@21.6°C			
SampType:	CCV	Run ID:	TITRATOR_161215A	Analysis Date:	12/15/2016 9:28:00 AM	Prep Date:	12/15/2016			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	6.98	0	7.000	0	99.7	97.1	102.9			

LUMINANT

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1612144
Project: MLSES - PDP-5 Area

ANALYTICAL QC SUMMARY REPORT

RunID: WC_161219C

The QC data in batch 78352 applies to the following samples: 1612144-01D, 1612144-02D, 1612144-03D, 1612144-04D, 1612144-05D, 1612144-06D

Sample ID	MB-78352	Batch ID:	78352	TestNo:	M2540C	Units:	mg/L				
SampType:	MBLK	Run ID:	WC_161219C	Analysis Date:	12/20/2016 8:41:00 AM	Prep Date:	12/19/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-78352	Batch ID:	78352	TestNo:	M2540C	Units:	mg/L				
SampType:	LCS	Run ID:	WC_161219C	Analysis Date:	12/20/2016 8:41:00 AM	Prep Date:	12/19/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 750 10.0 745.6 0 101 90 113

Sample ID	1612144-02D-DUP	Batch ID:	78352	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_161219C	Analysis Date:	12/20/2016 8:41:00 AM	Prep Date:	12/19/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 239 10.0 0 245.0 2.48 5

Sample ID	1612167-02D-DUP	Batch ID:	78352	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_161219C	Analysis Date:	12/20/2016 8:41:00 AM	Prep Date:	12/19/2016				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1100 10.0 0 1128 2.15 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

Case Narrative

Lab No: 20161248

This report contains the analytical results for the 6 sample(s) received under chain of custody by ESC Lab Sciences on 12/16/2016 11:25:16 AM. These samples are associated with your 1612144 project.

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

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

This report shall not be reproduced, except in full, without the written approval of ESC Lab Sciences.

All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client.

Results have been reviewed by the Director of Radiochemistry or their designees and is approved for release.

Observations / Nonconformances

L879372



Client : DHL Analytical, Inc.
Client Project : 1612144
Lab Number : 20161248
Date Reported : 01/25/17
Date Received : 12/16/16
Page Number : 2 of 3

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst

Lab ID : 20161248-01

Client ID : PDP-25

Date Sampled : 12/12/2016 12:20:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		2.44 +/- 0.809	1.20	pCi/l			
Radium-226	SM 7500 Ra B M*	0.511 +/- 0.181	0.170	pCi/l	01/07/17	01/10/17	AK
Radium-228	EPA 904*/9320*	1.93 +/- 0.628	1.03	pCi/l	01/13/17	01/23/17	JR

Lab ID : 20161248-02

Client ID : MW-20A

Date Sampled : 12/12/2016 2:25:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.668 +/- 0.691	1.06	pCi/l			
Radium-226	SM 7500 Ra B M*	0.365 +/- 0.158	0.168	pCi/l	01/07/17	01/10/17	AK
Radium-228	EPA 904*/9320*	0.303 +/- 0.533	0.895	pCi/l	01/13/17	01/23/17	JR

Lab ID : 20161248-03

Client ID : PDP-23

Date Sampled : 12/12/2016 3:20:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		2.62 +/- 0.868	1.41	pCi/l			
Radium-226	SM 7500 Ra B M*	-0.008 +/- 0.078	0.165	pCi/l	01/07/17	01/10/17	AK
Radium-228	EPA 904*/9320*	2.62 +/- 0.790	1.24	pCi/l	01/13/17	01/23/17	JR

Lab ID : 20161248-04

Client ID : MW-19

Date Sampled : 12/12/2016 4:30:00 PM

Matrix : NPW

Radiochemical Analyses

Combined Radium		0.393 +/- 0.769	1.36	pCi/l			
Radium-226	SM 7500 Ra B M*	0.393 +/- 0.186	0.229	pCi/l	01/07/17	01/10/17	AK
Radium-228	EPA 904*/9320*	-0.316 +/- 0.583	1.13	pCi/l	01/13/17	01/23/17	JR



Client : DHL Analytical, Inc.
 Client Project : 1612144
 Lab Number : 20161248
 Date Reported : 01/25/17
 Date Received : 12/16/16
 Page Number : 3 of 3

Analytical Report

Method	Result	DL	Units	Qual	Prep Date	Analysis Date	Analyst
Lab ID : 20161248-05							
Client ID : MW-17A							
Date Sampled : 12/13/2016 8:45:00 AM							
Matrix : NPW							

Radiochemical Analyses

Combined Radium		0.407 +/- 0.896	1.52	pCi/l			
Radium-226	SM 7500 Ra B M*	-0.162 +/- 0.212	0.404	pCi/l	01/07/17	01/10/17	AK
Radium-228	EPA 904*/9320*	0.407 +/- 0.684	1.12	pCi/l	01/13/17	01/23/17	JR

Lab ID : 20161248-06
Client ID : PDP-24
Date Sampled : 12/13/2016 9:45:00 AM
Matrix : NPW

Radiochemical Analyses

Combined Radium		1.74 +/- 0.651	1.09	pCi/l			
Radium-226	SM 7500 Ra B M*	0.168 +/- 0.132	0.168	pCi/l	01/07/17	01/10/17	AK
Radium-228	EPA 904*/9320*	1.57 +/- 0.519	0.920	pCi/l	01/13/17	01/23/17	JR

QC Report

Parameter	Blank	LCS %REC	LCSD %REC	RPD	DUP RPD	RER, NAD or DER	MS %REC	MSD %REC	RPD	Batch ID
Radium-226	0.016	105.0			NC	0.688	108.0	111.0	1.7	R1177
Radium-228	0.421	85.6			NC	0.720	74.0	82.2	8.7	R3907

Lab Approval:

Ron Eidson
 Director of Radiochemistry

DHL Analytical, Inc.

2300 Double Creek Drive

Round Rock, TX 78664

TEL: (512) 388-8222

FAX: (512) 388-8229

Work Order: 1612144

CHAIN-OF-CUSTODY RECORD

Page 1 of 1

Subcontractor:

ESC Laboratory

311 North Aspen

Broken Arrow, Oklahoma 74012

TEL: (918) 251-2515

FAX:

Acct #: DHLRRTX

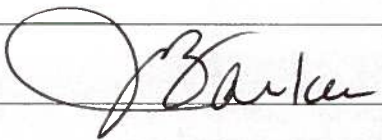
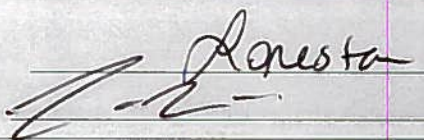
14-Dec-16

Sample Id	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					E904.0	SM7500Ra-B M				
1	PDP-25	Aqueous	-01B	12/12/16 12:20 PM	1LHDPEHNO3	1				
	PDP-25	Aqueous	-01C	12/12/16 12:20 PM	500HDPEHNO3		1			
2	MW-20A	Aqueous	-02B	12/12/16 02:25 PM	1LHDPEHNO3	1				
	MW-20A	Aqueous	-02C	12/12/16 02:25 PM	500HDPEHNO3		1			
3	PDP-23	Aqueous	-03B	12/12/16 03:20 PM	1LHDPEHNO3	1				
	PDP-23	Aqueous	-03C	12/12/16 03:20 PM	500HDPEHNO3		1			
4	MW-19	Aqueous	-04B	12/12/16 04:30 PM	1LHDPEHNO3	1				
	MW-19	Aqueous	-04C	12/12/16 04:30 PM	500HDPEHNO3		1			
5	MW-17A	Aqueous	-05B	12/13/16 08:45 AM	1LHDPEHNO3	1				
	MW-17A	Aqueous	-05C	12/13/16 08:45 AM	500HDPEHNO3		1			
6	PDP-24	Aqueous	-06B	12/13/16 09:45 AM	1LHDPEHNO3	1				
	PDP-24	Aqueous	-06C	12/13/16 09:45 AM	500HDPEHNO3		1			

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report RA-226, Ra-228 & Combined per Specs.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

C 879372

Relinquished by: 	Date/Time: 12/14/16 1730	Received by: 	Date/Time: 12/14/16 1730
Relinquished by: _____	Date/Time: _____	Received by: _____	Date/Time: 12/16/16 1125

20161248

SAMPLE LOGIN

Date Received: 12/16/2016 11:25:

Lab Number: 20161248

Due: 1/17/2017

Sample Number	Client Sample ID	Matrix	Date Sampled	Container Type	Container Size	Preservation	Preserved Upon Receipt	Custody Seal	Seal Intact
20161248-01 B	PDP-25	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☒	Yes	Yes
20161248-01 A	PDP-25	NPW	12/12/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
			SM 7500 Ra B M*						
			EPA 904*/9320*						
20161248-02 B	MW-20A	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☒	Yes	Yes
20161248-02 A	MW-20A	NPW	12/12/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
			SM 7500 Ra B M*						
			EPA 904*/9320*						
20161248-03 B	PDP-23	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☒	Yes	Yes
20161248-03 A	PDP-23	NPW	12/12/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
			SM 7500 Ra B M*						
			EPA 904*/9320*						
20161248-04 B	MW-19	NPW	12/12/16	Plastic	1 L	HNO3, pH < 2	☒	Yes	Yes
20161248-04 A	MW-19	NPW	12/12/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
			SM 7500 Ra B M*						
			EPA 904*/9320*						
20161248-05 B	MW-17A	NPW	12/13/16	Plastic	1 L	HNO3, pH < 2	☒	Yes	Yes
20161248-05 A	MW-17A	NPW	12/13/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
			SM 7500 Ra B M*						
			EPA 904*/9320*						
20161248-06 B	PDP-24	NPW	12/13/16	Plastic	1 L	HNO3, pH < 2	☒	Yes	Yes
20161248-06 A	PDP-24	NPW	12/13/16	Plastic	500 ml	HNO3, pH < 2	☒	Yes	Yes
			SM 7500 Ra B M*						
			EPA 904*/9320*						

CONTAINER INSPECTION

Coolers 10 Custody Seals Broken ☒ Temperature: 4.6C Ice Radiation Survey: <300 cpm

SAMPLE INSPECTION

Sample Seal Broken ☒ Chain of Custody Record ☒ Labels in Tact ☒ Radiation Survey Complete 10/18

Anomalles

Inspected By: [Signature] DATE 12/16/16
QA or Designee Review: [Signature] DATE 12/16/16
Sample Custodian Review: [Signature] DATE 12/16/16

Project Notes:

LUMINANT

Appendix B

Laboratory Analytical Reports – Detection Monitoring Data



October 03, 2017

Will Vienne
Pastor, Behling & Wheeler
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446
RE: Luminant - MLSES PDP CCR

Order No.: 1709243

Dear Will Vienne:

DHL Analytical, Inc. received 9 sample(s) on 9/23/2017 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAC except where noted in the Case Narrative. All non-NELAC methods will be identified accordingly in the case narrative and all estimated uncertainties of test results are within method or EPA specifications.

If you have any questions regarding these tests results, please feel free to call. Thank you for using DHL Analytical.

Sincerely,

A handwritten signature in red ink, appearing to read "John DuPont".

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification
Number: T104704211-17-19



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LUMINANT

[illegible]

ORIGIN ID:FWHA (512) 671-3434
JOHN BRAYTON

2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 22SEP17
ACTWGT: 67.60 LB
CAD: 6991003/SSFO1802
DIMS: 24x15x13 IN

BILL THIRD PARTY

Part # 1662927825 11/16/16 EXP 08/16

TO DHL
DHL
2300 DOUBLE CREEK DR

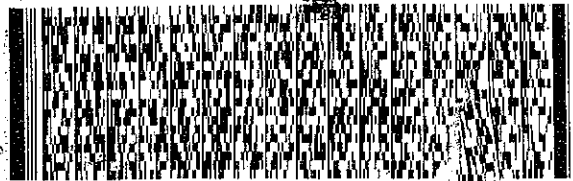
ROUND ROCK TX 78664

(000) 000-0000

REF:

INU:
PO:

DEPT:



FedEx
Express

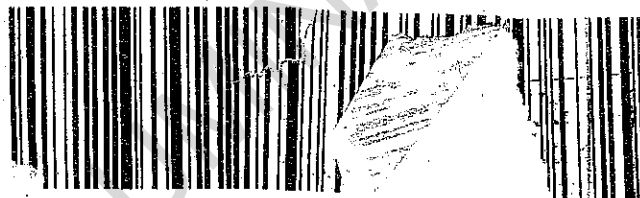


TRK# 7878 2559 9863
0201

SATURDAY 12:00P
PRIORITY OVERNIGHT

XO BSMA

AHS
78664
TX-US AUS



Sample Receipt Checklist

Client Name Pastor, Behling & Wheeler

Date Received: 9/25/2017

Work Order Number 1709243

Received by AH

Checklist completed by:

[Signature]
Signature

9/25/2017

Date

Reviewed by

[Signature]
Initials

9/25/2017

Date

Carrier name FedEx 1day

Shipping container/cooler in good condition? Yes ☒ No ☐ Not Present ☐

Custody seals intact on shipping container/cooler? Yes ☒ No ☐ Not Present ☐

Custody seals intact on sample bottles? Yes ☐ No ☐ Not Present ☒

Chain of custody present? Yes ☒ No ☐

Chain of custody signed when relinquished and received? Yes ☒ No ☐

Chain of custody agrees with sample labels? Yes ☒ No ☐

Samples in proper container/bottle? Yes ☒ No ☐

Sample containers intact? Yes ☒ No ☐

Sufficient sample volume for indicated test? Yes ☒ No ☐

All samples received within holding time? Yes ☒ No ☐

Container/Temp Blank temperature in compliance? Yes ☒ No ☐ 2.6 °C

Water - VOA vials have zero headspace? Yes ☐ No ☐ No VOA vials submitted ☒

Water - pH<2 acceptable upon receipt? Yes ☒ No ☐ NA ☐ LOT # 8086

Adjusted? No Checked by CND

Water - pH>9 (S) or pH>12 (CN) acceptable upon receipt? Yes ☐ No ☐ NA ☒ LOT #

Adjusted? _____ Checked by _____

Any No response must be detailed in the comments section below.

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Lab Order: 1709243

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Method SW6020A - Metals Analysis
Method E300 - Anions Analysis
Method M2540C - Total Dissolved Solids Analysis

LOG IN

The samples were received and log-in performed on 9/23/2017. A total of 9 samples were received and analyzed. The samples arrived in good condition and were properly packaged.

METALS ANALYSIS

For Metals Analysis, the recoveries of Boron and Calcium for the Matrix Spike and Matrix Spike Duplicate (1709241-001 MS/MSD) were outside of the method control limits. These are flagged accordingly in the QC Summary Report. These analytes were within method control limits in the associated LCS. No further corrective action was taken.

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Lab Order: 1709243

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
1709243-01	MW-18A		09/21/17 05:10 PM	9/23/2017
1709243-02	MW-17A		09/22/17 07:40 AM	9/23/2017
1709243-03	PDP-24		09/22/17 08:25 AM	9/23/2017
1709243-04	PDP-25		09/22/17 09:15 AM	9/23/2017
1709243-05	PDP-26		09/22/17 10:10 AM	9/23/2017
1709243-06	PDP-23		09/22/17 11:00 AM	9/23/2017
1709243-07	MW-19		09/22/17 11:45 AM	9/23/2017
1709243-08	MW-20A		09/22/17 12:25 PM	9/23/2017
1709243-09	PDP-22		09/22/17 01:10 PM	9/23/2017

Lab Order: 1709243
Client: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1709243-01A	MW-18A	09/21/17 05:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
	MW-18A	09/21/17 05:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
1709243-01B	MW-18A	09/21/17 05:10 PM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	MW-18A	09/21/17 05:10 PM	Aqueous	M2540C	TDS Preparation	09/26/17 02:49 PM	82558
1709243-02A	MW-17A	09/22/17 07:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
1709243-02B	MW-17A	09/22/17 07:40 AM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	MW-17A	09/22/17 07:40 AM	Aqueous	M2540C	TDS Preparation	09/28/17 10:37 AM	82593
1709243-03A	PDP-24	09/22/17 08:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
1709243-03B	PDP-24	09/22/17 08:25 AM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	PDP-24	09/22/17 08:25 AM	Aqueous	E300	Anion Preparation	09/28/17 02:30 PM	82585
	PDP-24	09/22/17 08:25 AM	Aqueous	M2540C	TDS Preparation	09/28/17 10:37 AM	82593
1709243-04A	PDP-25	09/22/17 09:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
	PDP-25	09/22/17 09:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
1709243-04B	PDP-25	09/22/17 09:15 AM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	PDP-25	09/22/17 09:15 AM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	PDP-25	09/22/17 09:15 AM	Aqueous	M2540C	TDS Preparation	09/28/17 10:37 AM	82593
1709243-05A	PDP-26	09/22/17 10:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
1709243-05B	PDP-26	09/22/17 10:10 AM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	PDP-26	09/22/17 10:10 AM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	PDP-26	09/22/17 10:10 AM	Aqueous	M2540C	TDS Preparation	09/28/17 10:37 AM	82593
1709243-06A	PDP-23	09/22/17 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
1709243-06B	PDP-23	09/22/17 11:00 AM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	PDP-23	09/22/17 11:00 AM	Aqueous	M2540C	TDS Preparation	09/28/17 10:37 AM	82593
1709243-07A	MW-19	09/22/17 11:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
	MW-19	09/22/17 11:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
1709243-07B	MW-19	09/22/17 11:45 AM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	MW-19	09/22/17 11:45 AM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	MW-19	09/22/17 11:45 AM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571

Lab Order: 1709243
Client: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
1709243-07B	MW-19	09/22/17 11:45 AM	Aqueous	M2540C	TDS Preparation	09/28/17 10:37 AM	82593
1709243-08A	MW-20A	09/22/17 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
	MW-20A	09/22/17 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
1709243-08B	MW-20A	09/22/17 12:25 PM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	MW-20A	09/22/17 12:25 PM	Aqueous	M2540C	TDS Preparation	09/28/17 10:37 AM	82593
1709243-09A	PDP-22	09/22/17 01:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
	PDP-22	09/22/17 01:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/17 09:38 AM	82546
1709243-09B	PDP-22	09/22/17 01:10 PM	Aqueous	E300	Anion Preparation	09/27/17 11:16 AM	82571
	PDP-22	09/22/17 01:10 PM	Aqueous	E300	Anion Preparation	09/28/17 02:30 PM	82585
	PDP-22	09/22/17 01:10 PM	Aqueous	M2540C	TDS Preparation	09/28/17 10:37 AM	82593

Lab Order: 1709243
Client: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1709243-01A	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	1	09/27/17 03:08 PM	ICP-MS4_170927B
	MW-18A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	10	09/27/17 01:42 PM	ICP-MS4_170927B
1709243-01B	MW-18A	Aqueous	E300	Anions by IC method - Water	82571	1	09/27/17 05:03 PM	IC2_170927A
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	82558	1	09/28/17 10:35 AM	WC_170927B
1709243-02A	MW-17A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	1	09/27/17 02:11 PM	ICP-MS4_170927B
1709243-02B	MW-17A	Aqueous	E300	Anions by IC method - Water	82571	1	09/27/17 05:17 PM	IC2_170927A
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	82593	1	09/29/17 09:50 AM	WC_170928A
1709243-03A	PDP-24	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	10	09/27/17 02:13 PM	ICP-MS4_170927B
1709243-03B	PDP-24	Aqueous	E300	Anions by IC method - Water	82571	1	09/27/17 05:31 PM	IC2_170927A
	PDP-24	Aqueous	E300	Anions by IC method - Water	82585	10	09/28/17 04:13 PM	IC4_170928A
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	82593	1	09/29/17 09:50 AM	WC_170928A
1709243-04A	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	10	09/27/17 02:15 PM	ICP-MS4_170927B
	PDP-25	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	1	09/27/17 03:10 PM	ICP-MS4_170927B
1709243-04B	PDP-25	Aqueous	E300	Anions by IC method - Water	82571	10	09/27/17 05:45 PM	IC2_170927A
	PDP-25	Aqueous	E300	Anions by IC method - Water	82571	1	09/27/17 08:19 PM	IC2_170927A
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	82593	1	09/29/17 09:50 AM	WC_170928A
1709243-05A	PDP-26	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	1	09/27/17 02:17 PM	ICP-MS4_170927B
1709243-05B	PDP-26	Aqueous	E300	Anions by IC method - Water	82571	10	09/27/17 05:59 PM	IC2_170927A
	PDP-26	Aqueous	E300	Anions by IC method - Water	82571	1	09/27/17 08:33 PM	IC2_170927A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	82593	1	09/29/17 09:50 AM	WC_170928A
1709243-06A	PDP-23	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	1	09/27/17 02:19 PM	ICP-MS4_170927B
1709243-06B	PDP-23	Aqueous	E300	Anions by IC method - Water	82571	1	09/27/17 06:13 PM	IC2_170927A
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	82593	1	09/29/17 09:50 AM	WC_170928A
1709243-07A	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	10	09/27/17 02:21 PM	ICP-MS4_170927B
	MW-19	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	1	09/27/17 03:12 PM	ICP-MS4_170927B
1709243-07B	MW-19	Aqueous	E300	Anions by IC method - Water	82571	1	09/27/17 09:01 PM	IC2_170927A
	MW-19	Aqueous	E300	Anions by IC method - Water	82571	100	09/27/17 06:27 PM	IC2_170927A
	MW-19	Aqueous	E300	Anions by IC method - Water	82571	10	09/27/17 08:47 PM	IC2_170927A

Lab Order: 1709243
Client: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
1709243-07B	MW-19	Aqueous	M2540C	Total Dissolved Solids	82593	1	09/29/17 09:50 AM	WC_170928A
1709243-08A	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	1	09/27/17 03:14 PM	ICP-MS4_170927B
	MW-20A	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	10	09/27/17 02:22 PM	ICP-MS4_170927B
1709243-08B	MW-20A	Aqueous	E300	Anions by IC method - Water	82571	1	09/27/17 07:09 PM	IC2_170927A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	82593	1	09/29/17 09:50 AM	WC_170928A
1709243-09A	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	10	09/27/17 02:24 PM	ICP-MS4_170927B
	PDP-22	Aqueous	SW6020A	Trace Metals: ICP-MS - Water	82546	1	09/27/17 03:16 PM	ICP-MS4_170927B
1709243-09B	PDP-22	Aqueous	E300	Anions by IC method - Water	82571	1	09/27/17 07:23 PM	IC2_170927A
	PDP-22	Aqueous	E300	Anions by IC method - Water	82585	10	09/28/17 04:25 PM	IC4_170928A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	82593	1	09/29/17 09:50 AM	WC_170928A

DHL Analytical, Inc.

Date: 03-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Project No: 5347-C
Lab Order: 1709243

Client Sample ID: MW-18A
Lab ID: 1709243-01
Collection Date: 09/21/17 05:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Boron	0.0654	0.0100	0.0300		mg/L	1	09/27/17 03:08 PM
Calcium	1.04	0.100	0.300		mg/L	1	09/27/17 03:08 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: JL
Chloride	5.27	0.300	1.00		mg/L	1	09/27/17 05:03 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	09/27/17 05:03 PM
Sulfate	3.23	1.00	3.00		mg/L	1	09/27/17 05:03 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: BTJ
Total Dissolved Solids (Residue, Filterable)	45.0	10.0	10.0		mg/L	1	09/28/17 10:35 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Project No: 5347-C
Lab Order: 1709243

Client Sample ID: MW-17A
Lab ID: 1709243-02
Collection Date: 09/22/17 07:40 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Boron	0.402	0.0100	0.0300		mg/L	1	09/27/17 02:11 PM
Calcium	3.10	0.100	0.300		mg/L	1	09/27/17 02:11 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: JL
Chloride	8.30	0.300	1.00		mg/L	1	09/27/17 05:17 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	09/27/17 05:17 PM
Sulfate	31.2	1.00	3.00		mg/L	1	09/27/17 05:17 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: JW
Total Dissolved Solids (Residue, Filterable)	111	10.0	10.0		mg/L	1	09/29/17 09:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Project No: 5347-C
Lab Order: 1709243

Client Sample ID: PDP-24
Lab ID: 1709243-03
Collection Date: 09/22/17 08:25 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Boron	3.01	0.100	0.300		mg/L	10	09/27/17 02:13 PM
Calcium	25.8	1.00	3.00		mg/L	10	09/27/17 02:13 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: JL
Chloride	17.5	0.300	1.00		mg/L	1	09/27/17 05:31 PM
Fluoride	0.898	0.100	0.400		mg/L	1	09/27/17 05:31 PM
Sulfate	231	10.0	30.0		mg/L	10	09/28/17 04:13 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: JW
Total Dissolved Solids (Residue, Filterable)	440	10.0	10.0		mg/L	1	09/29/17 09:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Project No: 5347-C
Lab Order: 1709243

Client Sample ID: PDP-25
Lab ID: 1709243-04
Collection Date: 09/22/17 09:15 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Boron	0.133	0.0100	0.0300		mg/L	1	09/27/17 03:10 PM
Calcium	36.8	1.00	3.00		mg/L	10	09/27/17 02:15 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: JL
Chloride	130	3.00	10.0		mg/L	10	09/27/17 05:45 PM
Fluoride	0.157	0.100	0.400	J	mg/L	1	09/27/17 08:19 PM
Sulfate	89.1	1.00	3.00		mg/L	1	09/27/17 08:19 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: JW
Total Dissolved Solids (Residue, Filterable)	481	10.0	10.0		mg/L	1	09/29/17 09:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Project No: 5347-C
Lab Order: 1709243

Client Sample ID: PDP-26
Lab ID: 1709243-05
Collection Date: 09/22/17 10:10 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Boron	0.0343	0.0100	0.0300		mg/L	1	09/27/17 02:17 PM
Calcium	2.32	0.100	0.300		mg/L	1	09/27/17 02:17 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: JL
Chloride	5.24	0.300	1.00		mg/L	1	09/27/17 08:33 PM
Fluoride	0.157	0.100	0.400	J	mg/L	1	09/27/17 08:33 PM
Sulfate	5.88	1.00	3.00		mg/L	1	09/27/17 08:33 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: JW
Total Dissolved Solids (Residue, Filterable)	107	10.0	10.0		mg/L	1	09/29/17 09:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Project No: 5347-C
Lab Order: 1709243

Client Sample ID: PDP-23
Lab ID: 1709243-06
Collection Date: 09/22/17 11:00 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Boron	0.0463	0.0100	0.0300		mg/L	1	09/27/17 02:19 PM
Calcium	2.34	0.100	0.300		mg/L	1	09/27/17 02:19 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: JL
Chloride	4.48	0.300	1.00		mg/L	1	09/27/17 06:13 PM
Fluoride	0.147	0.100	0.400	J	mg/L	1	09/27/17 06:13 PM
Sulfate	1.47	1.00	3.00	J	mg/L	1	09/27/17 06:13 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: JW
Total Dissolved Solids (Residue, Filterable)	111	10.0	10.0		mg/L	1	09/29/17 09:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Project No: 5347-C
Lab Order: 1709243

Client Sample ID: MW-19
Lab ID: 1709243-07
Collection Date: 09/22/17 11:45 AM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Boron	0.0677	0.0100	0.0300		mg/L	1	09/27/17 03:12 PM
Calcium	2.74	0.100	0.300		mg/L	1	09/27/17 03:12 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: JL
Chloride	5.36	0.300	1.00		mg/L	1	09/27/17 09:01 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	09/27/17 09:01 PM
Sulfate	1.46	1.00	3.00	J	mg/L	1	09/27/17 09:01 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: JW
Total Dissolved Solids (Residue, Filterable)	98.0	10.0	10.0		mg/L	1	09/29/17 09:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Project No: 5347-C
Lab Order: 1709243

Client Sample ID: MW-20A
Lab ID: 1709243-08
Collection Date: 09/22/17 12:25 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Boron	0.0807	0.0100	0.0300		mg/L	1	09/27/17 03:14 PM
Calcium	17.4	0.100	0.300		mg/L	1	09/27/17 03:14 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: JL
Chloride	12.6	0.300	1.00		mg/L	1	09/27/17 07:09 PM
Fluoride	0.175	0.100	0.400	J	mg/L	1	09/27/17 07:09 PM
Sulfate	74.2	1.00	3.00		mg/L	1	09/27/17 07:09 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: JW
Total Dissolved Solids (Residue, Filterable)	237	10.0	10.0		mg/L	1	09/29/17 09:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

DHL Analytical, Inc.

Date: 03-Oct-17

CLIENT: Pastor, Behling & Wheeler
Project: Luminant - MLSES PDP CCR
Project No: 5347-C
Lab Order: 1709243

Client Sample ID: PDP-22
Lab ID: 1709243-09
Collection Date: 09/22/17 01:10 PM
Matrix: AQUEOUS

Analyses	Result	MDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		SW6020A					Analyst: RO
Boron	0.221	0.0100	0.0300		mg/L	1	09/27/17 03:16 PM
Calcium	92.5	1.00	3.00		mg/L	10	09/27/17 02:24 PM
ANIONS BY IC METHOD - WATER		E300					Analyst: JL
Chloride	12.3	0.300	1.00		mg/L	1	09/27/17 07:23 PM
Fluoride	0.321	0.100	0.400	J	mg/L	1	09/27/17 07:23 PM
Sulfate	178	10.0	30.0		mg/L	10	09/28/17 04:25 PM
TOTAL DISSOLVED SOLIDS		M2540C					Analyst: JW
Total Dissolved Solids (Residue, Filterable)	558	10.0	10.0		mg/L	1	09/29/17 09:50 AM

Qualifiers:	*	Value exceeds TCLP Maximum Concentration Level	B	Analyte detected in the associated Method Blank
	C	Sample Result or QC discussed in the Case Narrative	DF	Dilution Factor
	E	TPH pattern not Gas or Diesel Range Pattern	J	Analyte detected between MDL and RL
	MDL	Method Detection Limit	ND	Not Detected at the Method Detection Limit
	RL	Reporting Limit	S	Spike Recovery outside control limits
	N	Parameter not NELAC certified		

CLIENT: Pastor, Behling & Wheeler

Work Order: 1709243

Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170927B

The QC data in batch 82546 applies to the following samples: 1709243-01A, 1709243-02A, 1709243-03A, 1709243-04A, 1709243-05A, 1709243-06A, 1709243-07A, 1709243-08A, 1709243-09A

Sample ID	MB-82546	Batch ID:	82546	TestNo:	SW6020A	Units:	mg/L			
SampType:	MBLK	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 1:14:00 PM	Prep Date:	9/26/2017			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron <0.0100 0.0300

Calcium <0.100 0.300

Sample ID	LCS-82546	Batch ID:	82546	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCS	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 1:16:00 PM	Prep Date:	9/26/2017			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.211 0.0300 0.200 0 105 80 120

Calcium 5.10 0.300 5.00 0 102 80 120

Sample ID	LCSD-82546	Batch ID:	82546	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCSD	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 1:18:00 PM	Prep Date:	9/26/2017			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 0.223 0.0300 0.200 0 111 80 120 5.59 15

Calcium 5.16 0.300 5.00 0 103 80 120 1.15 15

Sample ID	1709241-01A SD	Batch ID:	82546	TestNo:	SW6020A	Units:	mg/L			
SampType:	SD	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 1:25:00 PM	Prep Date:	9/26/2017			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 1.55 1.50 0 1.40 10.3 10

Calcium 151 15.0 0 147 2.42 10

Sample ID	1709241-01A PDS	Batch ID:	82546	TestNo:	SW6020A	Units:	mg/L			
SampType:	PDS	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 1:48:00 PM	Prep Date:	9/26/2017			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 3.53 0.300 2.00 1.40 107 80 120

Calcium 206 3.00 50.0 147 117 80 120

Sample ID	1709241-01A MS	Batch ID:	82546	TestNo:	SW6020A	Units:	mg/L			
SampType:	MS	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 1:50:00 PM	Prep Date:	9/26/2017			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron 1.65 0.300 0.200 1.40 127 80 120 S

Calcium 154 3.00 5.00 147 129 80 120 S

Qualifiers:

B Analyte detected in the associated Method Blank

J Analyte detected between MDL and RL

ND Not Detected at the Method Detection Limit

RL Reporting Limit

J Analyte detected between SDL and RL

DF Dilution Factor

MDL Method Detection Limit

R RPD outside accepted control limits

S Spike Recovery outside control limits

N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1709243
Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170927B

Sample ID	1709241-01A MSD	Batch ID:	82546	TestNo:	SW6020A	Units:	mg/L			
SampType:	MSD	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 1:52:00 PM	Prep Date:	9/26/2017			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual
Boron		1.55	0.300	0.200	1.40	73.9	80	120	6.70	15 S
Calcium		151	3.00	5.00	147	69.2	80	120	1.97	15 S

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1709243
Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170927B

Sample ID	ICV-170927	Batch ID:	R94418	TestNo:	SW6020A	Units:	mg/L			
SampType:	ICV	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 10:26:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.101	0.0300	0.100	0	101	90	110			
Calcium	2.45	0.300	2.50	0	98.1	90	110			

Sample ID	LCVL-170927	Batch ID:	R94418	TestNo:	SW6020A	Units:	mg/L			
SampType:	LCVL	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 10:36:00 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0242	0.0300	0.0200	0	121	70	130			
Calcium	0.0907	0.300	0.100	0	90.7	70	130			

Sample ID	CCV3-170927	Batch ID:	R94418	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 12:45:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.218	0.0300	0.200	0	109	90	110			
Calcium	4.79	0.300	5.00	0	95.7	90	110			

Sample ID	LCVL3-170927	Batch ID:	R94418	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 12:49:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		0.0210	0.0300	0.0200	0	105	70	130			
Calcium		0.0966	0.300	0.100	0	96.6	70	130			

Sample ID	CCV4-170927	Batch ID:	R94418	TestNo:	SW6020A	Units:	mg/L			
SampType:	CCV	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 1:54:00 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.221	0.0300	0.200	0	110	90	110			
Calcium	4.85	0.300	5.00	0	96.9	90	110			

Sample ID	LCVL4-170927	Batch ID:	R94418	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 2:06:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron		0.0248	0.0300	0.0200	0	124	70	130			
Calcium		0.100	0.300	0.100	0	100	70	130			

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1709243
Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_170927B

Sample ID	CCV5-170927		Batch ID:	R94418		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV		Run ID:	ICP-MS4_170927B		Analysis Date:	9/27/2017 2:52:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.216	0.0300	0.200	0	108	90	110			
Calcium	4.76	0.300	5.00	0	95.3	90	110			

Sample ID	LCVL5-170927		Batch ID:	R94418		TestNo:	SW6020A		Units:	mg/L	
SampType:	LCVL		Run ID:	ICP-MS4_170927B		Analysis Date:	9/27/2017 3:00:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0210	0.0300	0.0200	0	105	70	130			
Calcium	0.0892	0.300	0.100	0	89.2	70	130			

Sample ID	CCV6-170927		Batch ID:	R94418		TestNo:	SW6020A		Units:	mg/L	
SampType:	CCV		Run ID:	ICP-MS4_170927B		Analysis Date:	9/27/2017 3:26:00 PM		Prep Date:		
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.202	0.0300	0.200	0	101	90	110			
Calcium	4.77	0.300	5.00	0	95.4	90	110			

Sample ID	LCVL6-170927	Batch ID:	R94418	TestNo:	SW6020A	Units:	mg/L				
SampType:	LCVL	Run ID:	ICP-MS4_170927B	Analysis Date:	9/27/2017 3:31:00 PM	Prep Date:					
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Boron	0.0219	0.0300	0.0200	0	109	70	130			
Calcium	0.102	0.300	0.100	0	102	70	130			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1709243
Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_170927A

The QC data in batch 82571 applies to the following samples: 1709243-01B, 1709243-02B, 1709243-03B, 1709243-04B, 1709243-05B, 1709243-06B, 1709243-07B, 1709243-08B, 1709243-09B

Sample ID	MB-82571		Batch ID:	82571		TestNo:	E300		Units:	mg/L	
SampType:	MBLK		Run ID:	IC2_170927A		Analysis Date:	9/27/2017 4:14:16 PM		Prep Date:	9/27/2017	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID	LCS-82571		Batch ID:	82571		TestNo:	E300		Units:	mg/L	
SampType:	LCS		Run ID:	IC2_170927A		Analysis Date:	9/27/2017 4:28:16 PM		Prep Date:	9/27/2017	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.70	1.00	10.00	0	97.0	90	110			
Fluoride	4.20	0.400	4.000	0	105	90	110			
Sulfate	29.4	3.00	30.00	0	97.9	90	110			

Sample ID	LCSD-82571		Batch ID:	82571		TestNo:	E300		Units:	mg/L	
SampType:	LCSD		Run ID:	IC2_170927A		Analysis Date:	9/27/2017 4:42:16 PM		Prep Date:	9/27/2017	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	9.67	1.00	10.00	0	96.7	90	110	0.258	20	
Fluoride	4.18	0.400	4.000	0	105	90	110	0.306	20	
Sulfate	29.2	3.00	30.00	0	97.2	90	110	0.678	20	

Sample ID	1709243-07BMS		Batch ID:	82571		TestNo:	E300		Units:	mg/L	
SampType:	MS		Run ID:	IC2_170927A		Analysis Date:	9/27/2017 6:41:35 PM		Prep Date:	9/27/2017	
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	2170	100	2000	0	109	90	110			
Fluoride	2050	40.0	2000	0	103	90	110			
Sulfate	2080	300	2000	0	104	90	110			

Sample ID	1709243-07BMSD			Batch ID:	82571		TestNo:	E300		Units:	mg/L			
SampType:	MSD			Run ID:	IC2_170927A		Analysis Date:	9/27/2017 6:55:35 PM		Prep Date:	9/27/2017			
Analyte	Result			RL	SPK value		Ref Val	%REC		LowLimit	HighLimit	%RPD	RPDLimit	Qual

Chloride	2150	100	2000	0	107	90	110	1.29	20	
Fluoride	2040	40.0	2000	0	102	90	110	0.852	20	
Sulfate	2070	300	2000	0	104	90	110	0.257	20	

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1709243
Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_170927A

Sample ID	ICV-170927	Batch ID:	R94441	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC2_170927A	Analysis Date:	9/27/2017 3:46:16 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.6	1.00	25.00	0	98.5	90	110			
Fluoride	10.2	0.400	10.00	0	102	90	110			
Sulfate	74.2	3.00	75.00	0	98.9	90	110			

Sample ID	CCV1-170927	Batch ID:	R94441	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_170927A	Analysis Date:	9/27/2017 7:51:35 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.80	1.00	10.00	0	98.0	90	110			
Fluoride	4.23	0.400	4.000	0	106	90	110			
Sulfate	29.7	3.00	30.00	0	99.1	90	110			

Sample ID	CCV2-170927	Batch ID:	R94441	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC2_170927A	Analysis Date:	9/27/2017 9:43:35 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.75	1.00	10.00	0	97.5	90	110			
Fluoride	4.21	0.400	4.000	0	105	90	110			
Sulfate	29.5	3.00	30.00	0	98.3	90	110			

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1709243
Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_170928A

The QC data in batch 82585 applies to the following samples: 1709243-03B, 1709243-09B

Sample ID	MB-82585	Batch ID:	82585	TestNo:	E300	Units:	mg/L				
SampType:	MBLK	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 10:26:19 AM	Prep Date:	9/28/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sulfate	<1.00	3.00									

Sample ID	LCS-82585	Batch ID:	82585	TestNo:	E300	Units:	mg/L				
SampType:	LCS	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 10:38:19 AM	Prep Date:	9/28/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sulfate	28.4	3.00	30.00	0	94.7	90	110				

Sample ID	LCSD-82585	Batch ID:	82585	TestNo:	E300	Units:	mg/L				
SampType:	LCSD	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 10:50:19 AM	Prep Date:	9/28/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sulfate	29.1	3.00	30.00	0	97.1	90	110	2.44	20		

Sample ID	1709155-02CMS	Batch ID:	82585	TestNo:	E300	Units:	mg/L				
SampType:	MS	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 11:24:29 AM	Prep Date:	9/28/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sulfate	23200	3000	20000	2552	103	90	110				

Sample ID	1709155-02CMSD	Batch ID:	82585	TestNo:	E300	Units:	mg/L				
SampType:	MSD	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 11:36:29 AM	Prep Date:	9/28/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sulfate	23100	3000	20000	2552	103	90	110	0.817	20		

Sample ID	1709156-01BMS	Batch ID:	82585	TestNo:	E300	Units:	mg/L				
SampType:	MS	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 1:00:27 PM	Prep Date:	9/28/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sulfate	2220	300	2000	190.7	101	90	110				

Sample ID	1709156-01BMSD	Batch ID:	82585	TestNo:	E300	Units:	mg/L				
SampType:	MSD	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 1:12:27 PM	Prep Date:	9/28/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Sulfate	2240	300	2000	190.7	102	90	110	0.754	20		

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1709243
Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_170928A

Sample ID	1709156-05BMS	Batch ID:	82585	TestNo:	E300	Units:	mg/L			
SampType:	MS	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 3:37:06 PM	Prep Date:	9/28/2017			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	3420	300	2000	1396	101	90	110			

Sample ID	1709156-05BMSD	Batch ID:	82585	TestNo:	E300	Units:	mg/L			
SampType:	MSD	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 3:49:06 PM	Prep Date:	9/28/2017			
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	3400	300	2000	1396	100	90	110	0.623	20	

LUMINANT

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1709243
Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_170928A

Sample ID	ICV-170928	Batch ID:	R94423	TestNo:	E300	Units:	mg/L			
SampType:	ICV	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 10:02:19 AM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	75.6	3.00	75.00	0	101	90	110			

Sample ID	CCV1-170928	Batch ID:	R94423	TestNo:	E300	Units:	mg/L			
SampType:	CCV	Run ID:	IC4_170928A	Analysis Date:	9/28/2017 1:48:27 PM	Prep Date:				
Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	28.6	3.00	30.00	0	95.4	90	110			

Sample ID	CCV2-170928	Batch ID:	R94423		TestNo:	E300		Units:	mg/L		
SampType:	CCV	Run ID:	IC4_170928A		Analysis Date:	9/28/2017 5:49:06 PM		Prep Date:			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate		28.9	3.00	30.00	0	96.5	90	110			

LUMINANT

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1709243
Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_170927B

The QC data in batch 82558 applies to the following samples: 1709243-01B

Sample ID	MB-82558	Batch ID:	82558	TestNo:	M2540C	Units:	mg/L				
SampType:	MBLK	Run ID:	WC_170927B	Analysis Date:	9/28/2017 10:35:00 AM	Prep Date:	9/26/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-82558	Batch ID:	82558	TestNo:	M2540C	Units:	mg/L				
SampType:	LCS	Run ID:	WC_170927B	Analysis Date:	9/28/2017 10:35:00 AM	Prep Date:	9/26/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 747 10.0 745.6 0 100 90 113

Sample ID	1709241-02B-DUP	Batch ID:	82558	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_170927B	Analysis Date:	9/28/2017 10:35:00 AM	Prep Date:	9/26/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 4520 50.0 0 4565 0.991 5

Sample ID	1709237-02B-DUP	Batch ID:	82558	TestNo:	M2540C	Units:	mg/L				
SampType:	DUP	Run ID:	WC_170927B	Analysis Date:	9/28/2017 10:35:00 AM	Prep Date:	9/26/2017				
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Total Dissolved Solids (Residue, Filtera 1510 50.0 0 1540 1.97 5

Qualifiers:

- B Analyte detected in the associated Method Blank
- J Analyte detected between MDL and RL
- ND Not Detected at the Method Detection Limit
- RL Reporting Limit
- J Analyte detected between SDL and RL

- DF Dilution Factor
- MDL Method Detection Limit
- R RPD outside accepted control limits
- S Spike Recovery outside control limits
- N Parameter not NELAC certified

CLIENT: Pastor, Behling & Wheeler
Work Order: 1709243
Project: Luminant - MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_170928A

The QC data in batch 82593 applies to the following samples: 1709243-02B, 1709243-03B, 1709243-04B, 1709243-05B, 1709243-06B, 1709243-07B, 1709243-08B, 1709243-09B

Sample ID	MB-82593	Batch ID:	82593	TestNo:	M2540C	Units:	mg/L			
SampType:	MBLK	Run ID:	WC_170928A	Analysis Date:	9/29/2017 9:50:00 AM	Prep Date:	9/28/2017			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Total Dissolved Solids (Residue, Filtera <10.0 10.0

Sample ID	LCS-82593	Batch ID:	82593	TestNo:	M2540C	Units:	mg/L			
SampType:	LCS	Run ID:	WC_170928A	Analysis Date:	9/29/2017 9:50:00 AM	Prep Date:	9/28/2017			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Total Dissolved Solids (Residue, Filtera 746 10.0 745.6 0 100 90 113

Sample ID	1709268-02B-DUP	Batch ID:	82593	TestNo:	M2540C	Units:	mg/L			
SampType:	DUP	Run ID:	WC_170928A	Analysis Date:	9/29/2017 9:50:00 AM	Prep Date:	9/28/2017			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Total Dissolved Solids (Residue, Filtera 1500 50.0 0 1505 0.333 5

Sample ID	1709156-05B-DUP	Batch ID:	82593	TestNo:	M2540C	Units:	mg/L			
SampType:	DUP	Run ID:	WC_170928A	Analysis Date:	9/29/2017 9:50:00 AM	Prep Date:	9/28/2017			
Analyte		Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit Qual

Total Dissolved Solids (Residue, Filtera 8240 200 0 8540 3.58 5

Qualifiers: B Analyte detected in the associated Method Blank
J Analyte detected between MDL and RL
ND Not Detected at the Method Detection Limit
RL Reporting Limit
J Analyte detected between SDL and RL

DF Dilution Factor
MDL Method Detection Limit
R RPD outside accepted control limits
S Spike Recovery outside control limits
N Parameter not NELAC certified