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COAL COMBUSTION RESIDUAL RULE
2023 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

PERMANENT DISPOSAL POND 5
MARTIN LAKE STEAM ELECTRIC STATION
RUSK COUNTY, TEXAS

January 31, 2024

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ACRONYMS AND ABBREVIATIONS

BBA	Bullock, Bennett & Associates, LLC
CCR	Coal Combustion Residuals
C.F.R.	Code of Federal Regulations
GWPS	Groundwater Protection Standard
MCL	Maximum Concentration Level
mg/L	Milligrams per Liter
MLSES	Martin Lake Steam Electric Station
NA	Not Applicable
PDP	Permanent Disposal Pond
SSI	Statistically Significant Increase
SSL	Statistically Significant Level
T.A.C.	Texas Administrative Code
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

Bullock, Bennett & Associates, LLC (BBA) has prepared this report on behalf of Luminant Generation Company LLC (Luminant) to satisfy the 2023 annual groundwater monitoring and corrective action reporting requirements of 40 C.F.R. Part 257 and 30 T.A.C. Chapter 352 for the Permanent Disposal Pond 5 (PDP-5) (the “CCR unit”) at the Martin Lake Steam Electric Station (MLSES) in Rusk County, Texas. The CCR unit and CCR monitoring well network are shown on Figure 1.

At the beginning and end of the 2023 reporting period, the CCR unit was operating under a Detection Monitoring Program as described in § 257.94. The Detection Monitoring Program for PDP-5 was established in September 2017. Statistically significant increases (SSIs) above background prediction limits were identified for several Appendix III parameters as part of the 2017 through 2022 Detection Monitoring events; however, Alternate Source Demonstrations were completed that indicated that a source other than the CCR unit caused the SSIs. During 2023, SSIs were also identified for Appendix III constituents, which included boron at well PDP-25, calcium at wells PDP-23 and PDP-25, and chloride at well MW-19 and PDP-23. Alternate sources for the SSIs identified in the 2023 sample data are being evaluated in accordance with § 257.94. If an alternate source is not identified to be the cause of the 2023 SSIs, an Assessment Monitoring Program will be established in accordance with § 257.94(e)(2).

1.0 INTRODUCTION

The CCR Rule (40 C.F.R. 257 Subpart D - *Standards for the Receipt of Coal Combustion Residuals in Landfills and Surface Impoundments*) was promulgated by the United States Environmental Protection Agency (USEPA) to regulate the management and disposal of CCRs as solid waste under Resource Conservation and Recovery Act (RCRA) Subtitle D. TCEQ has adopted portions of the federal CCR rule at 30 T.A.C. Chapter 352 (Texas CCR Rule), and USEPA published its final approval of the Texas CCR rule on June 28, 2021. *See* 86 Fed. Reg. 33,892 (June 28, 2021). The Texas CCR Rule became effective on July 28, 2021, and it adopts and incorporates by reference the requirements for the annual groundwater monitoring report located at 40 C.F.R. §257.90. *See* 30 T.A.C. § 352.901. It further adopts and incorporates by reference the Federal CCR Program requirements for detection and assessment monitoring in 30 T.A.C. §352.941 and 30 T.A.C. §352.951, respectively. Pursuant to 30 T.A.C. § 352.902, this report will be submitted to TCEQ for review no later than 30 days after the report has been placed in the facility's operating record. For existing CCR landfills and surface impoundments, the CCR Rule requires that the owner or operator 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. Per §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.

(6) A section at the beginning of the annual report that provides an overview of the current status of groundwater monitoring and corrective action programs for the CCR unit. At a minimum, the summary must specify all of the following:

(i) At the start of the current annual reporting period, whether the CCR unit was operating

under the detection monitoring program in §257.94 or the assessment monitoring program in §257.95;

(ii) At the end of the current annual reporting period, whether the CCR unit was operating under the detection monitoring program in § 257.94 or the assessment monitoring program in § 257.95;

(iii) If it was determined that there was a statistically significant increase over background for one or more constituents listed in appendix III to this part pursuant to § 257.94(e):

(A) Identify those constituents listed in appendix III to this part and the names of the monitoring wells associated with such an increase; and

(B) Provide the date when the assessment monitoring program was initiated for the CCR unit.

(iv) If it was determined that there was a SSL above the groundwater protection standard for one or more constituents listed in appendix IV to this part pursuant to § 257.95(g) include all of the following:

(A) Identify those constituents listed in appendix IV to this part and the names of the monitoring wells associated with such an increase;

(B) Provide the date when the assessment of corrective measures was initiated for the CCR unit;

(C) Provide the date when the public meeting was held for the assessment of corrective measures for the CCR unit; and

(D) Provide the date when the assessment of corrective measures was completed for the CCR unit.

(v) Whether a remedy was selected pursuant to § 257.97 during the current annual reporting period, and if so, the date of remedy selection; and

(vi) Whether remedial activities were initiated or are ongoing pursuant to § 257.98 during the current annual reporting period.

2.0 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The PDP-5 CCR Unit is currently in a Detection Monitoring Program. The initial Detection Monitoring Program groundwater samples were collected from the PDP-5 CCR monitoring well network in September 2017. Subsequent Detection Monitoring Program groundwater samples have been collected on a semi-annual basis since that time. Statistical analysis of the sample data is performed in accordance with the Statistical Analysis Plan for the site (Golder 2022) and the USEPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities-Unified Guidance (USEPA 2009) to identify SSIs of Appendix III parameters over background concentrations. The statistical evaluation approach for the PDP-5 groundwater monitoring program is based on intrawell data evaluations, which compare new sample data to historical data at each groundwater monitoring well independently. The Detection Monitoring Program sampling dates and parameters are summarized in the following table:

Detection Monitoring Program Summary

Sampling Dates	Parameters	SSIs	Assessment Monitoring Program Established
September 2017 February 2018 (re-samples)	Appendix III	Yes	No (Alternate Source Demonstration Completed)
June 2018 September 2018 November 2018 (re-samples)	Appendix III	Yes	No (Alternate Source Demonstration Completed)
May 2019 November 2019	Appendix III	Yes	No (Alternate Source Demonstration Completed)
May 2020 September 2020	Appendix III	Yes	No (Alternate Source Demonstration Completed)
June 2021 October 2021	Appendix III	Yes	No (Alternate Source Demonstration Completed)
May 2022 September 2022	Appendix III	Yes	No (Alternate Source Demonstration Completed)
May 2023 August 2023	Appendix III	Yes	No (Alternate Source Is Being Assessed)

Appendix III statistical background values and sample analytical data are presented in Tables 1 and 2, respectively. SSIs of Appendix III parameters were identified for the 2017 through 2022 sampling events. An initial Alternate Source Demonstration was completed in 2018, which indicated that a source other than the CCR unit caused the SSIs observed in the 2017 sample data and 2018 re-sample data. Similarly, Alternate Source Demonstrations were completed in 2019 through 2023 based on the 2018 through 2022 sample data. As such, PDP-5 has remained in the Detection Monitoring Program. A summary of the Alternate Source Demonstration completed in 2023, which was based on sample data collected in 2022, is presented in Appendix A as required by § 257.94(e)(2). The Alternate Source Demonstration for the 2022 sample data was also submitted via email to the executive director on March 23, 2023, as required under 30 TAC § 352.941(c)(2)

Detection Monitoring Program groundwater samples were collected from the CCR groundwater monitoring network on a semi-annual basis in 2023. The first 2023 semi-annual Detection Monitoring Program sampling event was conducted in May 2023 and the second 2023 semi-annual Detection Monitoring Program sampling event was conducted in August 2023. The 2023 laboratory analytical reports are provided in Appendix B. The analytical data from the 2023 semi-annual Detection Monitoring Program sampling events were evaluated using procedures described in the Statistical Analysis Plan (Golder 2022) to identify SSIs of Appendix III parameters over background concentrations. SSIs of Appendix III parameters over background concentrations were identified in 2023 for boron at well PDP-25, calcium at wells PDP-23 and PDP-25, and chloride at well MW-19 and PDP-23. Alternate sources for the SSIs identified in the 2023 sample data are being evaluated in accordance with § 257.94. If an alternate source is not identified to be the cause of the SSIs, an Assessment Monitoring Program will be established in accordance with § 257.94(e)(2).

A notification was submitted to the executive director via email on December 19, 2023, following the SSI determinations as required under 30 TAC § 352.941(b). In addition, a notification of the intent to make an Alternate Source Demonstration under 30 TAC § 352.941(c)(1) for SSIs observed in the 2023 sample data was submitted to the executive director via email on December 19, 2023.

3.0 KEY ACTIONS COMPLETED IN 2023

Two semi-annual Assessment Monitoring Program groundwater monitoring events were performed in 2023. The number of groundwater samples that were collected for analysis from each background and downgradient well, the dates the samples were collected, and the analytical results for the groundwater samples are summarized in Table 1.

PDP-5 was constructed in 2010 on top of and immediately adjacent to closed and capped former pre-CCR Rule coal ash surface impoundments that began operation in 1979. PDP-5 extends above natural grade and represents a localized topographic high relative to the surrounding area. There are no upgradient monitoring wells at PDP-5. Water elevations measured in the PDP-5 CCR monitoring wells during the 2023 semi-annual groundwater sampling events are summarized in Table 3 and groundwater potentiometric surface maps are presented in Appendix C. The 2023 groundwater potentiometric surface maps indicate that groundwater flows radially outward from the topographic high at PDP-5 at approximately 1 foot per year, which is similar to previously observed conditions at the site.

An Alternate Source Demonstration was completed in March 2023, which documented that a source other than PDP-5 caused the SSIs detected over background levels during the 2022 Detection Monitoring Program monitoring events, as required by § 257.94(e)(2). A copy of the Alternate Source Demonstration is provided in Appendix A. The completed Alternate Source Determination was also submitted to the executive director on March 23, 2023, as required under 30 TAC § 352.941(c)(2).

No CCR wells were installed or decommissioned in 2023.

4.0 PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the CCR groundwater monitoring program in 2023.

5.0 KEY ACTIVITIES PLANNED FOR 2024

The following key activities are planned for 2024:

- Continue the Detection Monitoring Program in accordance with applicable provisions of §257.95 and 30 T.A.C. §352.941.
- If an alternate source is identified to be the cause of the SSIs observed in 2023, which are described in this report, a written demonstration will be completed within 90 days of SSI determination and included in the following Annual Groundwater Monitoring and Corrective Action Report. A notification of intent to make an Alternate Source Demonstration under 30 TAC § 352.941(c)(1) for SSIs observed in 2023 was submitted to the executive director via email on December 19, 2023.
- If an alternate source is not identified to be the cause of the SSIs, an Assessment Monitoring Program will be established.

6.0 REFERENCES

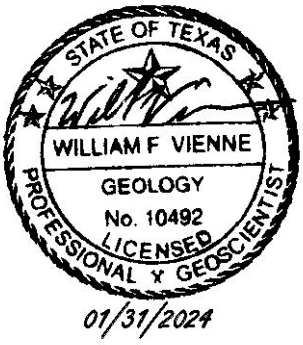
Golder, 2022. Statistical Analysis Plan – Revision No. 1, Martin Lake Steam Electric Station – Permanent Disposal Pond 5, Rusk County, Texas.

USEPA, 2009. Unified Guidance Document: Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, EPA 530/R-09-007, March.

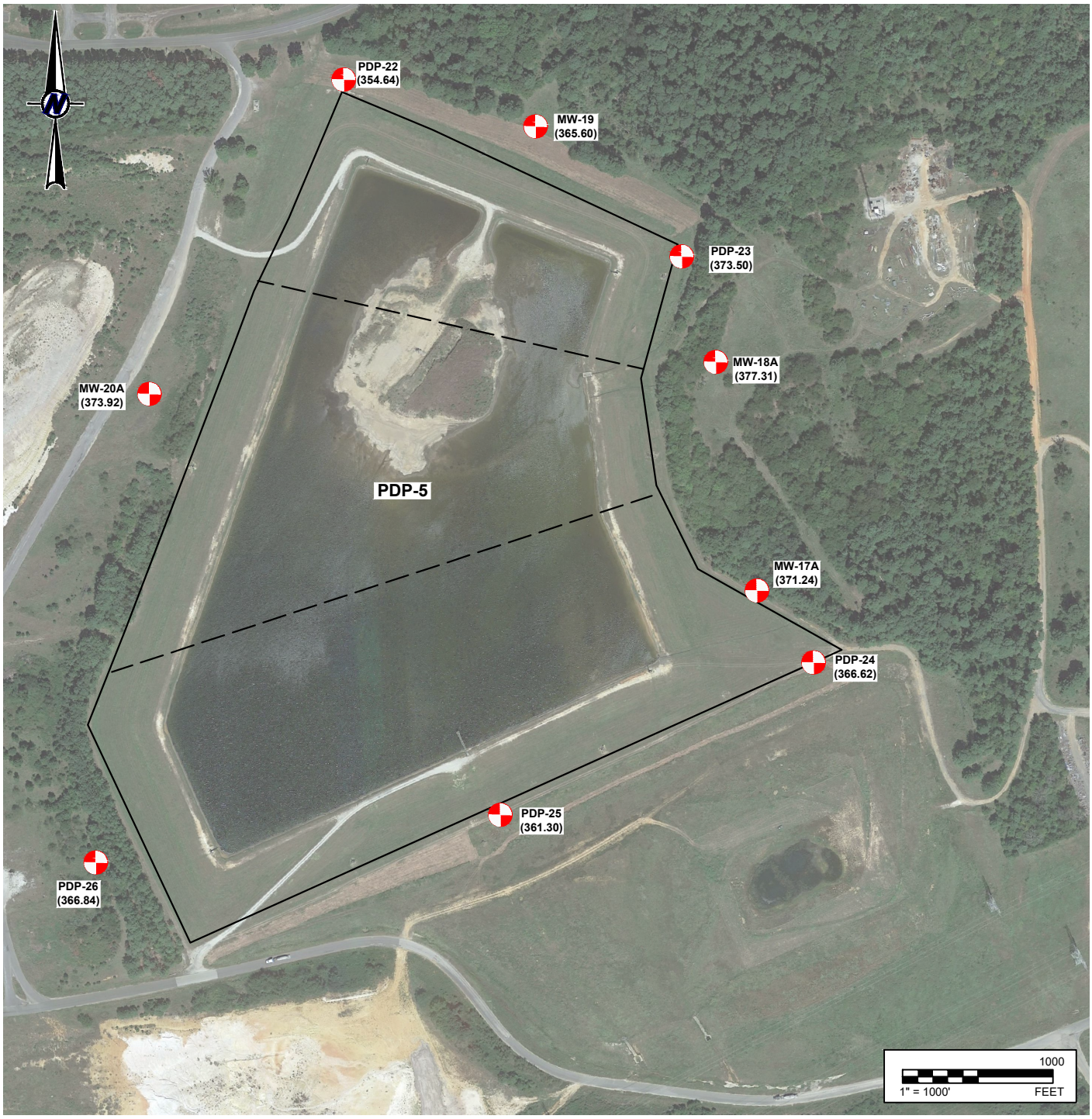
SIGNATURE PAGE

Bullock, Bennett & Associates, LLC

William Vienne, P.G.
Senior Hydrogeologist



FIGURES



LEGEND

CCR MONITORING WELL LOCATION

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED SEPTEMBER 8, 2021.

LUMINANT

MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

Figure 1

PDP-5 SITE PLAN

PROJECT: 23643.03	BY: SLB	DATE: 12/14/2023	CHECKED: WV

Bullock, Bennett & Associates, LLC
Engineering and Geoscience
Texas Registrations: Engineering F-8542, Geoscience 50127

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TABLES

Table 1
Statistical Background Values
MLSES - PDP 5

Sample Location	Boron (mg/L)	Calcium (mg/L)	Chloride (mg/L)	Flouride (mg/L)	field pH (s.u.)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
MW-17A	0.538	6.73	10.4	0.4	2.5 9.19	51.9	170
MW-18A	0.20	3.1	10.4	0.4	4.88 7.92	9.1	157
MW-19	0.782	237	57.7	0.512	4.6 8.08	672	1,380
MW-20A	0.213	25.7	12.3	0.954	3.06 8.76	148	381
PDP-22	0.411	306	32.7	1.07	4.08 8.63	216	1,780
PDP-23	0.0678	2	7.52	0.4	3.38 8.45	3.27	143
PDP-24	4.92	45.9	22.6	1.03	1.33 9.97	533	894
PDP-25	0.136	41.3	197	0.4	4.65 7.93	118	705
PDP-26	0.111	4.74	14.6	0.577	5.35 7.57	64.6	438

TABLE 2
APPENDIX III ANALYTICAL RESULTS
MLSES PDP-5

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	field pH s.u.	SO_4 (mg/L)	TDS (mg/L)
MW-17A	09/22/17	0.402	3.1	8.3	<0.1	6.78	31.2	111
	06/14/18	0.485	6.48	9.16	<0.1	6.87	45.9	129
	09/11/18	0.523	5.06	8.82	0.179 J	5.03	43.1	137
	05/13/19	0.497	4.88	9.18	<0.1	6.79	44.7	145
	11/07/19	0.52	5.05	8.81	<0.100	6.44	43.9	127
	05/19/20	0.521	5.09	8.74	<0.100	6.57	46.8	140
	09/25/20	0.477	5.76	10.1	<0.100	6.57	47.7	133
	06/03/21	0.534	6.21	7.83	<0.100	6.69	50.4	146
	10/05/21	0.393	3.95	8.42	<0.100	6.57	34.3	115
	05/25/22	0.487	6.27	8.67	<0.100	6.94	49.4	149
	06/06/22	0.452	5.71	10	--	--	50	148
	09/22/22	0.386	3.83	8.73	<0.100	6.83	32.6	98
	05/18/23	0.504	5.89	9.67	<0.100	6.71	52.8	149
	08/14/23	0.432	4.21	9.1	<0.100	6.43	36.8	117
MW-18A	09/21/17	0.0654	1.04	5.27	<0.1	6.94	3.23	45
	06/14/18	0.102	2	6.56	<0.1	6.92	3.48	71
	09/12/18	0.211	3.23	9.06	<0.1	5.69	4.82	150
	11/7/2018 re-sample	0.128	--	--	--	--	--	--
	05/13/19	0.117	1.01	6.17	0.138 J	6.64	3.23	73
	11/07/19	0.127	11.5	6.34	<0.100	6.23	3.67	68
	05/19/20	0.225	1.54	7.09	<0.100	6.89	5.97	86
	09/25/20	0.188	1.66	8.13	<0.100	6.78	6.03	77
	06/03/21	0.188	1.73	6.2	<0.100	6.69	6.20	76
	10/05/21	0.159	1.49	6.63	<0.100	6.59	5.73	76
	05/25/22	0.176	2.01	7.31	<0.100	6.52	6.83	86
	09/21/22	0.186	3.6	8.18	<0.100	6.59	11.7	89
	05/18/23	0.20	2.83	9.8	<0.100	6.88	7.59	100
	08/15/23	0.20	2.58	8.37	<0.100	6.58	6.79	87
MW-19	09/22/17	0.0677	2.74	5.36	<0.1	6.94	1.46 J	98
	06/14/18	0.577	133	24.4	0.216 J	6.78	328	758
	09/11/18	0.243	38	65.1	0.228 J	6.04	166	597
	11/7/2018 re-sample	--	--	5.22	--	--	--	--
	05/13/19	0.429	122	26.8	0.229 J	6.72	349	813
	11/08/19	0.529	77.8	49.3	0.189 J	6.87	310	844
	05/19/20	0.0724	1.49	5.84	<0.100	6.91	1.02 J	85
	09/25/20	0.412	94.6	14.3	0.111 J	6.92	160	462
	06/03/21	0.56	140	19.5	0.352 J	6.75	336	751
	10/05/21	0.495	124	62.9	0.180 J	6.74	323	896
	05/25/22	0.711	189	47.3	0.192 J	6.79	346	1010
	06/07/22	0.574	147	55.4	--	--	313	970
	09/21/22	0.382	45.0	92.2	0.108 J	6.93	212	723
	05/18/23	0.788	173	22.5	0.104	6.77	244	724
	08/14/23	0.627	113	67.5	0.142	6.59	275	877

TABLE 2
APPENDIX III ANALYTICAL RESULTS
MLSES PDP-5

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	field pH s.u.	SO_4 (mg/L)	TDS (mg/L)
MW-20A	09/22/17	0.0807	17.4	12.6	0.175 J	6.71	74.2	237
	02/21/18 re-sample	--	--	10.7	--	--	--	--
	06/13/18	0.171	24	10.9	0.672	6.72	132	250
	09/11/18	0.141	7.16	11	0.235 J	4.70	39.1	154
	05/13/19	0.239	37.4	10.2	0.731	6.81	178	328
	11/08/19	0.132	9.9	10.2	0.465	6.51	88	205
	05/19/20	0.220	24	10.4	0.413	6.83	133	270
	09/25/20	0.107	8.94	12.6	0.132 J	6.68	54.3	162
	06/03/21	0.152	26.1	9.63	0.324	6.73	93.2	218
	10/05/21	0.0724	6.12	10.8	0.127 J	6.44	32.8	139
	05/25/22	0.102	15.3	10.6	0.239 J	6.75	65.7	207
	06/07/22	0.0888	9.89	12.2	--	--	49.3	178
	09/22/22	0.0466	2.93	6.68	<0.100	6.48	1.42 J	84
	05/18/23	0.0711	9.65	11.3	<0.100	6.83	38.9	169
	08/14/23	0.0715	4.72	11.4	<0.100	6.58	21	130
PDP-22	09/22/17	0.221	92.5	12.3	0.321 J	6.98	178	558
	06/14/18	0.115	7.78	11.8	0.239	6.63	186	491
	09/12/18	0.164	61.1	10.9	0.216 J	5.88	143	476
	05/13/19	0.158	98.2	10.1	0.303 J	6.86	184	615
	11/12/19	0.226	34.3	12.6	0.218 J	6.93	215	482
	05/19/20	0.0646	54.9	1.06	<0.100	6.55	5.21	205
	09/25/20	0.206	25.1	12.7	0.128 J	6.73	186	398
	06/03/21	0.121	73.1	6.64	<0.100	6.52	118	415
	10/05/21	0.166	27.1	10.1	0.223 J	6.78	170	376
	05/25/22	0.137	16.4	9.92	0.183 J	8.82	104	289
	09/21/22	0.141	14.9	10.4	0.106 J	6.42	112	280
	05/18/23	0.160	39.1	10.1	<0.100	6.93	109	379
	08/15/23	0.116	10.4	8.19	<0.100	6.81	68.4	223
PDP-23	09/22/17	0.0463	2.34	4.48	0.147 J	6.77	1.47 J	111
	02/21/18 re-sample	--	2.37	--	--	--	--	--
	06/13/18	0.0357	2.29	6.21	<0.1	6.82	1.26 J	98
	09/11/18	0.0760	1.96	6.38	<0.1	5.32	1.52 J	98
	11/7/2018 re-sample	0.0683	--	--	--	--	--	--
	05/13/19	0.0628	1.89	6.98	<0.1	6.68	1.28 J	103
	11/12/19	0.0675	2.14	4.98	<0.100	6.72	1.41 J	93
	05/19/20	0.0709	2.03	6.86	<0.100	6.83	1.19 J	104
	09/25/20	0.0617	2.31	7.29	<0.100	6.74	<1.00	94
	06/03/21	0.0818	2.32	6.88	<0.100	6.57	1.42 J	101
	10/05/21	0.0661	2.38	6.58	<0.100	6.59	1.02 J	97
	05/25/22	0.0441	4.03	5.9	<0.100	6.20	1.44 J	110
	09/21/22	0.0663	2.53	6.72	<0.100	6.63	1.18 J	104
	05/18/23	0.0976	2.88	6.65	<0.100	6.75	1.35	115
	05/18/2023 DUP	0.0818	2.82	6.66	<0.100	6.75	1.33	111
	08/15/23	0.0681	2.37	8.12	<0.100	6.76	1.20	118
	08/15/23 DUP	0.0671	2.44	8.02	<0.100	6.76	1.22	114

TABLE 2
APPENDIX III ANALYTICAL RESULTS
MLSES PDP-5

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	field pH s.u.	SO_4 (mg/L)	TDS (mg/L)
PDP-24	09/22/17	3.01	25.8	17.5	0.898	6.95	231	440
	06/14/18	2.71	23.9	21.1	0.629	6.82	284	481
	09/11/18	4.08	41.6	19.4	0.832	4.20	460	760
	05/13/19	3.23	23	21	0.871	6.95	300	537
	11/12/19	3	21.9	20.6	0.751	6.87	295	520
	11/12/2019 DUP	2.97	22.2	20.5	0.744	6.87	300	504
	05/19/20	3.17	21.4	21	0.61	6.79	286	512
	09/25/20	4.04	40.7	19.6	0.776	6.83	445	699
	06/03/21	3.56	26.4	19.3	0.934	6.57	350	615
	10/05/21	4.24	46.9	17.8	0.782	6.72	432	681
	05/25/22	4.2	47.7	15.6	0.789	6.73	449	736
	09/21/22	4.23	46.7	17.8	0.771	6.72	456	744
	05/18/23	4.02	41.6	18.2	0.729	6.63	411	720
	08/14/23	3.36	29.8	19.1	0.817	6.52	353	640
PDP-25	09/22/17	0.133	36.8	130	0.157 J	6.81	89.1	481
	06/14/18	0.119	40.4	111	<0.1	6.78	73.4	439
	09/11/18	0.167	36.2	135	0.115 J	5.87	90.3	469
	11/7/2018 re-sample	0.142	--	--	--	--	--	--
	05/13/19	0.144	44.4	108	0.121 J	6.84	69	469
	11/12/19	0.184	38.6	117	<0.100	6.82	71.4	454
	05/19/20	0.202	53.7	105	<0.100	6.61	62.2	442
	09/25/20	0.174	46.3	123	<0.100	6.77	67.5	445
	06/03/21	0.234	45.2	101	0.236 J	6.78	61.2	431
	10/05/21	0.159	40.4	115	<0.100	6.73	62.7	427
	05/25/22	0.151	47.5	102	<0.100	6.64	58.4	454
	09/21/22	0.166	52.8	109	<0.100	6.52	61.6	436
	05/18/23	0.266	56.3	107	<0.100	6.82	59.9	478
	08/14/23	0.15	71.5	93.6	<0.100	6.68	51.3	457
PDP-26	09/22/17	0.0343	2.32	5.24	0.157 J	6.84	5.88	107
	06/14/18	0.0225 J	2.93	4.8	<0.1	6.89	4.27	100
	09/12/18	0.0371	2.37	4.88	<0.1	6.07	2.66 J	107
	05/13/19	0.0528	1.9	4.59	0.217 J	6.86	2.7 J	106
	11/12/19	0.0622	2.25	4.64	0.122 J	6.77	2.1 J	102
	05/19/20	0.0538	2.09	4.52	<0.100	6.64	2.1 J	108
	09/25/20	0.0549	2.71	5.07	<0.100	6.83	1.91	92
	06/03/21	0.0516	2.37	4.05	<0.100	6.84	2.18 J	104
	6/3/21 DUP	0.0635	2.23	4.05	<0.1	6.84	2.05 J	107
	10/05/21	0.0486	3.85	4.48	0.194 J	6.74	3.28	104
	10/5/21 DUP	0.0432	3.58	4.24	0.192 J	6.74	2.49 J	103
	05/25/22	0.0424	2.62	4.08	0.109 J	6.73	2.46 J	111
	09/22/22	0.05	2.61	4.4	<0.100	6.47	2.08 J	92
	05/18/23	0.0965	2.76	4.59	<0.100	6.67	2.58 J	101
	08/14/23	0.0451	2.99	4.58	<0.100	6.74	2.12 J	106

Notes:
1. All concentrations in mg/L. pH in standard units.
2. J - concentration is below sample quantitation limit; result is an estimate.

TABLE 3
GROUNDWATER ELEVATION SUMMARY
MLSES PDP-5

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
		06/13/18	17.62	370.13
		09/11/18	18.44	369.31
		05/13/19	15.09	372.66
		11/05/19	17.58	370.17
		05/19/20	15.96	371.79
		09/25/20	17.52	370.23
		06/03/21	15.41	372.34
		10/04/21	17.68	370.07
		05/24/22	18.09	369.66
		09/21/22	19.47	368.28
		05/17/23	16.51	371.24
		08/14/23	19.06	368.69
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
		06/13/18	37.81	376.63
		09/11/18	39.10	375.34
		05/13/19	32.21	382.23
		11/05/19	35.11	379.33
		05/19/20	33.68	380.76
		09/25/20	36.38	378.06
		06/03/21	33.48	380.96
		10/04/21	36.43	378.01
		05/24/22	37.62	376.82
		09/21/22	39.51	374.93
		05/17/23	37.13	377.31
		08/14/23	38.61	375.83

TABLE 3
GROUNDWATER ELEVATION SUMMARY
MLSES PDP-5

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
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
		06/13/18	10.59	360.74
		09/11/18	14.24	357.09
		05/13/19	3.51	367.82
		11/05/19	7.29	364.04
		05/19/20	6.34	364.99
		09/25/20	11.74	359.59
		06/03/21	4.63	366.70
		10/04/21	12.47	358.86
		05/24/22	10.93	360.40
		09/21/22	14.46	356.87
		05/17/23	5.73	365.60
		08/14/23	13.04	358.29
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
		06/13/18	25.61	373.37
		09/11/18	26.80	372.18
		11/05/19	25.24	373.74
		05/13/19	21.64	377.34
		05/19/20	20.71	378.27
		09/25/20	24.61	374.37
		06/03/21	23.12	375.86
		10/04/21	25.98	373.00
		05/24/22	25.37	373.61
		09/21/22	28.27	370.71
		05/17/23	25.06	373.92
		08/14/23	26.53	372.45

TABLE 3
GROUNDWATER ELEVATION SUMMARY
MLSES PDP-5

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
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
		06/13/18	33.12	353.63
		09/11/18	33.86	352.89
		05/13/19	30.47	356.28
		11/05/19	32.78	353.97
		05/19/20	30.24	356.51
		09/25/20	30.87	355.88
		06/03/21	29.76	356.99
		10/04/21	30.42	356.33
		05/24/22	32.11	354.64
		09/21/22	33.11	353.64
		05/17/23	32.11	354.64
		08/14/23	32.67	354.08
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
		09/21/17	23.98	370.45
		06/13/18	22.89	371.54
		09/11/18	24.69	369.74
		05/13/19	17.92	376.51
		11/05/19	23.27	371.16
		05/19/20	18.82	375.61
		09/25/20	22.11	372.32
		06/03/21	18.49	375.94
		10/04/21	22.42	372.01
		05/24/22	22.44	371.99
		09/21/22	24.61	369.82
		05/17/23	20.93	373.50
		08/14/23	24.31	370.12

TABLE 3
GROUNDWATER ELEVATION SUMMARY
MLSES PDP-5

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
PDP-24	389.73	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
		12/11/16	24.19	365.54
		09/21/17	23.29	366.44
		06/13/18	23.21	366.52
		09/11/18	23.62	366.11
		05/13/19	23.62	366.11
		11/05/19	25.29	364.44
		05/19/20	23.38	366.35
		09/25/20	24.68	365.05
		06/03/21	23.82	365.91
		10/04/21	24.71	365.02
		05/24/22	25.16	364.57
		09/21/22	25.81	363.92
		05/17/23	23.11	366.62
		08/14/23	25.46	364.27
PDP-25	387.97	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
		10/17/16	27.83	360.14
		12/11/16	29.71	358.26
		09/21/17	28.21	359.76
		06/13/18	27.71	360.26
		09/11/18	28.94	359.03
		05/13/19	26.23	361.74
		11/05/19	25.06	362.91
		05/19/20	26.39	361.58
		09/25/20	27.93	360.04
		06/03/21	26.21	361.76
		10/04/21	27.82	360.15
		05/24/22	27.21	360.76
		09/21/22	28.64	359.33
		05/17/23	26.67	361.30
		08/14/23	28.98	358.99

TABLE 3
GROUNDWATER ELEVATION SUMMARY
MLSES PDP-5

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
PDP-26	397.68	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
		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
		06/13/18	32.18	365.50
		09/11/18	32.90	364.78
		05/13/19	28.93	368.75
		11/05/19	32.83	364.85
		05/19/20	29.59	368.09
		09/25/20	30.56	367.12
		06/03/21	29.18	368.50
		10/04/21	30.11	367.57
		05/24/22	31.64	366.04
		09/21/22	33.06	364.62
		05/17/23	30.84	366.84
		08/14/23	31.77	365.91
PDP-27*	377.58	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
		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
		06/13/18	NM	NM
		09/11/18	19.78	357.80
		11/05/19	NM	NM
		05/13/19	NM	NM
		05/19/20	NM	NM
		09/25/20	NM	NM
		06/04/21	NM	NM
		10/04/21	NM	NM
		05/24/22	NM	NM
		09/21/22	NM	NM
		05/17/23	NM	NM
		08/14/23	NM	NM

TABLE 3
GROUNDWATER ELEVATION SUMMARY
MLSES PDP-5

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
PDP-28*	368.62	10/20/15	13.68	354.94
		12/14/15	13.68	354.94
		02/24/16	10.75	357.87
		04/05/16	9.61	359.01
		06/06/16	11.74	356.88
		08/09/16	10.91	357.71
		10/17/16	12.19	356.43
		12/11/16	13.09	355.53
		09/21/17	NM	NM
		06/13/18	NM	NM
		09/11/18	14.24	354.38
		05/13/19	NM	NM
		11/05/19	NM	NM
		05/19/20	NM	NM
		09/25/20	NM	NM
		06/04/21	NM	NM
		10/04/21	NM	NM
		05/24/22	NM	NM
		09/21/22	NM	NM
		05/17/23	NM	NM
		08/14/23	NM	NM
PDP-29*	383.05	10/20/15	14.12	368.93
		12/14/15	14.06	368.99
		02/24/16	12.45	370.60
		04/05/16	10.86	372.19
		06/06/16	12.62	370.43
		08/09/16	11.24	371.81
		10/17/16	13.09	369.96
		12/11/16	14.23	368.82
		09/21/17	NM	NM
		06/13/18	NM	NM
		09/11/18	16.01	367.04
		05/13/19	NM	NM
		11/05/19	NM	NM
		05/19/20	NM	NM
		09/25/20	NM	NM
		06/04/21	NM	NM
		10/04/21	NM	NM
		05/24/22	NM	NM
		09/21/22	NM	NM
		05/17/23	NM	NM
		08/14/23	NM	NM

Notes:
1. Abbreviations: ft - feet; amsl - above mean sea level; bgs - below ground surface
2. * - Non-CCR well used only to evaluate groundwater water elevatio

APPENDIX A

ALTERNATE SOURCE DEMONSTRATION REPORT

March 23, 2023

Eric Chavers
Luminant Generation Company LLC
6555 Sierra Drive
Irving, Texas 75039

RE: ALTERNATE SOURCE DEMONSTRATION SUMMARY
MARTIN LAKE STEAM ELECTRIC STATION – PDP-5
RUSK COUNTY, TEXAS

1.0 INTRODUCTION

This Alternate Source Demonstration (ASD) Summary was prepared to document that a source other than the Permanent Disposal Pond 5 (PDP-5) (the Site) caused the statistically significant increases (SSIs) over background levels observed during the 2022 Coal Combustion Residual (CCR) Detection Monitoring Program sampling events, as required by 40 C.F.R. §257.94(e)(2) of the federal CCR Rule. The Texas Commission on Environmental Quality (TCEQ) has adopted portions of the federal CCR rule at 30 T.A.C. Chapter 352 (Texas CCR Rule). The Texas CCR Rule became effective on July 28, 2021, and it adopts and incorporates by reference the requirements for the annual groundwater monitoring report located at 40 C.F.R. §257.90 (*See* 30 T.A.C. §352.901) and the Federal CCR Program requirements for detection and assessment monitoring at 40 C.F.R. §257.94 and §257.95 (*See* 30 T.A.C. §352.941 and 30 T.A.C. §352.951). Pursuant to 30 T.A.C. §352.941(c)(1), a notification was submitted to the Executive Director on January 6, 2023 indicating an intent to pursue an ASD. This ASD will be submitted to the Executive Director pursuant to 30 T.A.C. §352.941(c)(2).

2.0 PDP-5 HISTORY AND CCR MONITORING WELL NETWORK

A Site Plan showing PDP-5 and vicinity is provided on Figure 1. PDP-5 was constructed in 2010 on top of and immediately adjacent to closed and capped former pre-CCR Rule coal ash surface impoundments that began operation in 1979. PDP-5 extends significantly above natural grade and represents a localized topographic high relative to the surrounding area. Based on this configuration, there are no upgradient monitoring wells at PDP-5 (PBW 2017).

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). As shown on Figure 1, the wells are distributed radially along the perimeter of PDP-5 and are screened in the uppermost aquifer.

3.0 2022 SEMI-ANNUAL DETECTION MONITORING RESULTS AND DISCUSSION

Detection Monitoring Program groundwater data collected from the PDP-5 CCR monitoring well network from 2017 through 2022 are summarized in Table 1. Detection Monitoring Program groundwater samples were collected on a semi-annual basis in 2022 in accordance with 40 CFR §257.94. Annual groundwater monitoring activities and sampling results were summarized in the Annual Groundwater Monitoring and Corrective Action Report (WSP Golder 2023).

As described in the CCR Statistical Analysis Plan (SAP) (WSP Golder 2022), intrawell statistical evaluations were used to identify SSIs in accordance with the United States Environmental Protection Agency's (USEPA's) Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities-Unified Guidance (USEPA 2009). During 2022, SSIs (as indicated by sample data for a given well greater than the prediction limit for that analyte) were identified for boron in well PDP-25; calcium in wells PDP-18A, PDP-23, PDP-24, and PDP-25; chloride in well MW-19, and sulfate in well MW-18A.

The boron SSI concentrations in the 2022 groundwater samples from well PDP-25 (maximum boron concentration of 0.166 mg/L) exceeded the boron prediction limit of 0.136 mg/L for that well. The historical variability of boron in groundwater samples collected Site-wide has ranged from about 0.034 mg/L to 4.2 mg/L, and the boron SSI sample concentrations observed in 2022 fall into this historical range. In addition, the 2022 PDP-25 boron sample concentrations are lower than the boron sample concentrations in four of the eight other CCR monitoring wells (MW-17A, MW-18A, MW-19, and PDP-24) where SSIs were not indicated.

The calcium SSI concentrations in the 2022 groundwater samples from well MW-18A, PDP-23, PDP-24, and PDP-25 (maximum calcium concentration of 52.8 mg/L in well PDP-25) exceeded the calcium prediction limits established for each of these wells. The historical variability of calcium in groundwater samples collected Site-wide has ranged from about 1 mg/L to 189 mg/L, and the calcium SSI sample concentrations observed in 2022 fall into this historical range. In addition, one other Site well (MW-19) had a calcium sample concentration in the first semi-annual sampling event in 2022 that was higher than the concentrations observed in the 2022 calcium SSI samples, but SSIs were not indicated for that well.

The chloride SSI concentrations in the groundwater samples from well MW-19 (maximum chloride concentration of 92.2 mg/L) exceeded the chloride prediction limit of 57.7 mg/L for that well. The historical variability of chloride in groundwater samples collected Site-wide has ranged from about 1 mg/L to 135 mg/L, and the 2022 chloride SSI sample concentrations observed at MW-19 fall into this historical range. In addition, one other Site well (PDP-25) had chloride sample concentrations in 2022 that were higher than concentrations observed in the MW-19 samples, but SSIs were not indicated in that well.

The sulfate SSI concentration in the second semi-annual groundwater sample from well MW-18A (sulfate concentration of 11.7 mg/L) slightly exceeded the sulfate prediction limit of 9.1 mg/L for that well. The historical variability of sulfate in groundwater samples collected Site-wide has ranged from about 1 mg/L to 460 mg/L, and the 2022 sulfate SSI sample concentration observed at MW-18A falls into this historical range. In addition, six of the other eight CCR monitoring wells (MW-17A, MW-19, MW-20A, PDP-22, PDP-24, and PDP-25) had sulfate sample concentrations in 2022 that were higher than the maximum concentration observed in the MW-18A samples.

The historical calcium, chloride, and sulfate concentrations observed in Site wells, including those where SSIs were detected in 2022, are typical of concentrations observed in groundwater samples collected from other wells completed in the Wilcox Group in the region. The Texas Bureau of Economic Geology summarized general water chemistry parameter data including calcium, chloride, and sulfate groundwater sample data from Wilcox wells in the Sabine Uplift area, which encompasses Rusk County where PDP-5 is located. The Wilcox groundwater samples summarized in that study (Fogg et al. 1991) had calcium concentrations that ranged from 1.0 mg/L to 157 mg/L, chloride concentrations that ranged from 5.0 to 820 mg/L, and sulfate concentrations that ranged from near 0 to 1,570 mg/L. The calcium, chloride, and sulfate concentrations observed in PDP-5 CCR groundwater

monitoring well samples where SSIs were identified in 2022 all fall into the range of other samples from Wilcox wells in the region.

The Fogg et al. (1991) study did not evaluate boron data in Wilcox wells in the region; therefore, a direct comparison of the CCR groundwater monitoring data to regional boron concentrations is not possible. However, multiple groundwater investigations that evaluated whether boron and other constituent concentrations in groundwater could result in adverse effects to human health and the environment have been conducted at PDP-5 under the regulatory authority of the TCEQ. An Affected Property Assessment Report (APAR) was prepared for the PDP-5 area in 2014 using groundwater data collected before and after PDP-5 was constructed (PBW 2014). The APAR concluded that groundwater conditions in the PDP-5 area complied with TCEQ requirements, and no groundwater corrective actions were required. TCEQ approved the APAR in a letter dated August 29, 2014. Luminant provided a summary of the CCR groundwater monitoring data to the TCEQ on April 8, 2019 in response to a TCEQ letter requesting the data on March 22, 2019. An addendum to the 2014 APAR, which evaluated groundwater data collected from the PDP-5 CCR groundwater monitoring well network, was submitted to the TCEQ on October 18, 2019 (Golder 2019). The APAR Addendum concluded that groundwater conditions in the PDP-5 area complied with TCEQ requirements, and corrective actions were not required. TCEQ approved the APAR Addendum in a letter dated January 31, 2020.

The EPA does not regulate boron in drinking water; however, the TCEQ has established groundwater ingestion protective concentration levels (PCLs) for boron. The TCEQ default groundwater ingestion PCL for boron is 4.9 mg/L for residential land use and 15 mg/L for commercial-industrial land use (TCEQ 2022). The concentrations of boron in all samples collected as part of the PDP-5 CCR groundwater monitoring program are lower than the TCEQ groundwater ingestion PCLs for both residential and commercial-industrial land use. As such, the boron concentrations observed in the CCR groundwater monitoring well samples are not considered elevated concentrations.

It should be noted that groundwater conditions in the vicinity of PDP-5 may be influenced by the closed and capped former pre-CCR Rule coal ash surface impoundments beneath and adjacent to PDP-5 (see Figure 1). PDP-5 is constructed on top of closed former ash impoundments (PDP-1, PDP-2, and PDP-3). The volume of CCR present in the closed impoundments beneath PDP-5 is approximately 1,920,000 cubic yards based on an AutoCAD Civil 3D measurement of the approximate extent of PDP-1, PDP-2, and PDP-3 and the approximate thickness of solids in the impoundments at the time PDP-5 was constructed (Golder 2021). The volume of CCR present in PDP-5 is approximately 21,000 cubic yards (Luminant 2022), which equates to about 1% of the volume of ash in the underlying closed impoundments. As a result, Detection Monitoring Program groundwater concentrations identified as SSIs may also be attributable to historical operation of the closed former surface impoundments in addition to the natural variability caused by the heterogeneity of the groundwater system at the Site.

4.0 CONCLUSION

SSIs were identified for boron, calcium, chloride, and sulfate during the 2022 Detection Monitoring Program sampling events at PDP-5. All observed SSIs are attributed to natural variation in groundwater quality due to the heterogeneity of the groundwater system and to potential effects from the closed former non-CCR Rule coal ash surface impoundments in the vicinity of PDP-5. The SSIs identified in the 2022 sample data are not considered evidence of a release from the CCR unit. In accordance with 30 T.A.C. §352.941(d), the owner will submit this ASD for TCEQ review within 90 days of the initial SSI determination and continue with the Detection Monitoring Program. Initiation of an Assessment Monitoring Program is not required at this time.

5.0 REFERENCES

Fogg, Graham E., Kaiser, W. R., Ambrose, M. L., 1991. The Wilcox Group and Carrizo Sand (Paleogene) in the Sabine Uplift Area, Texas: Ground-Water Hydraulics and Hydrochemistry. Publication of the Bureau of Economic Geology.

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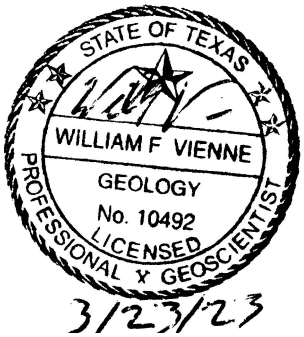
WSP Golder, 2023. 2022 Annual Groundwater Monitoring and Corrective Action Report, Martin Lake Steam Electric Station PDP 5, Rusk County, Texas. January 31.

6.0 CLOSING

Thank you for the opportunity to assist on this project. Please contact me at william.vienne@wsp.com if you have any questions regarding this report.

WSP USA Inc.

William Vienne, P.G.
Senior Hydrogeologist
Assistant Vice President

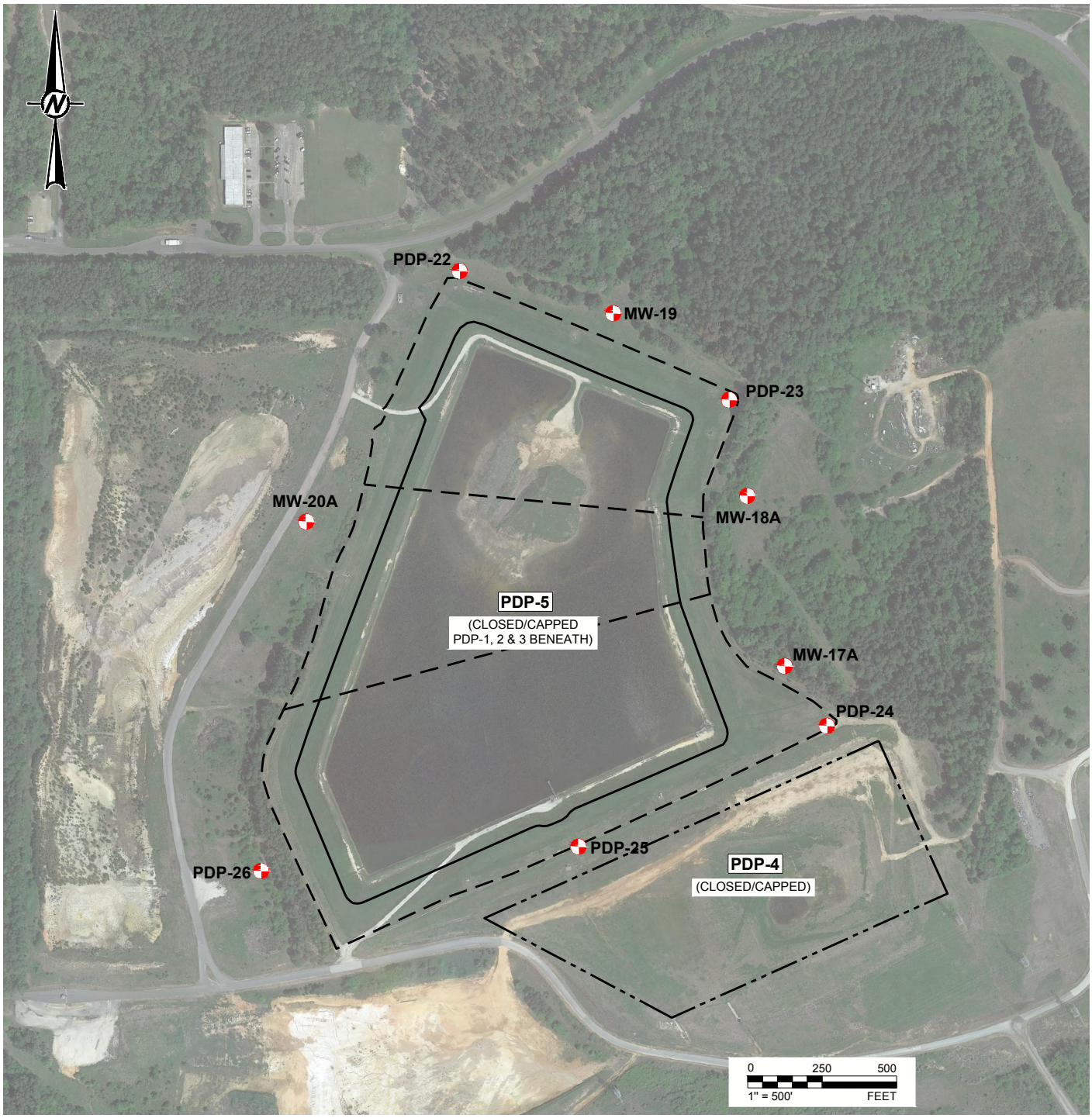


7.0 PROFESSIONAL CERTIFICATION

This document and all attachments were prepared by WSP USA Inc. under my direction or supervision in accordance with a system designed to ensure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I hereby certify that the alternative source demonstration at the referenced facility meets the detection monitoring requirements of the Federal CCR Program at 40 C.F.R. §257.94 and the State CCR Program at 30 T.A.C. §352.941.

Eric Pastor, P.E.
Vice President
WSP USA INC.

FIGURES



LEGEND

- CCR MONITORING WELL
- APPROXIMATE EXTENT OF CLOSED PDP 1, 2 & 3
- EXTERIOR TOE OF PDP-5 BERMS
- APPROXIMATE EXTENT OF CLOSED PDP-4

STATE OF TEXAS
WILLIAM F VIENNE
GEOLOGY
No. 10492
LICENSED
PROFESSIONAL GEOSCIENTIST
11/31/23

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 4/9/19.

CLIENT
LUMINANT GENERATION COMPANY LLC

PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
PDP-5
ALTERNATE LINER DEMONSTRATION

TITLE
SITE PLAN

CONSULTANT
wsp

YYYY-MM-DD	2021-11-09
DESIGNED	AJD
PREPARED	AJD
REVIEWED	PJB
APPROVED	PJB

PROJECT NO.	CONTROL	REV.	FIGURE
31404097		0	1

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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A
0 1 in

TABLES

TABLE 1
APPENDIX III ANALYTICAL RESULTS
MLSES PDP-5

Sample Location	Date Sampled	B		Ca		Cl		F		field pH		SO_4		TDS	
		Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data
MW-17A	09/22/17	0.538	0.402	6.73	3.1	10.4	8.3	0.4	<0.1	2.5 9.19	6.78	51.9	31.2	170	111
	06/14/18		0.485		6.48		9.16		<0.1		6.87		45.9		129
	09/11/18		0.523		5.06		8.82		0.179 J		5.03		43.1		137
	05/13/19		0.497		4.88		9.18		<0.1		6.79		44.7		145
	11/07/19		0.52		5.05		8.81		<0.100		6.44		43.9		127
	05/19/20		0.521		5.09		8.74		<0.100		6.57		46.8		140
	09/25/20		0.477		5.76		10.1		<0.100		6.57		47.7		133
	06/03/21		0.534		6.21		7.83		<0.100		6.69		50.4		146
	10/05/21		0.393		3.95		8.42		<0.100		6.57		34.3		115
	05/25/22		0.487		6.27		8.67		<0.100		6.94		49.4		149
	06/06/22		0.452		5.71		10		--		--		50		148
	09/22/22		0.386		3.83		8.73		<0.100		6.83		32.6		98
MW-18A	09/21/17	0.20	0.0654	3.1	1.04	10.4	5.27	0.4	<0.1	4.88 7.92	6.94	9.1	3.23	157	45
	06/14/18		0.102		2		6.56		<0.1		6.92		3.48		71
	09/12/18		0.211		3.23		9.06		<0.1		5.69		4.82		150
	11/7/2018 re-sample		0.128		--		--		--		--		--		--
	05/13/19		0.117		1.01		6.17		0.138 J		6.64		3.23		73
	11/07/19		0.127		11.5		6.34		<0.100		6.23		3.67		68
	05/19/20		0.225		1.54		7.09		<0.100		6.89		5.97		86
	09/25/20		0.188		1.66		8.13		<0.100		6.78		6.03		77
	06/03/21		0.188		1.73		6.2		<0.100		6.69		6.20		76
	10/05/21		0.159		1.49		6.63		<0.100		6.59		5.73		76
	05/25/22		0.176		2.01		7.31		<0.100		6.52		6.83		86
	09/21/22		0.186		3.6		8.18		<0.100		6.59		11.7		89
MW-19	09/22/17	0.782	0.0677	237	2.74	57.7	5.36	0.512	<0.1	4.6 8.08	6.94	672	1.46 J	1,380	98
	06/14/18		0.577		133		24.4		0.216 J		6.78		328		758
	09/11/18		0.243		38		65.1		0.228 J		6.04		166		597
	11/7/2018 re-sample		--		--		5.22		--		--		--		--
	05/13/19		0.429		122		26.8		0.229 J		6.72		349		813
	11/08/19		0.529		77.8		49.3		0.189 J		6.87		310		844
	05/19/20		0.0724		1.49		5.84		<0.100		6.91		1.02 J		85
	09/25/20		0.412		94.6		14.3		0.111 J		6.92		160		462
	06/03/21		0.56		140		19.5		0.352 J		6.75		336		751
	10/05/21		0.495		124		62.9		0.180 J		6.74		323		896
	05/25/22		0.711		189		47.3		0.192 J		6.79		346		1010
	06/07/22		0.574		147		55.4		--		--		313		970
	09/21/22		0.382		45		92.2		0.108 J		6.93		212		723

TABLE 1
APPENDIX III ANALYTICAL RESULTS
MLSES PDP-5

Sample Location	Date Sampled	B		Ca		Cl		F		field pH		SO_4		TDS	
		Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data
MW-20A	09/22/17	0.213	0.0807	25.7	17.4	12.3	12.6	0.954	0.175 J	3.06 8.76	6.71	148	74.2	381	237
	02/21/18 re-sample		--		--		10.7		--		--		--		--
	06/13/18		0.171		24		10.9		0.672		6.72		132		250
	09/11/18		0.141		7.16		11		0.235 J		4.70		39.1		154
	05/13/19		0.239		37.4		10.2		0.731		6.81		178		328
	11/08/19		0.132		9.9		10.2		0.465		6.51		88		205
	05/19/20		0.220		24		10.4		0.413		6.83		133		270
	09/25/20		0.107		8.94		12.6		0.132 J		6.68		54.3		162
	06/03/21		0.152		26.1		9.63		0.324		6.73		93.2		218
	10/05/21		0.0724		6.12		10.8		0.127 J		6.44		32.8		139
	05/25/22		0.102		15.3		10.6		0.239 J		6.75		65.7		207
	06/07/22		0.0888		9.89		12.2		--		--		49.3		178
	09/22/22		0.0466		2.93		6.68		<0.100		6.48		1.42 J		84
PDP-22	09/22/17	0.411	0.221	306	92.5	32.7	12.3	1.07	0.321 J	4.08 8.63	6.98	216	178	1,780	558
	06/14/18		0.115		7.78		11.8		0.239		6.63		186		491
	09/12/18		0.164		61.1		10.9		0.216 J		5.88		143		476
	05/13/19		0.158		98.2		10.1		0.303 J		6.86		184		615
	11/12/19		0.226		34.3		12.6		0.218 J		6.93		215		482
	05/19/20		0.0646		54.9		1.06		<0.100		6.55		5.21		205
	09/25/20		0.206		25.1		12.7		0.128 J		6.73		186		398
	06/03/21		0.121		73.1		6.64		<0.100		6.52		118		415
	10/05/21		0.166		27.1		10.1		0.223 J		6.78		170		376
	05/25/22		0.137		16.4		9.92		0.183 J		8.82		104		289
	09/21/22		0.141		14.9		10.4		0.106 J		6.42		112		280
PDP-23	09/22/17	0.0678	0.0463	2.0	2.34	7.52	4.48	0.4	0.147 J	3.38 8.45	6.77	3.27	1.47 J	143	111
	02/21/18 re-sample		--		2.37		--		--		--		--		--
	06/13/18		0.0357		2.29		6.21		<0.1		6.82		1.26 J		98
	09/11/18		0.0760		1.96		6.38		<0.1		5.32		1.52 J		98
	11/7/2018 re-sample		0.0683		--		--		--		--		--		--
	05/13/19		0.0628		1.89		6.98		<0.1		6.68		1.28 J		103
	11/12/19		0.0675		2.14		4.98		<0.100		6.72		1.41 J		93
	05/19/20		0.0709		2.03		6.86		<0.100		6.83		1.19 J		104
	09/25/20		0.0617		2.31		7.29		<0.100		6.74		<1.00		94
	06/03/21		0.0818		2.32		6.88		<0.100		6.57		1.42 J		101
	10/05/21		0.0661		2.38		6.58		<0.100		6.59		1.02 J		97
	05/25/22		0.0441		4.03		5.9		<0.100		6.20		1.44 J		110
	09/21/22		0.0663		2.53		6.72		<0.100		6.63		1.18 J		104

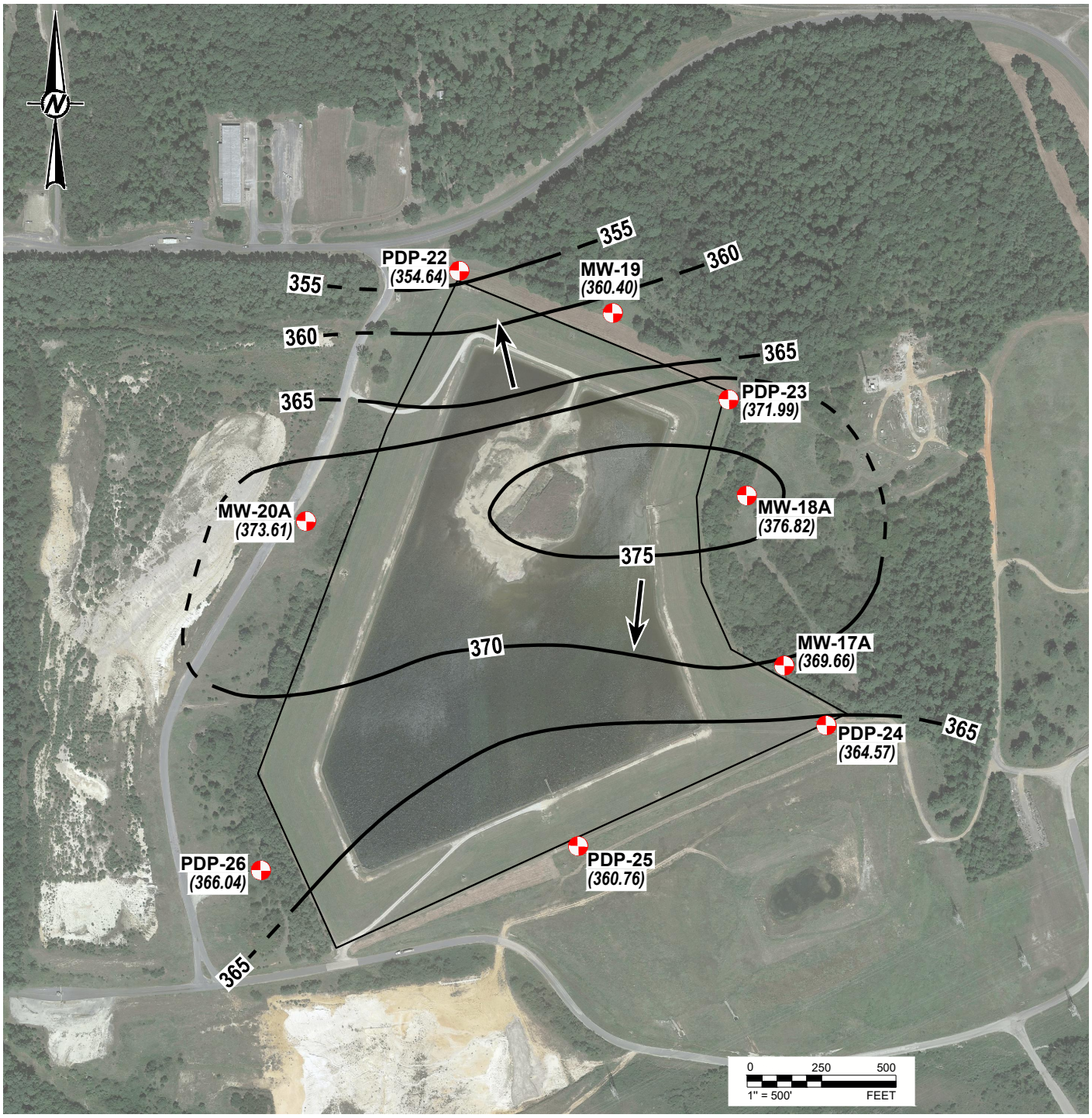
TABLE 1
APPENDIX III ANALYTICAL RESULTS
MLSES PDP-5

Sample Location	Date Sampled	B		Ca		Cl		F		field pH		SO_4		TDS	
		Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data	Prediction Limit	Sample Data
PDP-24	09/22/17	4.92	3.01	45.9	25.8	22.6	17.5	1.03	0.898	1.33 9.97	6.95	533	231	894	440
	06/14/18		2.71		23.9		21.1		0.629		6.82		284		481
	09/11/18		4.08		41.6		19.4		0.832		4.20		460		760
	05/13/19		3.23		23		21		0.871		6.95		300		537
	11/12/19		3		21.9		20.6		0.751		6.87		295		520
	1/12/2019 DU		2.97		22.2		20.5		0.744		6.87		300		504
	05/19/20		3.17		21.4		21		0.61		6.79		286		512
	09/25/20		4.04		40.7		19.6		0.776		6.83		445		699
	06/03/21		3.56		26.4		19.3		0.934		6.57		350		615
	10/05/21		4.24		46.9		17.8		0.782		6.72		432		681
	05/25/22		4.2		47.7		15.6		0.789		6.73		449		736
	09/21/22		4.23		46.7		17.8		0.771		6.72		456		744
PDP-25	09/22/17	0.136	0.133	41.3	36.8	197	130	0.4	0.157 J	4.65 7.93	6.81	118	89.1	705	481
	06/14/18		0.119		40.4		111		<0.1		6.78		73.4		439
	09/11/18		0.167		36.2		135		0.115 J		5.87		90.3		469
	11/7/2018 re-sample		0.142		--		--		--		--		--		--
	05/13/19		0.144		44.4		108		0.121 J		6.84		69		469
	11/12/19		0.184		38.6		117		<0.100		6.82		71.4		454
	05/19/20		0.202		53.7		105		<0.100		6.61		62.2		442
	09/25/20		0.174		46.3		123		<0.100		6.77		67.5		445
	06/03/21		0.234		45.2		101		0.236 J		6.78		61.2		431
	10/05/21		0.159		40.4		115		<0.100		6.73		62.7		427
	05/25/22		0.151		47.5		102		<0.100		6.64		58.4		454
	5/25/22 DUP		0.154		48.8		102		<0.100		6.64		58.2		448
	09/21/22		0.166		52.8		109		<0.100		6.52		61.6		436
PDP-26	09/22/17	0.111	0.0343	4.74	2.32	14.6	5.24	0.577	0.157 J	5.35 7.57	6.84	64.6	5.88	438	107
	06/14/18		0.0225 J		2.93		4.8		<0.1		6.89		4.27		100
	09/12/18		0.0371		2.37		4.88		<0.1		6.07		2.66 J		107
	05/13/19		0.0528		1.9		4.59		0.217 J		6.86		2.7 J		106
	11/12/19		0.0622		2.25		4.64		0.122 J		6.77		2.1 J		102
	05/19/20		0.0538		2.09		4.52		<0.100		6.64		2.1 J		108
	09/25/20		0.0549		2.71		5.07		<0.100		6.83		1.91		92
	06/03/21		0.0516		2.37		4.05		<0.100		6.84		2.18 J		104
	6/3/21 DUP		0.0635		2.23		4.05		<0.1		6.84		2.05 J		107
	10/05/21		0.0486		3.85		4.48		0.194 J		6.74		3.28		104
	10/5/21 DUP		0.0432		3.58		4.24		0.192 J		6.74		2.49 J		103
	05/25/22		0.0424		2.62		4.08		0.109 J		6.73		2.46 J		111
	09/22/22		0.05		2.61		4.4		<0.100		6.47		2.08 J		92
	9/22/22 DUP		0.0557		2.99		4.36		<0.100		6.47		2.15 J		104

Notes:
1. All concentrations in mg/L. pH in standard units.
2. J - concentration is below sample quantitation limit; result is an estimate.
3. Prediction limits were developed using procedures described in the CCR Statistical Analysis Plan (WSP Golder 2022).

ATTACHMENT 1

2022 GROUNDWATER POTENTIOMETRIC SURFACE MAPS



LEGEND

- CCR MONITORING WELL
- (374.34) GROUNDWATER POTENTIOMETRIC SURFACE (FT MSL)
- 360 GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR (C.I. = 5 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
WILLIAM F VIENNE
GEOLOGY
No. 10492
LICENSED
PROFESSIONAL GEOSCIENTIST
1/31/23

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED SEPTEMBER 8, 2021.

CLIENT
LUMINANT

PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

TITLE
PDP 5
POTENTIOMETRIC SURFACE MAP
MAY 24, 2022

CONSULTANT
wsp

YYYY-MM-DD	2022-12-20
DESIGNED	TNB
PREPARED	TNB
REVIEWED	JJ
APPROVED	WFV

PROJECT NO.	REV.	FIGURE
31404097	0	1

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI A

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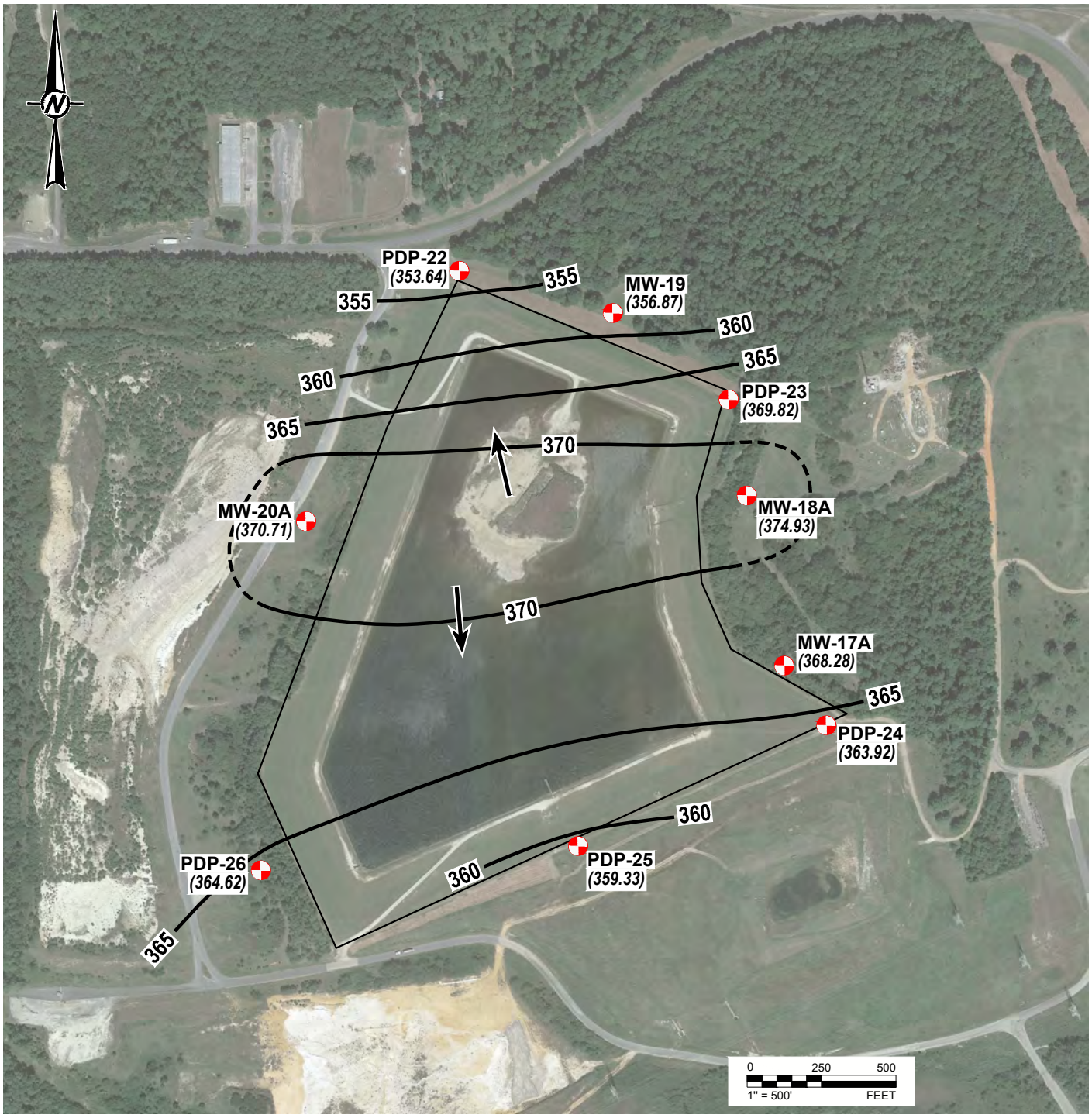

LEGEND

- CCR MONITORING WELL
- (374.34) GROUNDWATER POTENTIOMETRIC SURFACE (FT MSL)
- 360 GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR (C.I. = 5 FT)
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STATE OF TEXAS
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BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED SEPTEMBER 8, 2021.

CLIENT
LUMINANT

PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

TITLE
PDP 5
POTENTIOMETRIC SURFACE MAP
SEPTEMBER 22, 2022

CONSULTANT
wsp

YYYY-MM-DD	2023-01-10
DESIGNED	AJD
PREPARED	AJD
REVIEWED	WFV
APPROVED	WFV

PROJECT NO.	REV.	FIGURE
31404097	0	2

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Path: \\golder.gds\complexdata\office\Texarkana\Projects - Round Rock_2022\31404097 - Luminant CCR\Martin Lake\PRODUCTION\2022-12\ | File Name: 2 - POT Surface Map-PDP 5 (September 2022).dwg

APPENDIX B

LABORATORY ANALYTICAL REPORTS

May 31, 2023

Jacob Jarvis
WSP-Golder
1601 S. Mopac Expy, Suite 325B
Austin, Texas 78746
TEL: (512) 671-3434
FAX

Order No.: 2305281

RE: Luminant-MLSES PDP CCR

Dear Jacob Jarvis:

DHL Analytical, Inc. received 10 sample(s) on 5/22/2023 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAP except where noted in the Case Narrative. All non-NELAP 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: T104704211-23-29

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DHL ANALYTICAL
2300 Double Creek Dr. Round Rock, TX 78664
Phone 512.388.8222
Web: **www.dhlanalytical.com**
Email: **login@dhlanalytical.com**

CHAIN-OF-CUSTODY

CLIENT: WSP
ADDRESS: AUSTIN, TX
PHONE: EMAIL:
DATA REPORTED TO: JACOB JARVIS
ADDITIONAL REPORT COPIES TO:

DATE: 5-19-23
PO#: 31404097.019

LAB USE ONLY
DHL WORKORDER #: 2305281

PROJECT LOCATION OR NAME: LUMINANT - MLSES PDP CCR
CLIENT PROJECT # 31404097.019 COLLECTOR: JOHN BRAYTON

Authorize 5% surcharge for TRRP report? ☐ Yes ☐ No

Lab Use Only: W=WATER L=LIQUID S=SOIL SO=SOLID SE=SEDIMENT P=PAINT SL=SLUDGE

Field Sample I.D.	DHL Lab #	Collection Date	Collection Time	Matrix	Container Type	# of Containers	PRESERVATION: HCL ☐ H_3PO_4 ☐	HNO_3	H_2SO_4	NaOH ☐ Zn Acetate ☐	ICE ☒ UNPRESERVED ☐	ANALYSES	APPENDIX III	FIELD NOTES
MW-17A	01	5-18-23	0735	W	P	2		X			X		X	
PDP-24	02	"	0820	W	P	2		X			X		X	
PDP-25	03	"	0905	W	P	2		X			X		X	
PDP-26	04	"	1010	W	P	2		X			X		X	
MW-20A	05	"	1100	W	P	2		X			X		X	
PDP-22	06	"	1205	W	P	2		X			X		X	
MW-19	07	"	1255	W	P	2		X			X		X	
PDP-23	08	"	1345	W	P	2		X			X		X	
DUP-1	09	"	1345	W	P	2		X			X		X	
MW-18A	10	"	1450	W	P	2		X			X		X	

ANALYSES: BTEX ☐ MTBE ☐ [METHOD 8260] | TPH 1005 ☐ TPH 1006 ☐ HOLD 1006 ☐ | GRO 8015 ☐ DRO 8015 ☐ | VOC 8260 ☐ VOC 624.1 ☐ | SVOC 8270 ☐ SVOC 625.1 ☐ | PAH 8270 ☐ HOLD PAH ☐ | PEST 8270 ☐ 625.1 ☐ O-P PEST 8270 ☐ | PCB 8082 ☐ 608.3 ☐ PCB 8270 ☐ 625.1 ☐ | HERB 8321 ☐ T PHOS ☐ AMMONIA ☐ | METALS 6020 ☐ 200.8 ☐ DISS. METALS ☐ | RCRA 8 ☐ TX11 ☐ _____ | pH ☐ HEX CHROM ☐ ALKALINITY ☐ COD ☐ | ANIONS 300 ☐ 9056 ☐ _____ | TCLP-SVOC ☐ VOC ☐ PEST ☐ HERB ☐ | TCLP-METALS ☐ RCRA 8 ☐ TX-11 ☐ Pb ☐ | RCI ☐ IGN ☐ DGAS ☐ OIL&GREASE ☐ | TDS ☐ TSS ☐ % MOIST ☐ CYANIDE ☐

Relinquished By: (Sign)	DATE/TIME	Received by:
	5-19-23 1700	fedex
fedex	5/20/23 1:30p.m.	
	DATE/TIME	Received by:

TURN AROUND TIME (CALL FIRST FOR RUSH)
RUSH-1 DAY☐ RUSH-2 DAY☐ RUSH-3 DAY☐
NORMAL ☒ OTHER ☐
DUE DATE _____ ☐

LAB USE ONLY THERMO #: 78
RECEIVING TEMP (°C): 3.8
IF >6°C, ARE SAMPLES ON ICE AND JUST COLLECTED? (YES) / NO
CUSTODY SEALS ON ICE CHEST: ☐ BROKEN ☐ INTACT ☐ NOT USED
CARRIER: ☐ LSO ☒ FEDEX ☐ UPS ☐ COURIER ☐ HAND DELIVERED

☐ DHL DISPOSAL @ $10.00 each

Eric Lau

From: John DuPont <dupont@dhlanalytical.com>
Sent: Tuesday, May 28, 2019 11:35 AM
To: Eric Lau <login@dhlanalytical.com>
Subject: FW: CCR Analysis

Appendix III Parameters:
Metals (Ca and B)
Anions (Cl, F, and SO4)
TDS

Appendix IV Parameters:

Metals (As, Ba, Be, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, and Tl)
Ra-226
Ra-228

ORIGIN ID:KIPA (214) 583-3422
JOHN BRAYTON
WSP USA INC.
3102 OAK LAWN AVENUE
SUITE 450
DALLAS, TX 75219
UNITED STATES US

SHIP DATE: 19MAY23
ACTWGT: 40.00 LB
CAD: 253052732/INET4610

BILL SENDER

TO LOGIN
DHL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF: 0000
INV: 01.EXP
PO: 31404097.019 DEPT: JOHN BRAYTON

583J3/2BC3/FE2D

FedEx Express

J232023040601uw

SATURDAY 12:00P
PRIORITY OVERNIGHT

TRK# 0201 7722 0183 6275

44 BSMA

78664
TX-US AUS

RT 196 8 B
12:00 6275
ST 23 05.20

:R PDF

DHL ANALYTICAL

FedEx® Saturday Delivery

966 10/04 MWI

151966 10/04 MWI

EAL

CUSTODY SI

DATE 5-19-23

SIGNATURE

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name: **WSP-Golder** Date Received: **5/22/2023**

Work Order Number: **2305281** Received by: **CF**

Checklist completed by: _____ 5/22/2023 Reviewed by: (RS) 5/22/2023
Signature | Date | 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 ☐	
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑ NA ☐
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 13171
	Adjusted? No		Checked by EL
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Cooler # 1

Temp °C 3.8

Seal Intact Y

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

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: Luminant-MLSES PDP CCR	**LRC Date:** 5/31/2023
Reviewer Name: Angie O'Donnell	**Laboratory Work Order: 2305281**
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-Custody (C-O-C)					
R1	OI	**1)** Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	**X**				**R1-01**
		2) Were all departures from standard conditions described in an exception report?			**X**		
R2	OI	**Sample and Quality Control (QC) Identification**					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	**X**				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	**X**				
R3	OI	**Test Reports**					
		1) Were all samples prepared and analyzed within holding times?	**X**				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	**X**				
		3) Were calculations checked by a peer or supervisor?	**X**				
		4) Were all analyte identifications checked by a peer or supervisor?	**X**				
		5) Were sample detection limits reported for all analytes not detected?	**X**				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			**X**		
		7) Were % moisture (or solids) reported for all soil and sediment samples?			**X**		
		8) Were bulk soils/solids samples for volatile analysis extracted with methanol per EPA Method 5035?			**X**		
		9) If required for the project, TICs reported?			**X**		
R4	O	**Surrogate Recovery Data**					
		1) Were surrogates added prior to extraction?			**X**		
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?			**X**		
R5	OI	**Test Reports/Summary Forms for Blank Samples**					
		1) Were appropriate type(s) of blanks analyzed?	**X**				
		2) Were blanks analyzed at the appropriate frequency?	**X**				
		3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	**X**				
		4) Were blank concentrations < MDL?	**X**				
		5) For analyte(s) detected in a blank sample, was the concentration, unadjusted for sample specific factors, in all associated field samples, **greater** than 10 times the concentration in the blank sample?			**X**		
R6	OI	**Laboratory Control Samples (LCS):**					
		1) Were all COCs included in the LCS?	**X**				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	**X**				
		3) Were LCSs analyzed at the required frequency?	**X**				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	**X**				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	**X**				
		6) Was the LCSD RPD within QC limits (if applicable)?	**X**				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data**					
		1) Were the project/method specified analytes included in the MS and MSD?	**X**				
		2) Were MS/MSD analyzed at the appropriate frequency?	**X**				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		**X**			**R7-03**
		4) Were MS/MSD RPDs within laboratory QC limits?	**X**				
R8	OI	**Analytical Duplicate Data**					
		1) Were appropriate analytical duplicates analyzed for each matrix?	**X**				
		2) Were analytical duplicates analyzed at the appropriate frequency?	**X**				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	**X**				
R9	OI	**Method Quantitation Limits (MQLs):**					
		1) Are the MQLs for each method analyte included in the laboratory data package?	**X**				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	**X**				
		3) Are unadjusted MQLs and DCSs included in the laboratory data package?	**X**				
R10	OI	**Other Problems/Anomalies**					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	**X**				
		2) Was applicable and available technology used to lower the SDL to minimize the matrix interference affects on the sample results?	**X**				
		3) Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	**X**				

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: Luminant-MLSES PDP CCR	**LRC Date:** 5/31/2023
Reviewer Name: Angie O'Donnell	**Laboratory Work Order: 2305281**
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial Calibration (ICAL)**					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB):**					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass Spectral Tuning:**					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal Standards (IS):**					
		1) Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw Data (NELAC Section 5.5.10)**					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual Column Confirmation**					
		1) Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs):**					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) Results:**					
		1) Were percent recoveries within method QC limits?	X				
S9	I	**Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions**					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method Detection Limit (MDL) Studies**					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency Test Reports:**					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards Documentation**					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/Analyte Identification Procedures**					
		1) Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		1) Was DOC conducted consistent with NELAC Chapter 5 – Appendix C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/Validation Documentation for Methods** (NELAC Chapter 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory Standard Operating Procedures (SOPs):**					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Signature Page – RG-366/TRRP-13

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;
R2 Sample identification cross-reference;
R3 Test reports (analytical data sheets) for each environmental sample that includes:
  a) Items consistent with NELAC Chapter 5,
  b) dilution factors,
  c) preparation methods,
  d) cleanup methods, and
  e) if required for the project, tentatively identified compounds (TICs).
R4 Surrogate recovery data including:
  a) Calculated recovery (%R), and
  b) The laboratory's surrogate QC limits.
R5 Test reports/summary forms for blank samples;
R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  a) LCS spiking amounts,
  b) Calculated %R for each analyte, and
  c) The laboratory's LCS QC limits.
R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  a) Samples associated with the MS/MSD clearly identified,
  b) MS/MSD spiking amounts,
  c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  d) Calculated %Rs and relative percent differences (RPDs), and
  e) The laboratory's MS/MSD QC limits
R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  a) The amount of analyte measured in the duplicate,
  b) The calculated RPD, and
  c) The laboratory's QC limits for analytical duplicates.
R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in the Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory is not accredited under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge that all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information or data affecting the quality of the data has been knowingly withheld.

This laboratory was last inspected by TCEQ on February 23-26, 2021. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name: John DuPont
Official Title: General Manager

Signature

05/31/23
Date

Name: Dr. Derhsing Luu
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *31-May-23*

CLIENT: WSP-Golder
Project: Luminant-MLSES PDP CCR
Lab Order: 2305281

CASE NARRATIVE

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

Method SW6020B - Metals Analysis
Method E300 - Anions Analysis
Method M2540C - TDS Analysis

Exception Report R1-01

The samples were received and log-in performed on 5/20/2023. A total of 10 samples were received and analyzed. The samples arrived in good condition and were properly packaged.

Exception Report R7-03

For Anions Analysis, the recovery of one anion (each) for the Matrix Spike and Matrix Spike Duplicate(s) (2305279-01 and 2305281-07 MS/MSD) were outside of the method control limits. These are flagged accordingly in the QC Summary Report. These anions were within method control limits in the associated LCS. No further corrective action was taken.

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT: WSP-Golder
Project: Luminant-MLSES PDP CCR
Lab Order: 2305281

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2305281-01	MW-17A		05/18/23 07:35 AM	5/20/2023
2305281-02	PDP-24		05/18/23 08:20 AM	5/20/2023
2305281-03	PDP-25		05/18/23 09:05 AM	5/20/2023
2305281-04	PDP-26		05/18/23 10:10 AM	5/20/2023
2305281-05	MW-20A		05/18/23 11:00 AM	5/20/2023
2305281-06	PDP-22		05/18/23 12:05 PM	5/20/2023
2305281-07	MW-19		05/18/23 12:55 PM	5/20/2023
2305281-08	PDP-23		05/18/23 01:45 PM	5/20/2023
2305281-09	DUP-1		05/18/23 01:45 PM	5/20/2023
2305281-10	MW-18A		05/18/23 02:50 PM	5/20/2023

Lab Order: 2305281
Client: WSP-Golder
Project: Luminant-MLSES PDP CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2305281-01A	MW-17A	05/18/23 07:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
2305281-01B	MW-17A	05/18/23 07:35 AM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	MW-17A	05/18/23 07:35 AM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	MW-17A	05/18/23 07:35 AM	Aqueous	M2540C	TDS Preparation	05/22/23 11:17 AM	110269
2305281-02A	PDP-24	05/18/23 08:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
	PDP-24	05/18/23 08:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
2305281-02B	PDP-24	05/18/23 08:20 AM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	PDP-24	05/18/23 08:20 AM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	PDP-24	05/18/23 08:20 AM	Aqueous	M2540C	TDS Preparation	05/22/23 11:17 AM	110269
2305281-03A	PDP-25	05/18/23 09:05 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
	PDP-25	05/18/23 09:05 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
2305281-03B	PDP-25	05/18/23 09:05 AM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	PDP-25	05/18/23 09:05 AM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	PDP-25	05/18/23 09:05 AM	Aqueous	M2540C	TDS Preparation	05/22/23 11:17 AM	110269
2305281-04A	PDP-26	05/18/23 10:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
2305281-04B	PDP-26	05/18/23 10:10 AM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	PDP-26	05/18/23 10:10 AM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	PDP-26	05/18/23 10:10 AM	Aqueous	M2540C	TDS Preparation	05/22/23 11:17 AM	110269
2305281-05A	MW-20A	05/18/23 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
2305281-05B	MW-20A	05/18/23 11:00 AM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	MW-20A	05/18/23 11:00 AM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	MW-20A	05/18/23 11:00 AM	Aqueous	M2540C	TDS Preparation	05/22/23 11:17 AM	110269
2305281-06A	PDP-22	05/18/23 12:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
	PDP-22	05/18/23 12:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
2305281-06B	PDP-22	05/18/23 12:05 PM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	PDP-22	05/18/23 12:05 PM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	PDP-22	05/18/23 12:05 PM	Aqueous	M2540C	TDS Preparation	05/22/23 11:17 AM	110269
2305281-07A	MW-19	05/18/23 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309

Lab Order: 2305281
Client: WSP-Golder
Project: Luminant-MLSES PDP CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2305281-07A	MW-19	05/18/23 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
2305281-07B	MW-19	05/18/23 12:55 PM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	MW-19	05/18/23 12:55 PM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	MW-19	05/18/23 12:55 PM	Aqueous	M2540C	TDS Preparation	05/22/23 11:17 AM	110269
2305281-08A	PDP-23	05/18/23 01:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
2305281-08B	PDP-23	05/18/23 01:45 PM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	PDP-23	05/18/23 01:45 PM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	PDP-23	05/18/23 01:45 PM	Aqueous	M2540C	TDS Preparation	05/22/23 11:17 AM	110269
2305281-09A	DUP-1	05/18/23 01:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
2305281-09B	DUP-1	05/18/23 01:45 PM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	DUP-1	05/18/23 01:45 PM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	DUP-1	05/18/23 01:45 PM	Aqueous	M2540C	TDS Preparation	05/22/23 11:17 AM	110269
2305281-10A	MW-18A	05/18/23 02:50 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/24/23 07:43 AM	110309
2305281-10B	MW-18A	05/18/23 02:50 PM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	MW-18A	05/18/23 02:50 PM	Aqueous	E300	Anion Preparation	05/22/23 09:37 AM	110263
	MW-18A	05/18/23 02:50 PM	Aqueous	M2540C	TDS Preparation	05/22/23 11:17 AM	110269

Lab Order: 2305281
Client: WSP-Golder
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
2305281-01A	MW-17A	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	1	05/25/23 10:45 AM	ICP-MS5_230525A
2305281-01B	MW-17A	Aqueous	E300	Anions by IC method - Water	110263	10	05/22/23 02:46 PM	IC2_230522A
	MW-17A	Aqueous	E300	Anions by IC method - Water	110263	1	05/22/23 11:16 PM	IC2_230522A
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	110269	1	05/22/23 04:35 PM	WC_230522C
2305281-02A	PDP-24	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	10	05/26/23 11:26 AM	ICP-MS4_230526A
	PDP-24	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	1	05/25/23 10:48 AM	ICP-MS5_230525A
2305281-02B	PDP-24	Aqueous	E300	Anions by IC method - Water	110263	10	05/22/23 03:03 PM	IC2_230522A
	PDP-24	Aqueous	E300	Anions by IC method - Water	110263	1	05/22/23 11:33 PM	IC2_230522A
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	110269	1	05/22/23 04:35 PM	WC_230522C
2305281-03A	PDP-25	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	1	05/25/23 10:50 AM	ICP-MS5_230525A
	PDP-25	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	10	05/26/23 11:28 AM	ICP-MS4_230526A
2305281-03B	PDP-25	Aqueous	E300	Anions by IC method - Water	110263	10	05/22/23 03:20 PM	IC2_230522A
	PDP-25	Aqueous	E300	Anions by IC method - Water	110263	1	05/22/23 11:50 PM	IC2_230522A
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	110269	1	05/22/23 04:35 PM	WC_230522C
2305281-04A	PDP-26	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	1	05/25/23 10:53 AM	ICP-MS5_230525A
2305281-04B	PDP-26	Aqueous	E300	Anions by IC method - Water	110263	10	05/22/23 03:37 PM	IC2_230522A
	PDP-26	Aqueous	E300	Anions by IC method - Water	110263	1	05/23/23 12:07 AM	IC2_230522A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	110269	1	05/22/23 04:35 PM	WC_230522C
2305281-05A	MW-20A	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	1	05/25/23 10:40 AM	ICP-MS5_230525A
2305281-05B	MW-20A	Aqueous	E300	Anions by IC method - Water	110263	10	05/22/23 03:54 PM	IC2_230522A
	MW-20A	Aqueous	E300	Anions by IC method - Water	110263	1	05/23/23 12:24 AM	IC2_230522A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	110269	1	05/22/23 04:35 PM	WC_230522C
2305281-06A	PDP-22	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	1	05/25/23 10:55 AM	ICP-MS5_230525A
	PDP-22	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	5	05/26/23 11:30 AM	ICP-MS4_230526A
2305281-06B	PDP-22	Aqueous	E300	Anions by IC method - Water	110263	10	05/22/23 04:11 PM	IC2_230522A
	PDP-22	Aqueous	E300	Anions by IC method - Water	110263	1	05/23/23 12:41 AM	IC2_230522A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	110269	1	05/22/23 04:35 PM	WC_230522C
2305281-07A	MW-19	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	10	05/26/23 11:32 AM	ICP-MS4_230526A

Lab Order: 2305281
Client: WSP-Golder
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
2305281-07A	MW-19	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	1	05/25/23 10:58 AM	ICP-MS5_230525A
2305281-07B	MW-19	Aqueous	E300	Anions by IC method - Water	110263	10	05/22/23 04:28 PM	IC2_230522A
	MW-19	Aqueous	E300	Anions by IC method - Water	110263	1	05/23/23 12:58 AM	IC2_230522A
	MW-19	Aqueous	M2540C	Total Dissolved Solids	110269	1	05/22/23 04:35 PM	WC_230522C
2305281-08A	PDP-23	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	1	05/25/23 11:00 AM	ICP-MS5_230525A
2305281-08B	PDP-23	Aqueous	E300	Anions by IC method - Water	110263	10	05/22/23 06:27 PM	IC2_230522A
	PDP-23	Aqueous	E300	Anions by IC method - Water	110263	1	05/23/23 02:23 AM	IC2_230522A
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	110269	1	05/22/23 04:35 PM	WC_230522C
2305281-09A	DUP-1	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	1	05/25/23 11:03 AM	ICP-MS5_230525A
2305281-09B	DUP-1	Aqueous	E300	Anions by IC method - Water	110263	10	05/22/23 06:44 PM	IC2_230522A
	DUP-1	Aqueous	E300	Anions by IC method - Water	110263	1	05/23/23 02:40 AM	IC2_230522A
	DUP-1	Aqueous	M2540C	Total Dissolved Solids	110269	1	05/22/23 04:35 PM	WC_230522C
2305281-10A	MW-18A	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110309	1	05/25/23 11:05 AM	ICP-MS5_230525A
2305281-10B	MW-18A	Aqueous	E300	Anions by IC method - Water	110263	10	05/22/23 07:01 PM	IC2_230522A
	MW-18A	Aqueous	E300	Anions by IC method - Water	110263	1	05/23/23 02:57 AM	IC2_230522A
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	110269	1	05/22/23 04:35 PM	WC_230522C

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-17A
Project:	Luminant-MLSES PDP CCR	**Lab ID:**	2305281-01
Project No:	31404097.019	**Collection Date:**	05/18/23 07:35 AM
Lab Order:	2305281	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.504	0.0100	0.0300		mg/L	1	05/25/23 10:45 AM
Calcium	5.89	0.100	0.300		mg/L	1	05/25/23 10:45 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	9.67	0.300	1.00		mg/L	1	05/22/23 11:16 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/22/23 11:16 PM
Sulfate	52.8	1.00	3.00		mg/L	1	05/22/23 11:16 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	149	10.0	10.0		mg/L	1	05/22/23 04:35 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-24
Project:	Luminant-MLSES PDP CCR	**Lab ID:**	2305281-02
Project No:	31404097.019	**Collection Date:**	05/18/23 08:20 AM
Lab Order:	2305281	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	4.02	0.100	0.300		mg/L	10	05/26/23 11:26 AM
Calcium	41.6	1.00	3.00		mg/L	10	05/26/23 11:26 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	18.2	0.300	1.00		mg/L	1	05/22/23 11:33 PM
Fluoride	0.729	0.100	0.400		mg/L	1	05/22/23 11:33 PM
Sulfate	411	10.0	30.0		mg/L	10	05/22/23 03:03 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	720	10.0	10.0		mg/L	1	05/22/23 04:35 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-25
Project:	Luminant-MLSES PDP CCR	**Lab ID:**	2305281-03
Project No:	31404097.019	**Collection Date:**	05/18/23 09:05 AM
Lab Order:	2305281	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.266	0.0100	0.0300		mg/L	1	05/25/23 10:50 AM
Calcium	56.3	1.00	3.00		mg/L	10	05/26/23 11:28 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	107	3.00	10.0		mg/L	10	05/22/23 03:20 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/22/23 11:50 PM
Sulfate	59.9	1.00	3.00		mg/L	1	05/22/23 11:50 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	478	10.0	10.0		mg/L	1	05/22/23 04:35 PM

Qualifiers:

- ND - Not Detected at the SDL
- J - Analyte detected between SDL and RL
- B - Analyte detected in the associated Method Blank
- DF- Dilution Factor
- N - Parameter not NELAP certified
- See Final Page of Report for MQLs and MDLs
- S - Spike Recovery outside control limits
- C - Sample Result or QC discussed in Case Narrative
- RL - Reporting Limit (MQL adjusted for moisture and sample size)
- SDL - Sample Detection Limit
- E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-26
Project:	Luminant-MLSES PDP CCR	**Lab ID:**	2305281-04
Project No:	31404097.019	**Collection Date:**	05/18/23 10:10 AM
Lab Order:	2305281	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0965	0.0100	0.0300		mg/L	1	05/25/23 10:53 AM
Calcium	2.76	0.100	0.300		mg/L	1	05/25/23 10:53 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	4.59	0.300	1.00		mg/L	1	05/23/23 12:07 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/23/23 12:07 AM
Sulfate	2.58	1.00	3.00	J	mg/L	1	05/23/23 12:07 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	101	10.0	10.0		mg/L	1	05/22/23 04:35 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-20A
Project:	Luminant-MLSES PDP CCR	**Lab ID:**	2305281-05
Project No:	31404097.019	**Collection Date:**	05/18/23 11:00 AM
Lab Order:	2305281	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0711	0.0100	0.0300		mg/L	1	05/25/23 10:40 AM
Calcium	9.65	0.100	0.300		mg/L	1	05/25/23 10:40 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	11.3	0.300	1.00		mg/L	1	05/23/23 12:24 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/23/23 12:24 AM
Sulfate	38.9	1.00	3.00		mg/L	1	05/23/23 12:24 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	169	10.0	10.0		mg/L	1	05/22/23 04:35 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-22
Project:	Luminant-MLSES PDP CCR	**Lab ID:**	2305281-06
Project No:	31404097.019	**Collection Date:**	05/18/23 12:05 PM
Lab Order:	2305281	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.160	0.0100	0.0300		mg/L	1	05/25/23 10:55 AM
Calcium	39.1	0.500	1.50		mg/L	5	05/26/23 11:30 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	10.1	0.300	1.00		mg/L	1	05/23/23 12:41 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/23/23 12:41 AM
Sulfate	109	1.00	3.00		mg/L	1	05/23/23 12:41 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	379	10.0	10.0		mg/L	1	05/22/23 04:35 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-19
Project:	Luminant-MLSES PDP CCR	**Lab ID:**	2305281-07
Project No:	31404097.019	**Collection Date:**	05/18/23 12:55 PM
Lab Order:	2305281	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.788	0.0100	0.0300		mg/L	1	05/25/23 10:58 AM
Calcium	173	1.00	3.00		mg/L	10	05/26/23 11:32 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	22.5	0.300	1.00		mg/L	1	05/23/23 12:58 AM
Fluoride	0.104	0.100	0.400	J	mg/L	1	05/23/23 12:58 AM
Sulfate	244	10.0	30.0		mg/L	10	05/22/23 04:28 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	724	10.0	10.0		mg/L	1	05/22/23 04:35 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-23
Project:	Luminant-MLSES PDP CCR	**Lab ID:**	2305281-08
Project No:	31404097.019	**Collection Date:**	05/18/23 01:45 PM
Lab Order:	2305281	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0976	0.0100	0.0300		mg/L	1	05/25/23 11:00 AM
Calcium	2.88	0.100	0.300		mg/L	1	05/25/23 11:00 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	6.65	0.300	1.00		mg/L	1	05/23/23 02:23 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/23/23 02:23 AM
Sulfate	1.35	1.00	3.00	J	mg/L	1	05/23/23 02:23 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	115	10.0	10.0		mg/L	1	05/22/23 04:35 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	DUP-1
Project:	Luminant-MLSES PDP CCR	**Lab ID:**	2305281-09
Project No:	31404097.019	**Collection Date:**	05/18/23 01:45 PM
Lab Order:	2305281	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0818	0.0100	0.0300		mg/L	1	05/25/23 11:03 AM
Calcium	2.82	0.100	0.300		mg/L	1	05/25/23 11:03 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	6.66	0.300	1.00		mg/L	1	05/23/23 02:40 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/23/23 02:40 AM
Sulfate	1.33	1.00	3.00	J	mg/L	1	05/23/23 02:40 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	111	10.0	10.0		mg/L	1	05/22/23 04:35 PM

Qualifiers:

- ND - Not Detected at the SDL
- J - Analyte detected between SDL and RL
- B - Analyte detected in the associated Method Blank
- DF- Dilution Factor
- N - Parameter not NELAP certified
- See Final Page of Report for MQLs and MDLs
- S - Spike Recovery outside control limits
- C - Sample Result or QC discussed in Case Narrative
- RL - Reporting Limit (MQL adjusted for moisture and sample size)
- SDL - Sample Detection Limit
- E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-18A
Project:	Luminant-MLSES PDP CCR	**Lab ID:**	2305281-10
Project No:	31404097.019	**Collection Date:**	05/18/23 02:50 PM
Lab Order:	2305281	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.202	0.0100	0.0300		mg/L	1	05/25/23 11:05 AM
Calcium	2.83	0.100	0.300		mg/L	1	05/25/23 11:05 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	9.80	0.300	1.00		mg/L	1	05/23/23 02:57 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/23/23 02:57 AM
Sulfate	7.59	1.00	3.00		mg/L	1	05/23/23 02:57 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	100	10.0	10.0		mg/L	1	05/22/23 04:35 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230228A

Sample ID: **DCS2-109023**	Batch ID: **109023**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS2**	Run ID: **ICP-MS4_230228A**	Analysis Date: **2/28/2023 10:47:00 AM**	Prep Date: **2/27/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.273	0.300	0.300	0	90.9	70	130	0	0	

Sample ID: **DCS4-109023**	Batch ID: **109023**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS4**	Run ID: **ICP-MS4_230228A**	Analysis Date: **2/28/2023 10:52:00 AM**	Prep Date: **2/27/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0320	0.0300	0.0300	0	107	70	130	0	0	

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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230526A

Sample ID: **ICV-230526**	Batch ID: **R127050**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_230526A**	Analysis Date: **5/26/2023 10:59:00 AM**	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	2.68	0.300	2.50	0	107	90	110			

Sample ID: **LCVL-230526**	Batch ID: **R127050**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_230526A**	Analysis Date: **5/26/2023 11:13:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0210	0.0300	0.0200	0	105	80	120			
Calcium	0.107	0.300	0.100	0	107	80	120			

Sample ID: **CCV1-230526**	Batch ID: **R127050**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_230526A**	Analysis Date: **5/26/2023 11:47:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.194	0.0300	0.200	0	96.9	90	110			
Calcium	5.05	0.300	5.00	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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230228B

Sample ID: **DCS2-109023**	Batch ID: **109023**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS2**	Run ID: **ICP-MS5_230228B**	Analysis Date: **2/28/2023 10:51:00 AM**	Prep Date: **2/27/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.275	0.300	0.300	0	91.6	70	130	0	0	

Sample ID: **DCS4-109023**	Batch ID: **109023**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS4**	Run ID: **ICP-MS5_230228B**	Analysis Date: **2/28/2023 10:56:00 AM**	Prep Date: **2/27/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0350	0.0300	0.0300	0	117	70	130	0	0	

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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230525A

The QC data in batch 110309 applies to the following samples: 2305281-01A, 2305281-02A, 2305281-03A, 2305281-04A, 2305281-05A, 2305281-06A, 2305281-07A, 2305281-08A, 2305281-09A, 2305281-10A

Sample ID: **MB-110309** Batch ID: **110309** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_230525A** Analysis Date: **5/25/2023 10:28:00 AM** Prep Date: **5/24/2023**

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-110309** Batch ID: **110309** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_230525A** Analysis Date: **5/25/2023 10:32:00 AM** Prep Date: **5/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.191	0.0300	0.200	0	95.5	80	120			
Calcium	4.76	0.300	5.00	0	95.2	80	120			

Sample ID: **LCSD-110309** Batch ID: **110309** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_230525A** Analysis Date: **5/25/2023 10:35:00 AM** Prep Date: **5/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.201	0.0300	0.200	0	101	80	120	5.17	15	
Calcium	4.80	0.300	5.00	0	96.1	80	120	0.905	15	

Sample ID: **2305281-05A SD** Batch ID: **110309** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS5_230525A** Analysis Date: **5/25/2023 10:42:00 AM** Prep Date: **5/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0645	0.150	0	0.0711				9.85	20	
Calcium	9.86	1.50	0	9.65				2.07	20	

Sample ID: **2305281-05A PDS** Batch ID: **110309** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS5_230525A** Analysis Date: **5/25/2023 11:08:00 AM** Prep Date: **5/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.279	0.0300	0.200	0.0711	104	75	125			
Calcium	13.7	0.300	5.00	9.65	81.3	75	125			

Sample ID: **2305281-05A MS** Batch ID: **110309** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS5_230525A** Analysis Date: **5/25/2023 11:12:00 AM** Prep Date: **5/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.283	0.0300	0.200	0.0711	106	75	125			
Calcium	14.2	0.300	5.00	9.65	90.7	75	125			

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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230525A

Sample ID: **2305281-05A MSD** Batch ID: **110309** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS5_230525A** Analysis Date: **5/25/2023 11:15:00 AM** Prep Date: **5/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.287	0.0300	0.200	0.0711	108	75	125	1.65	15	
Calcium	14.4	0.300	5.00	9.65	94.1	75	125	1.20	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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230525A

Sample ID: **ICV-230525**	Batch ID: **R126998**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS5_230525A**	Analysis Date: **5/25/2023 10:13:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0952	0.0300	0.100	0	95.2	90	110			
Calcium	2.41	0.300	2.50	0	96.5	90	110			

Sample ID: **LCVL-230525**	Batch ID: **R126998**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS5_230525A**	Analysis Date: **5/25/2023 10:21:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0193	0.0300	0.0200	0	96.6	80	120			
Calcium	0.0885	0.300	0.100	0	88.5	80	120			

Sample ID: **CCV1-230525**	Batch ID: **R126998**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_230525A**	Analysis Date: **5/25/2023 11:17:00 AM**	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	4.67	0.300	5.00	0	93.4	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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230517A

Sample ID: **DCS2-110195** Batch ID: **110195** TestNo: **E300** Units: **mg/L**
SampType: **DCS2** Run ID: **IC2_230517A** Analysis Date: **5/17/2023 3:29:46 PM** Prep Date: **5/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	0.520	1.00	0.5000	0	104	70	130	0	0	
Fluoride	0.220	0.400	0.2000	0	110	70	130	0	0	
Sulfate	1.54	3.00	1.500	0	102	70	130	0	0	

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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230522A

The QC data in batch 110263 applies to the following samples: 2305281-01B, 2305281-02B, 2305281-03B, 2305281-04B, 2305281-05B, 2305281-06B, 2305281-07B, 2305281-08B, 2305281-09B, 2305281-10B

Sample ID: **MB-110263** Batch ID: **110263** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_230522A** Analysis Date: **5/22/2023 11:10:40 AM** Prep Date: **5/22/2023**

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-110263** Batch ID: **110263** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_230522A** Analysis Date: **5/22/2023 11:27:40 AM** Prep Date: **5/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.72	1.00	10.00	0	97.2	90	110			
Fluoride	3.87	0.400	4.000	0	96.9	90	110			
Sulfate	29.2	3.00	30.00	0	97.5	90	110			

Sample ID: **LCSD-110263** Batch ID: **110263** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_230522A** Analysis Date: **5/22/2023 11:44:41 AM** Prep Date: **5/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.78	1.00	10.00	0	97.8	90	110	0.606	20	
Fluoride	3.91	0.400	4.000	0	97.8	90	110	1.01	20	
Sulfate	29.4	3.00	30.00	0	98.0	90	110	0.547	20	

Sample ID: **2305279-01AMS** Batch ID: **110263** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_230522A** Analysis Date: **5/22/2023 2:12:44 PM** Prep Date: **5/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<3.00	10.0	200.0	0	0	90	110			S
Fluoride	194	4.00	200.0	5.334	94.2	90	110			
Sulfate	215	30.0	200.0	28.23	93.6	90	110			

Sample ID: **2305279-01AMSD** Batch ID: **110263** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_230522A** Analysis Date: **5/22/2023 2:29:44 PM** Prep Date: **5/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<3.00	10.0	200.0	0	0	90	110	0	20	S
Fluoride	198	4.00	200.0	5.334	96.2	90	110	2.05	20	
Sulfate	219	30.0	200.0	28.23	95.6	90	110	1.89	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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230522A

Sample ID: **2305281-07BMS** Batch ID: **110263** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_230522A** Analysis Date: **5/22/2023 4:45:43 PM** Prep Date: **5/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	211	10.0	200.0	23.31	93.6	90	110			
Fluoride	200	4.00	200.0	0	99.9	90	110			
Sulfate	406	30.0	200.0	244.3	80.7	90	110			S

Sample ID: **2305281-07BMSD** Batch ID: **110263** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_230522A** Analysis Date: **5/22/2023 5:02:43 PM** Prep Date: **5/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	210	10.0	200.0	23.31	93.5	90	110	0.128	20	
Fluoride	200	4.00	200.0	0	99.9	90	110	0.042	20	
Sulfate	406	30.0	200.0	244.3	80.8	90	110	0.031	20	S

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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230522A

Sample ID: **ICV-230522**	Batch ID: **R126928**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_230522A**	Analysis Date: **5/22/2023 10:36:40 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.9	1.00	25.00	0	99.5	90	110			
Fluoride	9.94	0.400	10.00	0	99.4	90	110			
Sulfate	76.0	3.00	75.00	0	101	90	110			

Sample ID: **CCV1-230522**	Batch ID: **R126928**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230522A**	Analysis Date: **5/22/2023 5:53:44 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.77	1.00	10.00	0	97.7	90	110			
Fluoride	3.94	0.400	4.000	0	98.6	90	110			
Sulfate	29.3	3.00	30.00	0	97.8	90	110			

Sample ID: **CCV2-230522**	Batch ID: **R126928**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230522A**	Analysis Date: **5/22/2023 9:51:44 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.69	1.00	10.00	0	96.9	90	110			
Fluoride	3.92	0.400	4.000	0	97.9	90	110			
Sulfate	29.2	3.00	30.00	0	97.2	90	110			

Sample ID: **CCV3-230522**	Batch ID: **R126928**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230522A**	Analysis Date: **5/23/2023 1:49:43 AM**	Prep Date:

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	3.90	0.400	4.000	0	97.4	90	110			
Sulfate	28.9	3.00	30.00	0	96.5	90	110			

Sample ID: **CCV4-230522**	Batch ID: **R126928**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230522A**	Analysis Date: **5/23/2023 5:30:43 AM**	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	4.12	0.400	4.000	0	103	90	110			
Sulfate	30.6	3.00	30.00	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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_230522C

The QC data in batch 110269 applies to the following samples: 2305281-01B, 2305281-02B, 2305281-03B, 2305281-04B, 2305281-05B, 2305281-06B, 2305281-07B, 2305281-08B, 2305281-09B, 2305281-10B

Sample ID: **MB-110269** Batch ID: **110269** TestNo: **M2540C** Units: **mg/L**
SampType: **MBLK** Run ID: **WC_230522C** Analysis Date: **5/22/2023 4:35:00 PM** Prep Date: **5/22/2023**

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-110269** Batch ID: **110269** TestNo: **M2540C** Units: **mg/L**
SampType: **LCS** Run ID: **WC_230522C** Analysis Date: **5/22/2023 4:35:00 PM** Prep Date: **5/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	763	10.0	745.6	0	102	90	113			

Sample ID: **2305213-02A-DUP** Batch ID: **110269** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_230522C** Analysis Date: **5/22/2023 4:35:00 PM** Prep Date: **5/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1080	50.0	0	1090				1.39	5	

Sample ID: **2305274-02A-DUP** Batch ID: **110269** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_230522C** Analysis Date: **5/22/2023 4:35:00 PM** Prep Date: **5/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1080	50.0	0	1115				3.65	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 NELAP certified

DHL Analytical, Inc.

Date: *31-May-23*

CLIENT: WSP-Golder
Work Order: 2305281
Project: Luminant-MLSES PDP CCR

MQL SUMMARY REPORT

TestNo: E300	**MDL**	**MQL**
Analyte	**mg/L**	**mg/L**
Chloride	0.300	1.00
Fluoride	0.100	0.400
Sulfate	1.00	3.00

TestNo: SW6020B	**MDL**	**MQL**
Analyte	**mg/L**	**mg/L**
Boron	0.0100	0.0300
Calcium	0.100	0.300

TestNo: M2540C	**MDL**	**MQL**
Analyte	**mg/L**	**mg/L**
Total Dissolved Solids (Residue, Filt	10.0	10.0

Qualifiers: MQL -Method Quantitation Limit as defined by TRRP
MDL -Method Detection Limit as defined by TRRP

August 24, 2023

Jacob Jarvis
WSP-Golder
1601 S. Mopac Expy, Suite 325B
Austin, Texas 78746
TEL: (361) 877-5533
FAX:

Order No.: 2308216

RE: Luminant-MLSES PDP5 CCR

Dear Jacob Jarvis:

DHL Analytical, Inc. received 10 sample(s) on 8/16/2023 for the analyses presented in the following report.

There were no problems with the analyses and all data met requirements of NELAP except where noted in the Case Narrative. All non-NELAP 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: T104704211-23-29

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DHL ANALYTICAL
2300 Double Creek Dr. Round Rock, TX 78664
Phone 512.388.8222
Web: **www.dhlanalytical.com**
Email: **login@dhlanalytical.com**

CHAIN-OF-CUSTODY

CLIENT: WSP
ADDRESS: AUSTIN, TX
PHONE: 512-695-8609 EMAIL:
DATA REPORTED TO: JACOB JARVIS
ADDITIONAL REPORT COPIES TO:

DATE: 8-15-23
PO#: 31404097.019

LAB USE ONLY
DHL WORKORDER #: 2308216

PROJECT LOCATION OR NAME: LUMINANT - MLSES PAPS-CCR
CLIENT PROJECT # 31404097.019 COLLECTOR: JOHN BRAYTON

Authorize 5% surcharge for TRRP report? ☐ Yes ☐ No

W=WATER L=LIQUID S=SOLID SO=SOLID SE=SEDIMENT P=PAINT SL=SLUDGE

Field Sample I.D.	Lab Use Only DHL Lab #	Collection Date	Collection Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl ☐ H_3PO_4 ☐	HNO_3	H_2SO_4	NaOH ☐ Zn Acetate ☐	ICE ☒ UNPRESERVED ☐	ANALYSES	APPENDIX III	FIELD NOTES
MW17A	01	8-14-23	1440	W	P	2		X			X		X	
PDP-24	02	↓	1525	W	P	2		X			X		X	
PDP 25	03		1615	W	P	2		X			X		X	
PDP-26	04	↓	1710	W	P	2		X			X		X	
MW 20A	05	8-15-23	0750	W	P	2		X			X		X	
PDP 23	06		0845	W	P	2		X			X		X	
DUP-1	07		0845	W	P	2		X			X		X	
MW19	08		0945	W	P	2		X			X		X	
PDP-22	09		1035	W	P	2		X			X		X	
MW 19A	10	↓	1140	W	P	2		X			X		X	

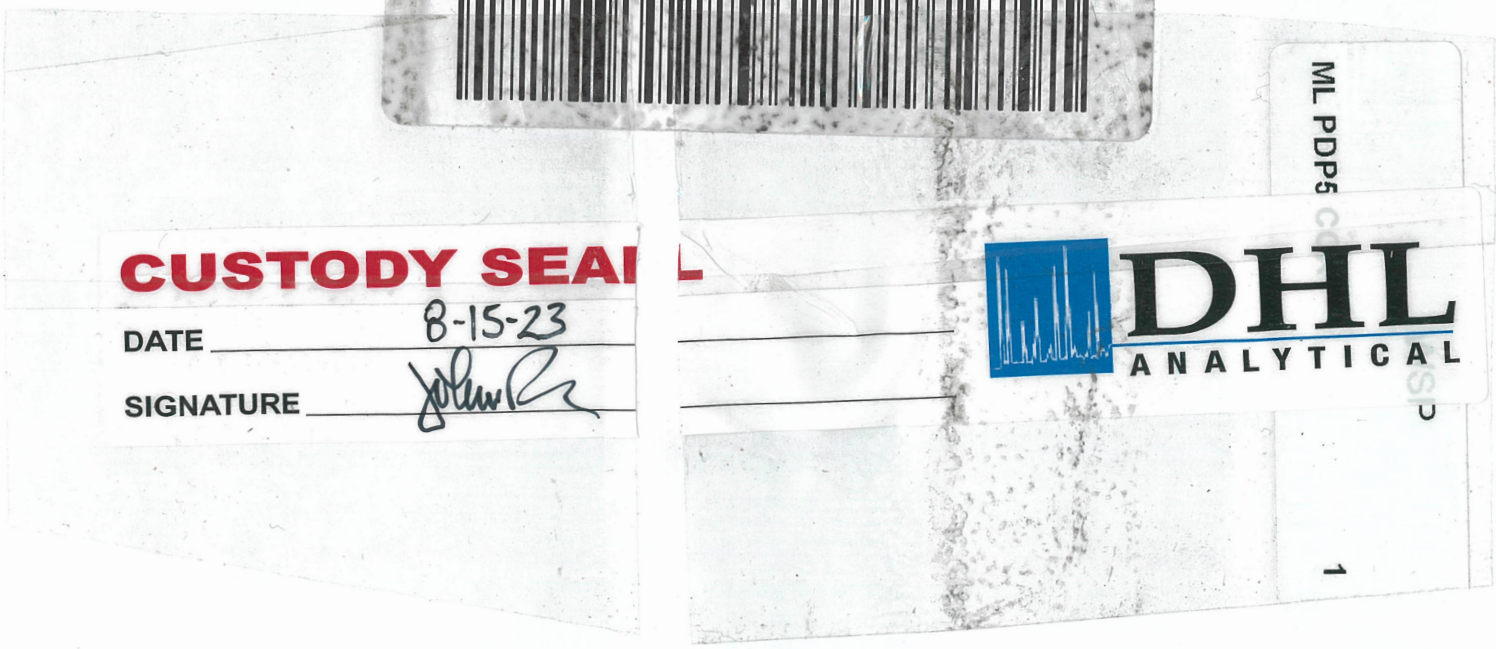
Relinquished By: (Sign) DATE/TIME 8-15-23 1830 Received by: Fedex
Relinquished By: (Sign) DATE/TIME 8/16/23 0813 Received by:
Relinquished By: (Sign) DATE/TIME Received by:

TURN AROUND TIME (CALL FIRST FOR RUSH)
RUSH-1 DAY☐ RUSH-2 DAY☐ RUSH-3 DAY☐
NORMAL ☒ OTHER ☐
DUE DATE _____ ☐

LAB USE ONLY **THERMO #:** 78
RECEIVING TEMP (°C): 3.7°C
IF >6°C, ARE SAMPLES ON ICE AND JUST COLLECTED? YES / NO
CUSTODY SEALS ON ICE CHEST: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LSO ☒ FEDEX ☐ UPS ☐ COURIER ☐ HAND DELIVERED

☐ **DHL DISPOSAL @ $10.00 each**


ORIGIN ID:GGGA (512) 988-8222
WSP
3102 OAK LAWN AVE
DALLAS, TX 75219
UNITED STATES US
SHIP DATE: 15AUG23
ACTWGT: 41.10 LB
CAD: 6994167/SSFE2422
DIMS: 23x12x14 IN
BILL THIRD PARTY
TO
DHL
2300 DOUBLE CREEK DR
ROUND ROCK TX 78664
(512) 388-8222
INV:
PO:
REF:
DEPT:
FedEx
Express
3 of 6
MPS# 0263 7825 3764 5138
Mstr# 7825 3764 5116
0201
WED - 16 AUG 10:30A
PRIORITY OVERNIGHT
A8 BSMA
78664
TX-US AUS


CUSTODY SEAL
DATE 8-15-23
SIGNATURE
DHL
ANALYTICAL
ML PDP5

Eric Lau

From: John DuPont <dupont@dhlanalytical.com>
Sent: Tuesday, May 28, 2019 11:35 AM
To: Eric Lau <login@dhlanalytical.com>
Subject: FW: CCR Analysis

Appendix III Parameters:
Metals (Ca and B)
Anions (Cl, F, and SO4)
TDS

Appendix IV Parameters:

Metals (As, Ba, Be, Cd, Co, Cr, Hg, Li, Mo, Pb, Sb, Se, and Tl)
Ra-226
Ra-228

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name: **WSP-Golder**

Date Received: **8/16/2023**

Work Order Number: **2308216**

Received by: **GLK**

Checklist completed by: _____ 8/16/2023 (Signature / Date)

Reviewed by: SH 8/16/2023 (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 ☐	
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑ NA ☐
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 13171
	Adjusted? no		Checked by EL
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Cooler #	1
Temp °C	3.7
Seal Intact	Y

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

Client contacted: _____ Date contacted: _____ Person contacted: _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: Luminant-MLSES PDP5 CCR	**LRC Date:** 8/24/2023
Reviewer Name: Angie O'Donnell	**Laboratory Work Order: 2308216**
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-Custody (C-O-C)					
R1	OI	**1)** Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	**X**				**R1-01**
		2) Were all departures from standard conditions described in an exception report?			**X**		
R2	OI	**Sample and Quality Control (QC) Identification**					
		1) Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	**X**				
		2) Are all laboratory ID numbers cross-referenced to the corresponding QC data?	**X**				
R3	OI	**Test Reports**					
		1) Were all samples prepared and analyzed within holding times?	**X**				
		2) Other than those results < MQL, were all other raw values bracketed by calibration standards?	**X**				
		3) Were calculations checked by a peer or supervisor?	**X**				
		4) Were all analyte identifications checked by a peer or supervisor?	**X**				
		5) Were sample detection limits reported for all analytes not detected?	**X**				
		6) Were all results for soil and sediment samples reported on a dry weight basis?			**X**		
		7) Were % moisture (or solids) reported for all soil and sediment samples?			**X**		
		8) Were bulk soils/solids samples for volatile analysis extracted with methanol per EPA Method 5035?			**X**		
		9) If required for the project, TICs reported?			**X**		
R4	O	**Surrogate Recovery Data**					
		1) Were surrogates added prior to extraction?			**X**		
		2) Were surrogate percent recoveries in all samples within the laboratory QC limits?			**X**		
R5	OI	**Test Reports/Summary Forms for Blank Samples**					
		1) Were appropriate type(s) of blanks analyzed?	**X**				
		2) Were blanks analyzed at the appropriate frequency?	**X**				
		3) Where method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	**X**				
		4) Were blank concentrations < MDL?	**X**				
		5) For analyte(s) detected in a blank sample, was the concentration, unadjusted for sample specific factors, in all associated field samples, **greater** than 10 times the concentration in the blank sample?			**X**		
R6	OI	**Laboratory Control Samples (LCS):**					
		1) Were all COCs included in the LCS?	**X**				
		2) Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	**X**				
		3) Were LCSs analyzed at the required frequency?	**X**				
		4) Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	**X**				
		5) Does the detectability data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	**X**				
		6) Was the LCSD RPD within QC limits (if applicable)?	**X**				
R7	OI	**Matrix Spike (MS) and Matrix Spike Duplicate (MSD) Data**					
		1) Were the project/method specified analytes included in the MS and MSD?	**X**				
		2) Were MS/MSD analyzed at the appropriate frequency?	**X**				
		3) Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?		**X**			**R7-03**
		4) Were MS/MSD RPDs within laboratory QC limits?	**X**				
R8	OI	**Analytical Duplicate Data**					
		1) Were appropriate analytical duplicates analyzed for each matrix?	**X**				
		2) Were analytical duplicates analyzed at the appropriate frequency?	**X**				
		3) Were RPDs or relative standard deviations within the laboratory QC limits?	**X**				
R9	OI	**Method Quantitation Limits (MQLs):**					
		1) Are the MQLs for each method analyte included in the laboratory data package?	**X**				
		2) Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	**X**				
		3) Are unadjusted MQLs and DCSs included in the laboratory data package?	**X**				
R10	OI	**Other Problems/Anomalies**					
		1) Are all known problems/anomalies/special conditions noted in this LRC and ER?	**X**				
		2) Was applicable and available technology used to lower the SDL to minimize the matrix interference affects on the sample results?	**X**				
		3) Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	**X**				

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: Luminant-MLSES PDP5 CCR	**LRC Date:** 8/24/2023
Reviewer Name: Angie O'Donnell	**Laboratory Work Order: 2308216**
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial Calibration (ICAL)**					
		1) Were response factors and/or relative response factors for each analyte within QC limits?	X				
		2) Were percent RSDs or correlation coefficient criteria met?	X				
		3) Was the number of standards recommended in the method used for all analytes?	X				
		4) Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		5) Are ICAL data available for all instruments used?	X				
		6) Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and Continuing calibration Verification (ICCV and CCV) and Continuing Calibration blank (CCB):**					
		1) Was the CCV analyzed at the method-required frequency?	X				
		2) Were percent differences for each analyte within the method-required QC limits?	X				
		3) Was the ICAL curve verified for each analyte?	X				
		4) Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	X				
S3	O	**Mass Spectral Tuning:**					
		1) Was the appropriate compound for the method used for tuning?	X				
		2) Were ion abundance data within the method-required QC limits?	X				
S4	O	**Internal Standards (IS):**					
		1) Were IS area counts and retention times within the method-required QC limits?	X				
S5	OI	**Raw Data (NELAC Section 5.5.10)**					
		1) Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		2) Were data associated with manual integrations flagged on the raw data?	X				
S6	O	**Dual Column Confirmation**					
		1) Did dual column confirmation results meet the method-required QC?			X		
S7	O	**Tentatively Identified Compounds (TICs):**					
		1) If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) Results:**					
		1) Were percent recoveries within method QC limits?	X				
S9	I	**Serial Dilutions, Post Digestion Spikes, and Method of Standard Additions**					
		1) Were percent differences, recoveries, and the linearity within the QC limits specified in the method?	X				
S10	OI	**Method Detection Limit (MDL) Studies**					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency Test Reports:**					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards Documentation**					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/Analyte Identification Procedures**					
		1) Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		1) Was DOC conducted consistent with NELAC Chapter 5 – Appendix C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/Validation Documentation for Methods** (NELAC Chapter 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory Standard Operating Procedures (SOPs):**					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.

2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).

3 NA = Not applicable.

4 NR = Not Reviewed.

5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

Laboratory Data Package Signature Page – RG-366/TRRP-13

This data package consists of:

This signature page, the laboratory review checklist, and the following reportable data:

R1 Field chain-of-custody documentation;
R2 Sample identification cross-reference;
R3 Test reports (analytical data sheets) for each environmental sample that includes:
  a) Items consistent with NELAC Chapter 5,
  b) dilution factors,
  c) preparation methods,
  d) cleanup methods, and
  e) if required for the project, tentatively identified compounds (TICs).
R4 Surrogate recovery data including:
  a) Calculated recovery (%R), and
  b) The laboratory's surrogate QC limits.
R5 Test reports/summary forms for blank samples;
R6 Test reports/summary forms for laboratory control samples (LCSs) including:
  a) LCS spiking amounts,
  b) Calculated %R for each analyte, and
  c) The laboratory's LCS QC limits.
R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:
  a) Samples associated with the MS/MSD clearly identified,
  b) MS/MSD spiking amounts,
  c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
  d) Calculated %Rs and relative percent differences (RPDs), and
  e) The laboratory's MS/MSD QC limits
R8 Laboratory analytical duplicate (if applicable) recovery and precision:
  a) The amount of analyte measured in the duplicate,
  b) The calculated RPD, and
  c) The laboratory's QC limits for analytical duplicates.
R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;
R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in the Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory is not accredited under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Reports. The data have been reviewed and are technically compliant with the requirements of the methods used, except where noted by the laboratory in the Exception Reports. By my signature below, I affirm to the best of my knowledge that all problems/anomalies observed by the laboratory have been identified in the Laboratory Review Checklist, and no information or data affecting the quality of the data has been knowingly withheld.

This laboratory was last inspected by TCEQ on May 30 – June 2, 2023. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name: John DuPont
Official Title: General Manager

Signature

08/24/23
Date

Name: Dr. Derhsing Luu
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *24-Aug-23*

CLIENT: WSP-Golder
Project: Luminant-MLSES PDP5 CCR
Lab Order: 2308216

CASE NARRATIVE

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

Method SW6020B - Metals Analysis
Method E300- Anions Analysis
Method M2540C- Total Dissolved Solids Analysis

Exception Report R1-01

Samples were received and login performed on 8/16/2023. A total of 10 samples were received and analyzed. The samples arrived in good condition and were properly packaged.

Exception Report R7-03

For Anion Analysis, the recovery of Sulfate for the Matrix Spike and Matrix Spike Duplicate (2308216-02 MS/MSD) was slightly below the method control limits. This is flagged accordingly in the QC Summary Report. This analyte was within method control limits in the associated LCS. No further corrective action was taken.

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT: WSP-Golder
Project: Luminant-MLSES PDP5 CCR
Lab Order: 2308216

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2308216-01	MW-17A		08/14/23 02:40 PM	08/16/2023
2308216-02	PDP-24		08/14/23 03:25 PM	08/16/2023
2308216-03	PDP-25		08/14/23 04:15 PM	08/16/2023
2308216-04	PDP-26		08/14/23 05:10 PM	08/16/2023
2308216-05	MW-20A		08/15/23 07:50 AM	08/16/2023
2308216-06	PDP-23		08/15/23 08:45 AM	08/16/2023
2308216-07	DUP-1		08/15/23 08:45 AM	08/16/2023
2308216-08	MW-19		08/15/23 09:45 AM	08/16/2023
2308216-09	PDP-22		08/15/23 10:35 AM	08/16/2023
2308216-10	MW-18A		08/15/23 11:40 AM	08/16/2023

Lab Order: 2308216
Client: WSP-Golder
Project: Luminant-MLSES PDP5 CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2308216-01A	MW-17A	08/14/23 02:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
2308216-01B	MW-17A	08/14/23 02:40 PM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	MW-17A	08/14/23 02:40 PM	Aqueous	M2540C	TDS Preparation	08/17/23 01:19 PM	111742
2308216-02A	PDP-24	08/14/23 03:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
2308216-02B	PDP-24	08/14/23 03:25 PM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	PDP-24	08/14/23 03:25 PM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	PDP-24	08/14/23 03:25 PM	Aqueous	M2540C	TDS Preparation	08/17/23 01:19 PM	111742
2308216-03A	PDP-25	08/14/23 04:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
	PDP-25	08/14/23 04:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
2308216-03B	PDP-25	08/14/23 04:15 PM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	PDP-25	08/14/23 04:15 PM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	PDP-25	08/14/23 04:15 PM	Aqueous	M2540C	TDS Preparation	08/17/23 01:19 PM	111742
2308216-04A	PDP-26	08/14/23 05:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
2308216-04B	PDP-26	08/14/23 05:10 PM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	PDP-26	08/14/23 05:10 PM	Aqueous	M2540C	TDS Preparation	08/17/23 01:19 PM	111742
2308216-05A	MW-20A	08/15/23 07:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
2308216-05B	MW-20A	08/15/23 07:50 AM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	MW-20A	08/15/23 07:50 AM	Aqueous	M2540C	TDS Preparation	08/18/23 10:37 AM	111775
2308216-06A	PDP-23	08/15/23 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
2308216-06B	PDP-23	08/15/23 08:45 AM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	PDP-23	08/15/23 08:45 AM	Aqueous	M2540C	TDS Preparation	08/18/23 10:37 AM	111775
2308216-07A	DUP-1	08/15/23 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
2308216-07B	DUP-1	08/15/23 08:45 AM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	DUP-1	08/15/23 08:45 AM	Aqueous	M2540C	TDS Preparation	08/18/23 10:37 AM	111775
2308216-08A	MW-19	08/15/23 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
	MW-19	08/15/23 09:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
2308216-08B	MW-19	08/15/23 09:45 AM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	MW-19	08/15/23 09:45 AM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798

Lab Order: 2308216
Client: WSP-Golder
Project: Luminant-MLSES PDP5 CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2308216-08B	MW-19	08/15/23 09:45 AM	Aqueous	M2540C	TDS Preparation	08/18/23 10:37 AM	111775
2308216-09A	PDP-22	08/15/23 10:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
2308216-09B	PDP-22	08/15/23 10:35 AM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	PDP-22	08/15/23 10:35 AM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	PDP-22	08/15/23 10:35 AM	Aqueous	M2540C	TDS Preparation	08/18/23 10:37 AM	111775
2308216-10A	MW-18A	08/15/23 11:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/17/23 07:38 AM	111721
2308216-10B	MW-18A	08/15/23 11:40 AM	Aqueous	E300	Anion Preparation	08/21/23 10:14 AM	111798
	MW-18A	08/15/23 11:40 AM	Aqueous	M2540C	TDS Preparation	08/18/23 10:37 AM	111775

Lab Order: 2308216
Client: WSP-Golder
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2308216-01A	MW-17A	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	1	08/17/23 02:37 PM	ICP-MS5_230817B
2308216-01B	MW-17A	Aqueous	E300	Anions by IC method - Water	111798	1	08/21/23 06:55 PM	IC2_230821B
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	111742	1	08/17/23 05:10 PM	WC_230817D
2308216-02A	PDP-24	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	10	08/17/23 02:39 PM	ICP-MS5_230817B
2308216-02B	PDP-24	Aqueous	E300	Anions by IC method - Water	111798	10	08/21/23 05:07 PM	IC2_230821B
	PDP-24	Aqueous	E300	Anions by IC method - Water	111798	1	08/21/23 07:13 PM	IC2_230821B
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	111742	1	08/17/23 05:10 PM	WC_230817D
2308216-03A	PDP-25	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	10	08/17/23 03:35 PM	ICP-MS5_230817B
	PDP-25	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	1	08/17/23 02:42 PM	ICP-MS5_230817B
2308216-03B	PDP-25	Aqueous	E300	Anions by IC method - Water	111798	10	08/21/23 06:01 PM	IC2_230821B
	PDP-25	Aqueous	E300	Anions by IC method - Water	111798	1	08/21/23 07:31 PM	IC2_230821B
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	111742	1	08/17/23 05:10 PM	WC_230817D
2308216-04A	PDP-26	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	1	08/17/23 02:32 PM	ICP-MS5_230817B
2308216-04B	PDP-26	Aqueous	E300	Anions by IC method - Water	111798	1	08/21/23 07:49 PM	IC2_230821B
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	111742	1	08/17/23 05:10 PM	WC_230817D
2308216-05A	MW-20A	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	1	08/17/23 02:45 PM	ICP-MS5_230817B
2308216-05B	MW-20A	Aqueous	E300	Anions by IC method - Water	111798	1	08/21/23 09:19 PM	IC2_230821B
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	111775	1	08/18/23 05:00 PM	WC_230818C
2308216-06A	PDP-23	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	1	08/17/23 02:47 PM	ICP-MS5_230817B
2308216-06B	PDP-23	Aqueous	E300	Anions by IC method - Water	111798	1	08/21/23 09:37 PM	IC2_230821B
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	111775	1	08/18/23 05:00 PM	WC_230818C
2308216-07A	DUP-1	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	1	08/17/23 02:50 PM	ICP-MS5_230817B
2308216-07B	DUP-1	Aqueous	E300	Anions by IC method - Water	111798	1	08/21/23 09:55 PM	IC2_230821B
	DUP-1	Aqueous	M2540C	Total Dissolved Solids	111775	1	08/18/23 05:00 PM	WC_230818C
2308216-08A	MW-19	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	1	08/17/23 02:52 PM	ICP-MS5_230817B
	MW-19	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	10	08/17/23 03:38 PM	ICP-MS5_230817B
2308216-08B	MW-19	Aqueous	E300	Anions by IC method - Water	111798	10	08/21/23 06:19 PM	IC2_230821B
	MW-19	Aqueous	E300	Anions by IC method - Water	111798	1	08/21/23 10:13 PM	IC2_230821B

Lab Order: 2308216
Client: WSP-Golder
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2308216-08B	MW-19	Aqueous	M2540C	Total Dissolved Solids	111775	1	08/18/23 05:00 PM	WC_230818C
2308216-09A	PDP-22	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	1	08/17/23 02:55 PM	ICP-MS5_230817B
2308216-09B	PDP-22	Aqueous	E300	Anions by IC method - Water	111798	10	08/21/23 06:37 PM	IC2_230821B
	PDP-22	Aqueous	E300	Anions by IC method - Water	111798	1	08/21/23 10:31 PM	IC2_230821B
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	111775	1	08/18/23 05:00 PM	WC_230818C
2308216-10A	MW-18A	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111721	1	08/17/23 02:57 PM	ICP-MS5_230817B
2308216-10B	MW-18A	Aqueous	E300	Anions by IC method - Water	111798	1	08/21/23 10:49 PM	IC2_230821B
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	111775	1	08/18/23 05:00 PM	WC_230818C

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-17A
Project:	Luminant-MLSES PDP5 CCR	**Lab ID:**	2308216-01
Project No:	31404097.019	**Collection Date:**	08/14/23 02:40 PM
Lab Order:	2308216	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.432	0.0100	0.0300		mg/L	1	08/17/23 02:37 PM
Calcium	4.21	0.100	0.300		mg/L	1	08/17/23 02:37 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	9.10	0.300	1.00		mg/L	1	08/21/23 06:55 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/21/23 06:55 PM
Sulfate	36.8	1.00	3.00		mg/L	1	08/21/23 06:55 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	117	10.0	10.0		mg/L	1	08/17/23 05:10 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-24
Project:	Luminant-MLSES PDP5 CCR	**Lab ID:**	2308216-02
Project No:	31404097.019	**Collection Date:**	08/14/23 03:25 PM
Lab Order:	2308216	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	3.36	0.100	0.300		mg/L	10	08/17/23 02:39 PM
Calcium	29.8	1.00	3.00		mg/L	10	08/17/23 02:39 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	19.1	0.300	1.00		mg/L	1	08/21/23 07:13 PM
Fluoride	0.817	0.100	0.400		mg/L	1	08/21/23 07:13 PM
Sulfate	353	10.0	30.0		mg/L	10	08/21/23 05:07 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	640	10.0	10.0		mg/L	1	08/17/23 05:10 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-25
Project:	Luminant-MLSES PDP5 CCR	**Lab ID:**	2308216-03
Project No:	31404097.019	**Collection Date:**	08/14/23 04:15 PM
Lab Order:	2308216	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.150	0.0100	0.0300		mg/L	1	08/17/23 02:42 PM
Calcium	71.5	1.00	3.00		mg/L	10	08/17/23 03:35 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	93.6	3.00	10.0		mg/L	10	08/21/23 06:01 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/21/23 07:31 PM
Sulfate	51.3	1.00	3.00		mg/L	1	08/21/23 07:31 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	457	10.0	10.0		mg/L	1	08/17/23 05:10 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-26
Project:	Luminant-MLSES PDP5 CCR	**Lab ID:**	2308216-04
Project No:	31404097.019	**Collection Date:**	08/14/23 05:10 PM
Lab Order:	2308216	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0451	0.0100	0.0300		mg/L	1	08/17/23 02:32 PM
Calcium	2.99	0.100	0.300		mg/L	1	08/17/23 02:32 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	4.58	0.300	1.00		mg/L	1	08/21/23 07:49 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/21/23 07:49 PM
Sulfate	2.12	1.00	3.00	J	mg/L	1	08/21/23 07:49 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	106	10.0	10.0		mg/L	1	08/17/23 05:10 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-20A
Project:	Luminant-MLSES PDP5 CCR	**Lab ID:**	2308216-05
Project No:	31404097.019	**Collection Date:**	08/15/23 07:50 AM
Lab Order:	2308216	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0715	0.0100	0.0300		mg/L	1	08/17/23 02:45 PM
Calcium	4.72	0.100	0.300		mg/L	1	08/17/23 02:45 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	11.4	0.300	1.00		mg/L	1	08/21/23 09:19 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/21/23 09:19 PM
Sulfate	21.0	1.00	3.00		mg/L	1	08/21/23 09:19 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	130	10.0	10.0		mg/L	1	08/18/23 05:00 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-23
Project:	Luminant-MLSES PDP5 CCR	**Lab ID:**	2308216-06
Project No:	31404097.019	**Collection Date:**	08/15/23 08:45 AM
Lab Order:	2308216	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0681	0.0100	0.0300		mg/L	1	08/17/23 02:47 PM
Calcium	2.37	0.100	0.300		mg/L	1	08/17/23 02:47 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	8.12	0.300	1.00		mg/L	1	08/21/23 09:37 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/21/23 09:37 PM
Sulfate	1.20	1.00	3.00	J	mg/L	1	08/21/23 09:37 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	118	10.0	10.0		mg/L	1	08/18/23 05:00 PM

Qualifiers:

- ND - Not Detected at the SDL
- J - Analyte detected between SDL and RL
- B - Analyte detected in the associated Method Blank
- DF- Dilution Factor
- N - Parameter not NELAP certified
- See Final Page of Report for MQLs and MDLs
- S - Spike Recovery outside control limits
- C - Sample Result or QC discussed in Case Narrative
- RL - Reporting Limit (MQL adjusted for moisture and sample size)
- SDL - Sample Detection Limit
- E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	DUP-1
Project:	Luminant-MLSES PDP5 CCR	**Lab ID:**	2308216-07
Project No:	31404097.019	**Collection Date:**	08/15/23 08:45 AM
Lab Order:	2308216	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0671	0.0100	0.0300		mg/L	1	08/17/23 02:50 PM
Calcium	2.44	0.100	0.300		mg/L	1	08/17/23 02:50 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	8.02	0.300	1.00		mg/L	1	08/21/23 09:55 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/21/23 09:55 PM
Sulfate	1.22	1.00	3.00	J	mg/L	1	08/21/23 09:55 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	114	10.0	10.0		mg/L	1	08/18/23 05:00 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-19
Project:	Luminant-MLSES PDP5 CCR	**Lab ID:**	2308216-08
Project No:	31404097.019	**Collection Date:**	08/15/23 09:45 AM
Lab Order:	2308216	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.627	0.0100	0.0300		mg/L	1	08/17/23 02:52 PM
Calcium	113	1.00	3.00		mg/L	10	08/17/23 03:38 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	67.5	3.00	10.0		mg/L	10	08/21/23 06:19 PM
Fluoride	0.142	0.100	0.400	J	mg/L	1	08/21/23 10:13 PM
Sulfate	275	10.0	30.0		mg/L	10	08/21/23 06:19 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	877	10.0	10.0		mg/L	1	08/18/23 05:00 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-22
Project:	Luminant-MLSES PDP5 CCR	**Lab ID:**	2308216-09
Project No:	31404097.019	**Collection Date:**	08/15/23 10:35 AM
Lab Order:	2308216	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.116	0.0100	0.0300		mg/L	1	08/17/23 02:55 PM
Calcium	10.4	0.100	0.300		mg/L	1	08/17/23 02:55 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	8.19	0.300	1.00		mg/L	1	08/21/23 10:31 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/21/23 10:31 PM
Sulfate	68.4	1.00	3.00		mg/L	1	08/21/23 10:31 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	223	10.0	10.0		mg/L	1	08/18/23 05:00 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-18A
Project:	Luminant-MLSES PDP5 CCR	**Lab ID:**	2308216-10
Project No:	31404097.019	**Collection Date:**	08/15/23 11:40 AM
Lab Order:	2308216	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.195	0.0100	0.0300		mg/L	1	08/17/23 02:57 PM
Calcium	2.58	0.100	0.300		mg/L	1	08/17/23 02:57 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	8.37	0.300	1.00		mg/L	1	08/21/23 10:49 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/21/23 10:49 PM
Sulfate	6.79	1.00	3.00		mg/L	1	08/21/23 10:49 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	87.0	10.0	10.0		mg/L	1	08/18/23 05:00 PM

Qualifiers:

ND - Not Detected at the SDL
J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230606A

Sample ID: **DCS2-110475**	Batch ID: **110475**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS2**	Run ID: **ICP-MS5_230606A**	Analysis Date: **6/6/2023 4:34:00 PM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.259	0.300	0.300	0	86.2	70	130	0	0	

Sample ID: **DCS4-110475**	Batch ID: **110475**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS4**	Run ID: **ICP-MS5_230606A**	Analysis Date: **6/6/2023 4:39:00 PM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0327	0.0300	0.0300	0	109	70	130	0	0	

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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230817B

The QC data in batch 111721 applies to the following samples: 2308216-01A, 2308216-02A, 2308216-03A, 2308216-04A, 2308216-05A, 2308216-06A, 2308216-07A, 2308216-08A, 2308216-09A, 2308216-10A

Sample ID: **MB-111721** Batch ID: **111721** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_230817B** Analysis Date: **8/17/2023 2:21:00 PM** Prep Date: **8/17/2023**

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-111721** Batch ID: **111721** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_230817B** Analysis Date: **8/17/2023 2:24:00 PM** Prep Date: **8/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.181	0.0300	0.200	0	90.3	80	120			
Calcium	4.86	0.300	5.00	0	97.3	80	120			

Sample ID: **LCSD-111721** Batch ID: **111721** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_230817B** Analysis Date: **8/17/2023 2:27:00 PM** Prep Date: **8/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.190	0.0300	0.200	0	95.0	80	120	5.02	15	
Calcium	4.93	0.300	5.00	0	98.5	80	120	1.29	15	

Sample ID: **2308216-04A SD** Batch ID: **111721** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS5_230817B** Analysis Date: **8/17/2023 2:34:00 PM** Prep Date: **8/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	<0.0500	0.150	0	0.0451				0	20	
Calcium	2.87	1.50	0	2.99				4.21	20	

Sample ID: **2308216-04A PDS** Batch ID: **111721** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS5_230817B** Analysis Date: **8/17/2023 3:00:00 PM** Prep Date: **8/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.236	0.0300	0.200	0.0451	95.6	75	125			
Calcium	7.61	0.300	5.00	2.99	92.4	75	125			

Sample ID: **2308216-04A MS** Batch ID: **111721** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS5_230817B** Analysis Date: **8/17/2023 3:03:00 PM** Prep Date: **8/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.246	0.0300	0.200	0.0451	100	75	125			
Calcium	7.73	0.300	5.00	2.99	94.6	75	125			

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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230817B

Sample ID: **2308216-04A MSD** Batch ID: **111721** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS5_230817B** Analysis Date: **8/17/2023 3:05:00 PM** Prep Date: **8/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.247	0.0300	0.200	0.0451	101	75	125	0.348	15	
Calcium	7.77	0.300	5.00	2.99	95.5	75	125	0.545	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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230817B

Sample ID: **ICV-230817**	Batch ID: **R128658**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS5_230817B**	Analysis Date: **8/17/2023 10:13:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0985	0.0300	0.100	0	98.5	90	110			
Calcium	2.52	0.300	2.50	0	101	90	110			

Sample ID: **LCVL-230817**	Batch ID: **R128658**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS5_230817B**	Analysis Date: **8/17/2023 10:18:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0234	0.0300	0.0200	0	117	80	120			
Calcium	0.0916	0.300	0.100	0	91.6	80	120			

Sample ID: **CCV2-230817**	Batch ID: **R128658**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_230817B**	Analysis Date: **8/17/2023 11:46:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.186	0.0300	0.200	0	93.2	90	110			
Calcium	4.94	0.300	5.00	0	98.9	90	110			

Sample ID: **CCV3-230817**	Batch ID: **R128658**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_230817B**	Analysis Date: **8/17/2023 3:08:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.199	0.0300	0.200	0	99.3	90	110			
Calcium	4.89	0.300	5.00	0	97.8	90	110			

Sample ID: **CCV4-230817**	Batch ID: **R128658**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_230817B**	Analysis Date: **8/17/2023 3:41:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.03	0.300	5.00	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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230817A

Sample ID: **DCS2-111732** Batch ID: **111732** TestNo: **E300** Units: **mg/L**
SampType: **DCS2** Run ID: **IC2_230817A** Analysis Date: **8/17/2023 2:17:52 PM** Prep Date: **8/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	0.560	1.00	0.5000	0	112	70	130	0	0	
Fluoride	0.239	0.400	0.2000	0	119	70	130	0	0	
Sulfate	1.45	3.00	1.500	0	96.7	70	130	0	0	

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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230821B

The QC data in batch 111798 applies to the following samples: 2308216-01B, 2308216-02B, 2308216-03B, 2308216-04B, 2308216-05B, 2308216-06B, 2308216-07B, 2308216-08B, 2308216-09B, 2308216-10B

Sample ID: **MB-111798** Batch ID: **111798** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_230821B** Analysis Date: **8/21/2023 11:52:12 AM** Prep Date: **8/21/2023**

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-111798** Batch ID: **111798** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_230821B** Analysis Date: **8/21/2023 12:10:12 PM** Prep Date: **8/21/2023**

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	28.7	3.00	30.00	0	95.7	90	110			

Sample ID: **LCSD-111798** Batch ID: **111798** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_230821B** Analysis Date: **8/21/2023 12:28:12 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.89	1.00	10.00	0	98.9	90	110	0.798	20	
Fluoride	4.00	0.400	4.000	0	99.9	90	110	0.692	20	
Sulfate	28.4	3.00	30.00	0	94.6	90	110	1.19	20	

Sample ID: **2308263-01FMS** Batch ID: **111798** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_230821B** Analysis Date: **8/21/2023 4:31:43 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2650	100	2000	732.2	95.7	90	110			
Fluoride	2010	40.0	2000	0	100	90	110			
Sulfate	2480	300	2000	648.9	91.4	90	110			

Sample ID: **2308263-01FMSD** Batch ID: **111798** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_230821B** Analysis Date: **8/21/2023 4:49:43 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2660	100	2000	732.2	96.4	90	110	0.524	20	
Fluoride	2020	40.0	2000	0	101	90	110	0.588	20	
Sulfate	2490	300	2000	648.9	92.1	90	110	0.557	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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230821B

Sample ID: **2308216-02BMS**	Batch ID: **111798**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_230821B**	Analysis Date: **8/21/2023 5:25:43 PM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	218	10.0	200.0	19.58	99.2	90	110			
Fluoride	204	4.00	200.0	1.256	102	90	110			
Sulfate	527	30.0	200.0	352.5	87.1	90	110			S

Sample ID: **2308216-02BMSD**	Batch ID: **111798**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_230821B**	Analysis Date: **8/21/2023 5:43:43 PM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	219	10.0	200.0	19.58	99.8	90	110	0.595	20	
Fluoride	205	4.00	200.0	1.256	102	90	110	0.322	20	
Sulfate	527	30.0	200.0	352.5	87.5	90	110	0.136	20	S

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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230821B

Sample ID: **ICV-230821**	Batch ID: **R128732**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_230821B**	Analysis Date: **8/21/2023 11:16:12 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.1	1.00	25.00	0	101	90	110			
Fluoride	10.3	0.400	10.00	0	103	90	110			
Sulfate	73.1	3.00	75.00	0	97.4	90	110			

Sample ID: **CCV1-230821**	Batch ID: **R128732**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230821B**	Analysis Date: **8/21/2023 8:43:43 PM**	Prep Date:

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	4.04	0.400	4.000	0	101	90	110			
Sulfate	28.8	3.00	30.00	0	95.8	90	110			

Sample ID: **CCV2-230821**	Batch ID: **R128732**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230821B**	Analysis Date: **8/22/2023 12:19:43 AM**	Prep Date:

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	4.10	0.400	4.000	0	103	90	110			
Sulfate	28.9	3.00	30.00	0	96.2	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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_230817D

The QC data in batch 111742 applies to the following samples: 2308216-01B, 2308216-02B, 2308216-03B, 2308216-04B

Sample ID: **MB-111742**	Batch ID: **111742**	TestNo: **M2540C**	Units: **mg/L**
SampType: **MBLK**	Run ID: **WC_230817D**	Analysis Date: **8/17/2023 5:10:00 PM**	Prep Date: **8/17/2023**

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-111742**	Batch ID: **111742**	TestNo: **M2540C**	Units: **mg/L**
SampType: **LCS**	Run ID: **WC_230817D**	Analysis Date: **8/17/2023 5:10:00 PM**	Prep Date: **8/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	726	10.0	745.6	0	97.4	90	113			

Sample ID: **2308202-02A-DUP**	Batch ID: **111742**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_230817D**	Analysis Date: **8/17/2023 5:10:00 PM**	Prep Date: **8/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1080	50.0	0	1045				2.83	5	

Sample ID: **2308202-03A-DUP**	Batch ID: **111742**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_230817D**	Analysis Date: **8/17/2023 5:10:00 PM**	Prep Date: **8/17/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1180	50.0	0	1170				0.426	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 NELAP certified

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_230818C

The QC data in batch 111775 applies to the following samples: 2308216-05B, 2308216-06B, 2308216-07B, 2308216-08B, 2308216-09B, 2308216-10B

Sample ID: **MB-111775**	Batch ID: **111775**	TestNo: **M2540C**	Units: **mg/L**
SampType: **MBLK**	Run ID: **WC_230818C**	Analysis Date: **8/18/2023 5:00:00 PM**	Prep Date: **8/18/2023**

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-111775**	Batch ID: **111775**	TestNo: **M2540C**	Units: **mg/L**
SampType: **LCS**	Run ID: **WC_230818C**	Analysis Date: **8/18/2023 5:00:00 PM**	Prep Date: **8/18/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	765	10.0	745.6	0	103	90	113			

Sample ID: **2308251-01G-DUP**	Batch ID: **111775**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_230818C**	Analysis Date: **8/18/2023 5:00:00 PM**	Prep Date: **8/18/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4120	50.0	0	4170				1.21	5	

Sample ID: **2308251-02G-DUP**	Batch ID: **111775**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_230818C**	Analysis Date: **8/18/2023 5:00:00 PM**	Prep Date: **8/18/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4060	50.0	0	4070				0.246	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 NELAP certified

DHL Analytical, Inc.

Date: *24-Aug-23*

CLIENT: WSP-Golder
Work Order: 2308216
Project: Luminant-MLSES PDP5 CCR

MQL SUMMARY REPORT

TestNo: E300	**MDL**	**MQL**
Analyte	**mg/L**	**mg/L**
Chloride	0.300	1.00
Fluoride	0.100	0.400
Sulfate	1.00	3.00

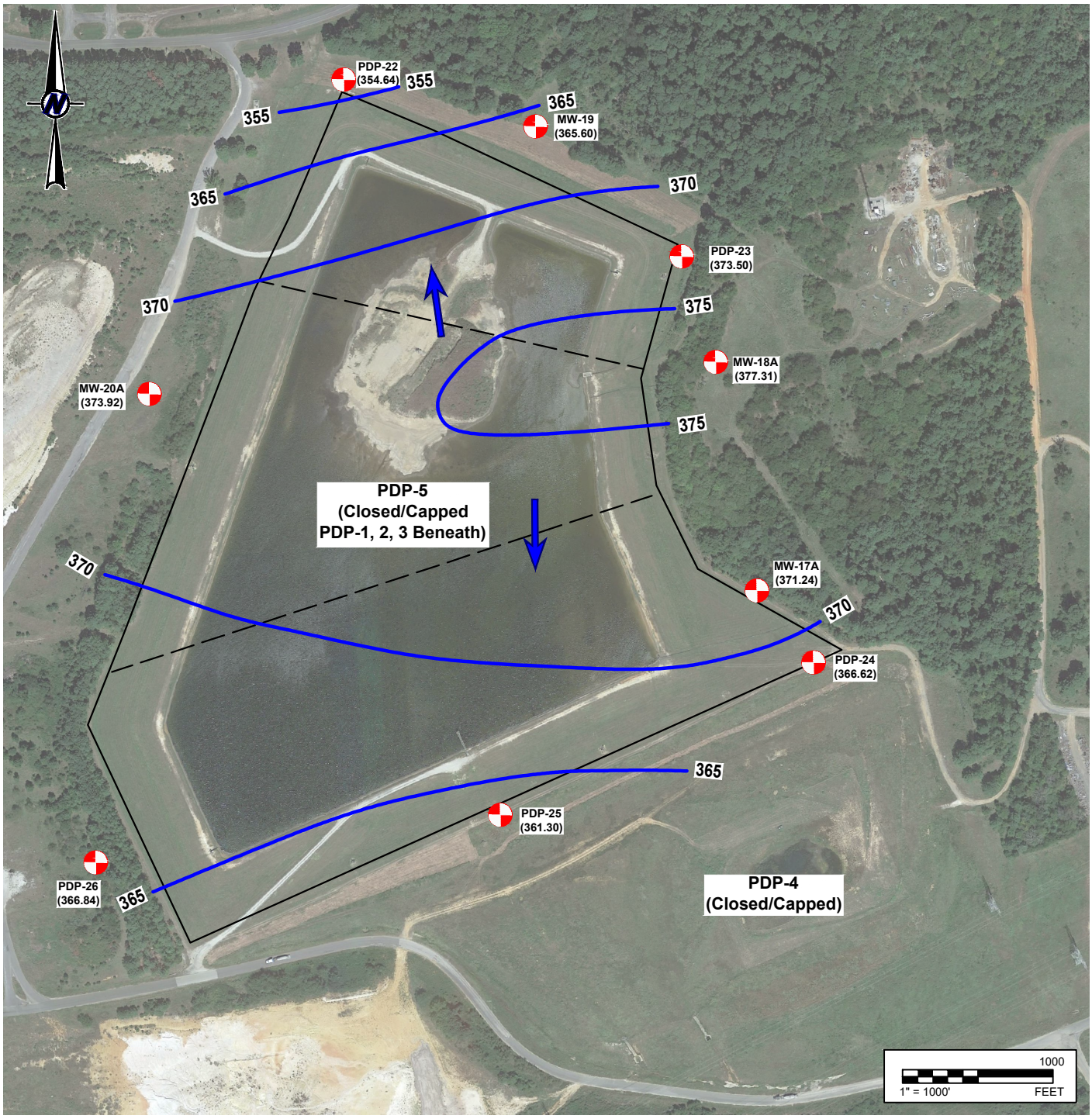
TestNo: SW6020B	**MDL**	**MQL**
Analyte	**mg/L**	**mg/L**
Boron	0.0100	0.0300
Calcium	0.100	0.300

TestNo: M2540C	**MDL**	**MQL**
Analyte	**mg/L**	**mg/L**
Total Dissolved Solids (Residue, Filt	10.0	10.0

Qualifiers: MQL -Method Quantitation Limit as defined by TRRP
MDL -Method Detection Limit as defined by TRRP

APPENDIX C

GROUNDWATER POTENTIOMETRIC SURFACE MAPS



LEGEND

- CCR MONITORING WELL LOCATION
- (374.34) GROUNDWATER POTENTIOMETRIC SURFACE (FT MSL)
- 360 GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR (C.I. = 5 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
WILLIAM F VIENNE
GEOLOGY
No. 10492
LICENSED
PROFESSIONAL GEOSCIENTIST
01/31/2024

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED SEPTEMBER 8, 2021.

LUMINANT

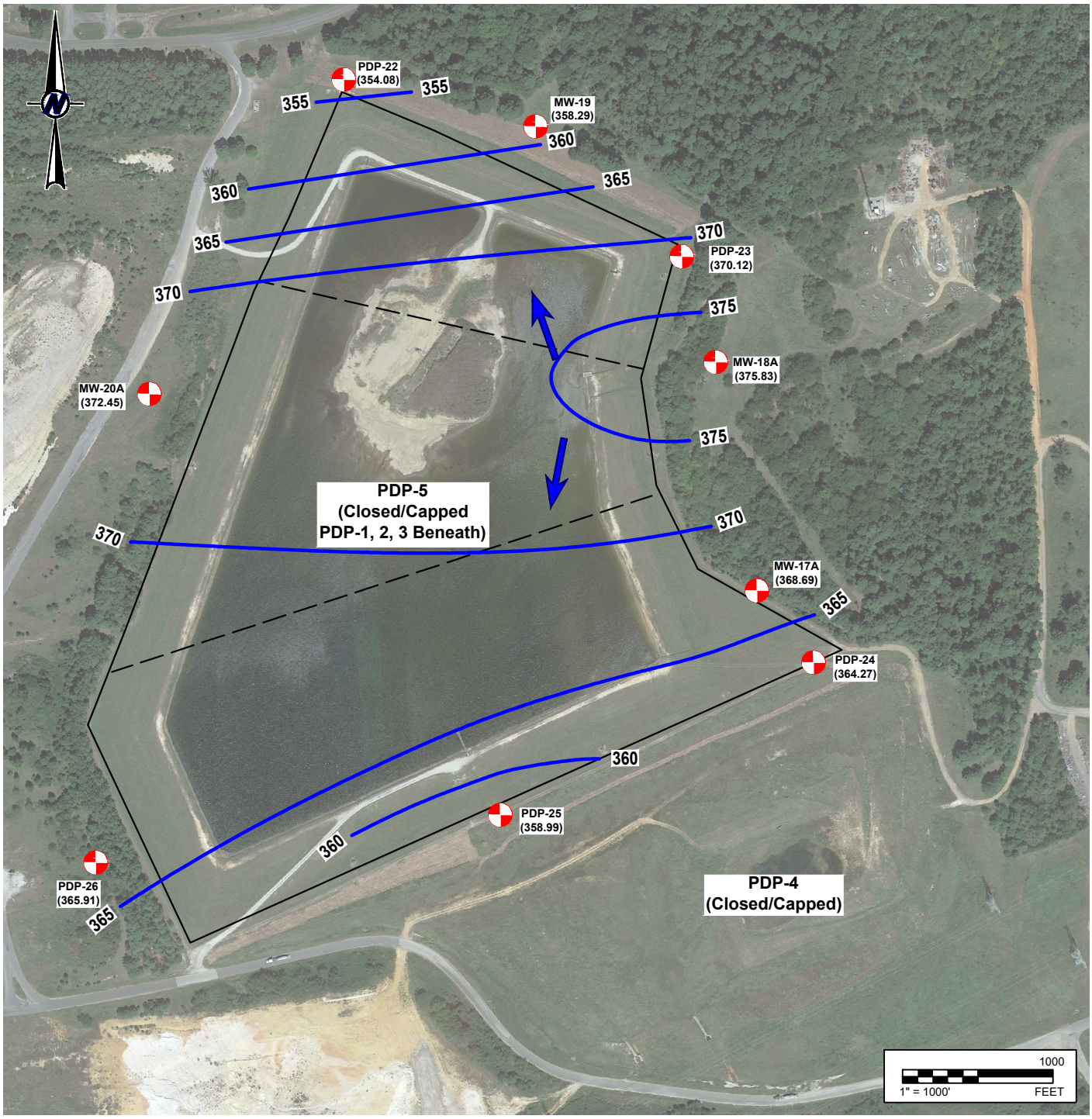
MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

PDP 5
POTENTIOMETRIC SURFACE MAP
MAY 17, 2023

PROJECT: 23643.03	BY: SLB	DATE: 12/14/2023	CHECKED: WV

Bullock, Bennett & Associates, LLC
Engineering and Geoscience
Texas Registrations: Engineering F-8542, Geoscience 50127

C:\BBA Engineering Dropbox\Jobs\23643 - Luminant Env Support\5 Technical Work\CCR GW Monitoring\23643-03 Martin Lake\Pot Maps



LEGEND

- CCR MONITORING WELL LOCATION
- (374.34) GROUNDWATER POTENTIOMETRIC SURFACE (FT MSL)
- 360 GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR (C.I. = 5 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

STATE OF TEXAS
WILLIAM F VIENNE
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REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED SEPTEMBER 8, 2021.

LUMINANT

MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

PDP 5
POTENTIOMETRIC SURFACE MAP
AUGUST 18, 2023

PROJECT: 23643.03	BY: SLB	DATE: 12/14/2023	CHECKED: WV

Bullock, Bennett & Associates, LLC
Engineering and Geoscience
Texas Registrations: Engineering F-8542, Geoscience 50127

C:\BBA Engineering Dropbox\Jobs\23643 - Luminant Env Support\5 Technical Work\CCR GW Monitoring\23643-03 Martin Lake\Pot Maps