2022 Annual Groundwater Monitoring and Corrective Action Report

Martin Lake Steam Electric Station PDP 5 - Rusk County, Texas

Prepared for:

Luminant Generation Company LLC

Prepared by:

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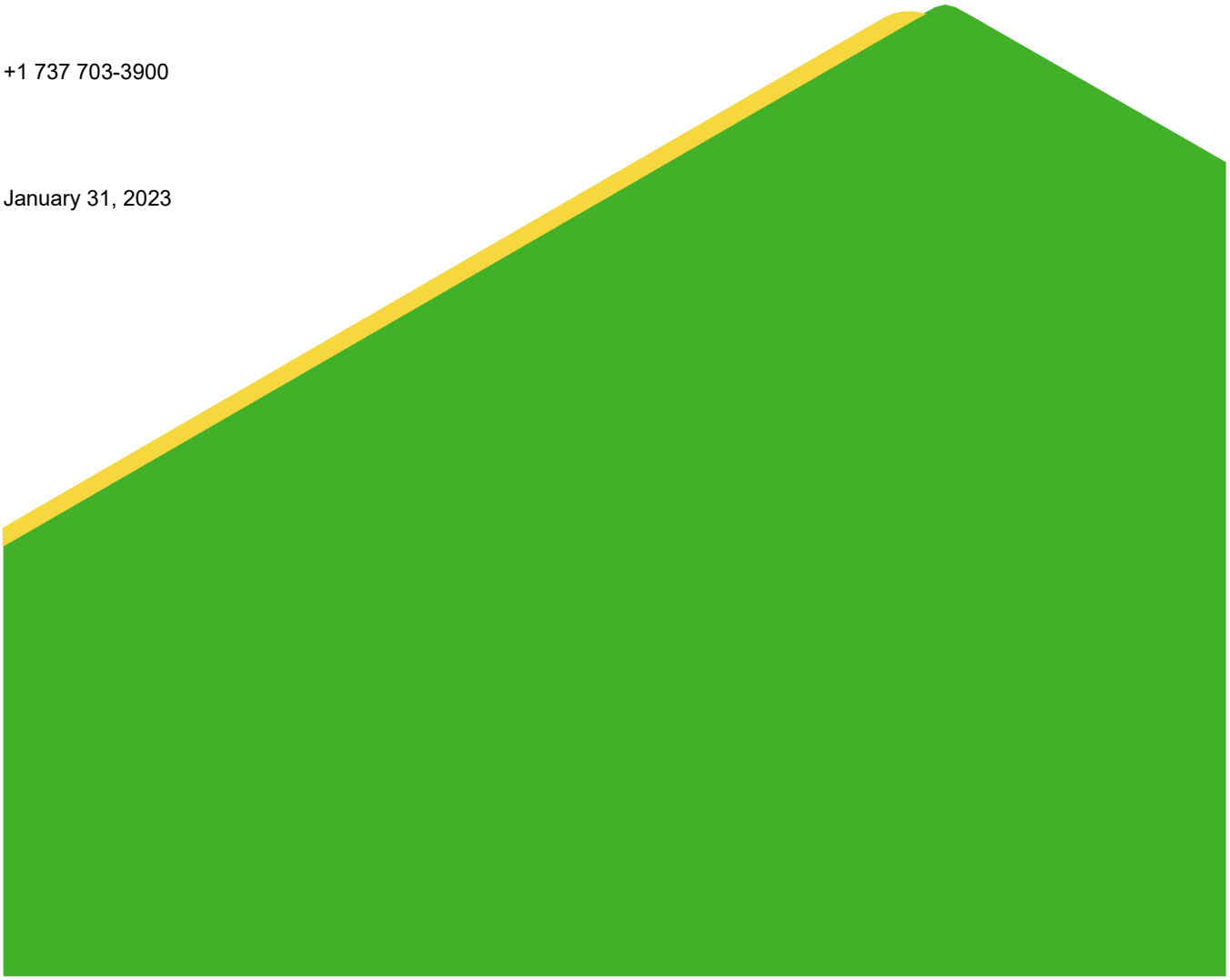

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ACRONYMS AND ABBREVIATIONS

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

WSP Golder has prepared this report on behalf of Luminant Generation Company LLC (Luminant) to satisfy the 2022 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 2022 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 2021 Detection Monitoring events; however, Alternate Source Demonstrations were completed that indicated that a source other than the CCR unit caused the SSIs. During 2022, SSIs were also identified for Appendix III constituents, which included 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. Alternate sources for the SSIs identified in the 2022 sample data are being evaluated in accordance with § 257.94. If an alternate source is not identified to be the cause of the 2022 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*) has been 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. WSP Golder collected the initial Detection Monitoring Program groundwater samples 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 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 Is Being Assessed)

The statistical background values and Appendix III analytical data are presented in Tables 1 and 2, respectively. SSIs of Appendix III parameters were identified for the 2017 through 2021 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 2022 based on the 2018 through 2021 sample data. As a result, PDP 5 has remained in the Detection Monitoring Program. A summary of the Alternate Source Demonstration based on the 2021 sample data is presented in Attachment 1 as required by § 257.94(e)(2). The completed Alternate Source Demonstration for the 2021 sample data was also submitted via email to the executive director on April 5, 2022, 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 2022, as required by the CCR Rule. The first 2022 semi-annual Detection Monitoring Program sampling event was conducted in May 2022. The second 2022 semi-annual Detection Monitoring Program sampling event was conducted in September 2022. The 2022 laboratory analytical reports are provided in Attachment 1. The analytical data from the 2022 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 for several constituents for which SSIs had previously been attributed to alternate sources. Alternate sources for the SSIs identified in the 2022 sample data are being evaluated in accordance with § 257.94. If an alternate source is not identified to be the cause of the SSI, 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 January 6, 2023, following the determination of observed SSIs in 2022 as required under 30 TAC § 352.941(b). A notification of intent to make an Alternate Source Demonstration under 30 TAC § 352.941(c)(1) for SSIs observed in 2022 sample data was submitted to the executive director via email on January 6, 2023.

3.0 KEY ACTIONS COMPLETED IN 2022

Semi-annual Detection Monitoring Program groundwater monitoring events were completed in May and September 2022. The number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and the analytical results for the groundwater samples are summarized in Table 2. A map showing the CCR unit and monitoring wells is provided as Figure 1. No CCR wells were installed or decommissioned in 2022.

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. Water elevations measured in the CCR wells during the 2022 semi-annual groundwater sampling events were used to develop groundwater potentiometric surface maps (Attachment 2), which confirm that groundwater flows radially outward from the topographic high at PDP 5. The inferred groundwater flow rate was approximately 1 foot per year.

An Alternate Source Demonstration was completed in March 2022, which documented that a source other than PDP 5 caused the SSIs detected over background levels during the 2021 Detection Monitoring Program sampling events, as required by § 257.94(e)(2). A copy of the Alternate Source Demonstration is provided in Attachment 3. The completed Alternate Source Determination was also submitted to the executive director on April 5, 2022, as required under 30 TAC § 352.941(c)(2)

4.0 PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the CCR groundwater monitoring program in 2022.

5.0 KEY ACTIVITIES PLANNED FOR 2023

The following key activities are planned for 2023:

- Continue the Detection Monitoring Program in accordance with applicable provisions of 40 C.F.R. §257.95 and 30 T.A.C. §352.941.

- If an alternate source is identified to be the cause of the SSIs observed in 2022, 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 2022 was submitted to the executive director via email on January 6, 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

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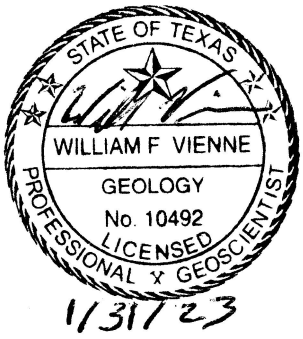
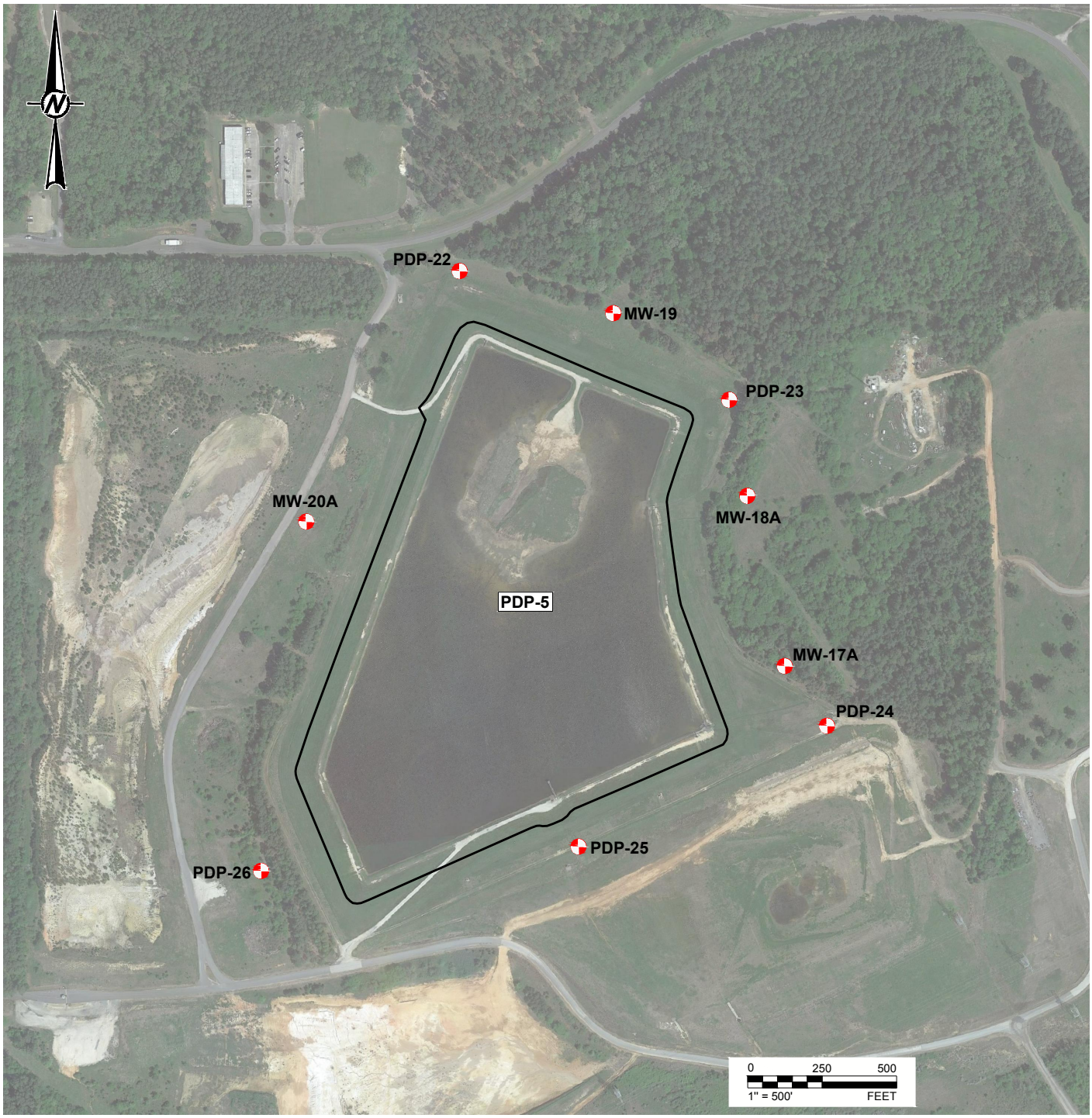


FIGURES



LEGEND

CCR MONITORING WELL

EXTERIOR TOE OF PDP-5 BERMS

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 4/9/19.

CLIENT
LUMINANT

PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

TITLE
PDP-5 DETAILED SITE PLAN

CONSULTANT
wsp

YYYY-MM-DD	2022-01-19
DESIGNED	AJD
PREPARED	AJD
REVIEWED	WFV
APPROVED	WFV

PROJECT NO.	CONTROL	REV.	FIGURE
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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	Ca	Cl	F	field pH	SO_4	TDS
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
	09/22/22	0.386	3.83	8.73	<0.100	6.83	32.6	98
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	3.60	8.18	<0.100	6.59	11.7	89
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
	09/21/22	0.382	45.0	92.2	0.108 J	6.93	212	723

TABLE 2
APPENDIX III ANALYTICAL RESULTS
MLSES PDP-5

Sample Location	Date Sampled	B	Ca	Cl	F	field pH	SO_4	TDS
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
	09/22/22	0.0466	2.93	6.68	<0.100	6.48	1.42 J	84
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
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	5.90	<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 2
APPENDIX III ANALYTICAL RESULTS
MLSES PDP-5

Sample Location	Date Sampled	B	Ca	Cl	F	field pH	SO_4	TDS
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	4.20	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	0.133	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
	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	0.0343	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	0.0500	2.61	4.40	<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.

ATTACHMENT 1

LABORATORY ANALYTICAL REPORTS

June 07, 2022

Will Vienne
WSP-Golder
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446

Order No.: 2205311

RE: Luminant - MLSES PDP5 - CCR

Dear Will Vienne:

DHL Analytical, Inc. received 10 sample(s) on 5/27/2022 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: T104704211-22-28

Table of Contents

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

PAGE 1 OF 1

CLIENT: GOLDER
ADDRESS: 2201 DOUBLE CREEK DR #4004 ROUND ROCK TX 78664
PHONE: 512-671-3434 EMAIL:
DATA REPORTED TO: WILL VIENNE
ADDITIONAL REPORT COPIES TO:

DATE: 5-26-22
PO#:

LABORATORY USE ONLY
DHL WORKORDER #: 2205311

PROJECT LOCATION OR NAME: LUMINANT - MLSES PDP 5 - CCR
CLIENT PROJECT # 19122262 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	HNO_3	H_2SO_4	NaOH ☐ Zn Acetate ☐	ICE ☒ UNPRESERVED ☐	ANALYSES	APPEND IX III	FIELD NOTES
MW-18A	01	5-24-22	1315	W	P	2		X			X		X	
MW-19	02	"	1425	W	P	2		X			X		X	
PDP-22	03	"	1515	W	P	2		X			X		X	
PDP-23	04	"	1610	W	P	2		X			X		X	
MW-20A	05	"	1700	W	P	2		X			X		X	
PDP-26	06	5-25-22	0745	W	P	2		X			X		X	
MW-17A	07	"	0835	W	P	2		X			X		X	
PDP-24	08	"	0930	W	P	2		X			X		X	
PDP-25	09	"	1020	W	P	2		X			X		X	
DUP-1	10	"	1020	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:
	5-26-22 1830	Fedex
Relinquished By: (Sign) Fedex	DATE/TIME 5-27-22 0850	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 _____ ☐

LABORATORY USE ONLY
RECEIVING TEMP (°C): 2.8°C THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☑ INTACT ☐ NOT USED
CARRIER: ☐ LSO ☑ FEDEX ☐ UPS ☐ COURIER ☐ OTHER ☐ HAND DELIVERED

☐ **DHL DISPOSAL @ 5.00 each** ☐ **Return**

DHL COC REV 3 | MAR 2021

Eric Lau

From: John DuPont
Sent: Tuesday, May 28, 2019 11:35 AM
To: Eric Lau
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

From: Vienne, Will [mailto:William_Vienne@golder.com]
Sent: Tuesday, April 09, 2019 12:48 PM
To: John DuPont <dupont@dhlanalytical.com>
Subject: CCR Analysis

ORIGIN ID:GGGA (512) 671-3434

GOLDER ASSOCIATES CORPORATION
14950 HEATHROW FOREST PKWY
STE 280
HOUSTON, TX 77032
UNITED STATES US

SHIP DATE: 26MAY22
ACTWGT: 33.05 LB
CAD: 6994167/SSFE2300
DIMS: 22x13x14 IN

BILL THIRD PARTY

Part # 156297-435 RRDB2 EXP 09/22

TO

DHL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664

(999) 999-9999 REF:
INV: DEPT:
PO:

FedEx Express

J22202041201uv

2 of 3
MPS# 0263 2736 0637 6075
Mstr# 2736 0637 6064

FRI - 27 MAY 10:30A
PRIORITY OVERNIGHT

0201

A8 BSMA

78664
TX-US AUS

CUSTODY SEAL

DATE 5-26-22

SIGNATURE

DHL ANALYTICAL

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name WSP-Golder | Date Received: 5/27/2022

Work Order Number 2205311 | Received by: KAO

Checklist completed by: EL (Signature) 5/27/2022 (Date) | Reviewed by SN (Initials) 5/27/2022 (Date)

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ✓	No	Not Present
Custody seals intact on shipping container/cooler?	Yes ✓	No	Not Present
Custody seals intact on sample bottles?	Yes	No	Not Present ✓
Chain of custody present?	Yes ✓	No	
Chain of custody signed when relinquished and received?	Yes ✓	No	
Chain of custody agrees with sample labels?	Yes ✓	No	
Samples in proper container/bottle?	Yes ✓	No	
Sample containers intact?	Yes ✓	No	
Sufficient sample volume for indicated test?	Yes ✓	No	
All samples received within holding time?	Yes ✓	No	
Container/Temp Blank temperature in compliance?	Yes ✓	No	2.8 °C
Water - VOA vials have zero headspace?	Yes	No	No VOA vials submitted ✓
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

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:** 6/7/22
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2205311
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**				
		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:** 6/7/22
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2205311
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

06/07/22
Date

Name: Dr. Derhsing Luu
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *07-Jun-22*

CLIENT: WSP-Golder
Project: Luminant - MLSES PDP5 - CCR
Lab Order: 2205311

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 5/27/22. A total of 10 samples were received. The samples arrived in good condition and were properly packaged.

DHL Analytical, Inc.

Date: *07-Jun-22*

CLIENT: WSP-Golder
Project: Luminant - MLSES PDP5 - CCR
Lab Order: 2205311

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2205311-01	MW-18A		05/24/22 01:15 PM	5/27/2022
2205311-02	MW-19		05/24/22 02:25 PM	5/27/2022
2205311-03	PDP-22		05/24/22 03:15 PM	5/27/2022
2205311-04	PDP-23		05/24/22 04:10 PM	5/27/2022
2205311-05	MW-20A		05/24/22 05:00 PM	5/27/2022
2205311-06	PDP-26		05/25/22 07:45 AM	5/27/2022
2205311-07	MW-17A		05/25/22 08:35 AM	5/27/2022
2205311-08	PDP-24		05/25/22 09:30 AM	5/27/2022
2205311-09	PDP-25		05/25/22 10:20 AM	5/27/2022
2205311-10	DUP-1		05/25/22 10:20 AM	5/27/2022

Lab Order: 2205311
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
2205311-01A	MW-18A	05/24/22 01:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	MW-18A	05/24/22 01:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
2205311-01B	MW-18A	05/24/22 01:15 PM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	MW-18A	05/24/22 01:15 PM	Aqueous	M2540C	TDS Preparation	05/27/22 01:52 PM	105564
2205311-02A	MW-19	05/24/22 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	MW-19	05/24/22 02:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
2205311-02B	MW-19	05/24/22 02:25 PM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	MW-19	05/24/22 02:25 PM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	MW-19	05/24/22 02:25 PM	Aqueous	M2540C	TDS Preparation	05/27/22 01:52 PM	105564
2205311-03A	PDP-22	05/24/22 03:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	PDP-22	05/24/22 03:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
2205311-03B	PDP-22	05/24/22 03:15 PM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	PDP-22	05/24/22 03:15 PM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	PDP-22	05/24/22 03:15 PM	Aqueous	M2540C	TDS Preparation	05/27/22 01:52 PM	105564
2205311-04A	PDP-23	05/24/22 04:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	PDP-23	05/24/22 04:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
2205311-04B	PDP-23	05/24/22 04:10 PM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	PDP-23	05/24/22 04:10 PM	Aqueous	M2540C	TDS Preparation	05/27/22 01:52 PM	105564
2205311-05A	MW-20A	05/24/22 05:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	MW-20A	05/24/22 05:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
2205311-05B	MW-20A	05/24/22 05:00 PM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	MW-20A	05/24/22 05:00 PM	Aqueous	M2540C	TDS Preparation	05/27/22 01:52 PM	105564
2205311-06A	PDP-26	05/25/22 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	PDP-26	05/25/22 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
2205311-06B	PDP-26	05/25/22 07:45 AM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	PDP-26	05/25/22 07:45 AM	Aqueous	M2540C	TDS Preparation	05/31/22 03:11 PM	105602
2205311-07A	MW-17A	05/25/22 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	MW-17A	05/25/22 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606

Lab Order: 2205311
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
2205311-07B	MW-17A	05/25/22 08:35 AM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	MW-17A	05/25/22 08:35 AM	Aqueous	M2540C	TDS Preparation	05/31/22 03:11 PM	105602
2205311-08A	PDP-24	05/25/22 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	PDP-24	05/25/22 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
2205311-08B	PDP-24	05/25/22 09:30 AM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	PDP-24	05/25/22 09:30 AM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	PDP-24	05/25/22 09:30 AM	Aqueous	M2540C	TDS Preparation	05/31/22 03:11 PM	105602
2205311-09A	PDP-25	05/25/22 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	PDP-25	05/25/22 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	PDP-25	05/25/22 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
2205311-09B	PDP-25	05/25/22 10:20 AM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	PDP-25	05/25/22 10:20 AM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	PDP-25	05/25/22 10:20 AM	Aqueous	M2540C	TDS Preparation	05/31/22 03:11 PM	105602
2205311-10A	DUP-1	05/25/22 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	DUP-1	05/25/22 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
	DUP-1	05/25/22 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/01/22 07:25 AM	105606
2205311-10B	DUP-1	05/25/22 10:20 AM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	DUP-1	05/25/22 10:20 AM	Aqueous	E300	Anion Preparation	05/29/22 07:59 AM	105578
	DUP-1	05/25/22 10:20 AM	Aqueous	M2540C	TDS Preparation	05/31/22 03:11 PM	105602

Lab Order: 2205311
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
2205311-01A	MW-18A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/02/22 11:16 AM	ICP-MS5_220602A
	MW-18A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/03/22 01:30 PM	ICP-MS4_220603B
2205311-01B	MW-18A	Aqueous	E300	Anions by IC method - Water	105578	1	05/29/22 03:26 PM	IC2_220529A
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	105564	1	05/27/22 04:45 PM	WC_220527D
2205311-02A	MW-19	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	10	06/03/22 01:32 PM	ICP-MS4_220603B
	MW-19	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/02/22 11:19 AM	ICP-MS5_220602A
2205311-02B	MW-19	Aqueous	E300	Anions by IC method - Water	105578	10	05/29/22 04:51 PM	IC2_220529A
	MW-19	Aqueous	E300	Anions by IC method - Water	105578	1	05/29/22 08:15 PM	IC2_220529A
	MW-19	Aqueous	M2540C	Total Dissolved Solids	105564	1	05/27/22 04:45 PM	WC_220527D
2205311-03A	PDP-22	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/02/22 11:21 AM	ICP-MS5_220602A
	PDP-22	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/03/22 01:34 PM	ICP-MS4_220603B
2205311-03B	PDP-22	Aqueous	E300	Anions by IC method - Water	105578	10	05/29/22 05:42 PM	IC2_220529A
	PDP-22	Aqueous	E300	Anions by IC method - Water	105578	1	05/29/22 08:32 PM	IC2_220529A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	105564	1	05/27/22 04:45 PM	WC_220527D
2205311-04A	PDP-23	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/03/22 01:36 PM	ICP-MS4_220603B
	PDP-23	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/02/22 11:24 AM	ICP-MS5_220602A
2205311-04B	PDP-23	Aqueous	E300	Anions by IC method - Water	105578	1	05/29/22 03:43 PM	IC2_220529A
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	105564	1	05/27/22 04:45 PM	WC_220527D
2205311-05A	MW-20A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/03/22 12:49 PM	ICP-MS4_220603B
	MW-20A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/02/22 11:10 AM	ICP-MS5_220602A
2205311-05B	MW-20A	Aqueous	E300	Anions by IC method - Water	105578	1	05/29/22 04:00 PM	IC2_220529A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	105564	1	05/27/22 04:45 PM	WC_220527D
2205311-06A	PDP-26	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/02/22 11:26 AM	ICP-MS5_220602A
	PDP-26	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/03/22 01:38 PM	ICP-MS4_220603B
2205311-06B	PDP-26	Aqueous	E300	Anions by IC method - Water	105578	1	05/29/22 04:17 PM	IC2_220529A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	105602	1	05/31/22 05:50 PM	WC_220531C
2205311-07A	MW-17A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/03/22 01:40 PM	ICP-MS4_220603B
	MW-17A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/02/22 11:29 AM	ICP-MS5_220602A

Lab Order: 2205311
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
2205311-07B	MW-17A	Aqueous	E300	Anions by IC method - Water	105578	1	05/29/22 07:58 PM	IC2_220529A
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	105602	1	05/31/22 05:50 PM	WC_220531C
2205311-08A	PDP-24	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	10	06/03/22 01:42 PM	ICP-MS4_220603B
	PDP-24	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/02/22 11:32 AM	ICP-MS5_220602A
2205311-08B	PDP-24	Aqueous	E300	Anions by IC method - Water	105578	10	05/29/22 05:59 PM	IC2_220529A
	PDP-24	Aqueous	E300	Anions by IC method - Water	105578	1	05/29/22 09:23 PM	IC2_220529A
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	105602	1	05/31/22 05:50 PM	WC_220531C
2205311-09A	PDP-25	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	10	06/02/22 12:30 PM	ICP-MS5_220602A
	PDP-25	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/03/22 01:44 PM	ICP-MS4_220603B
	PDP-25	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/02/22 11:34 AM	ICP-MS5_220602A
2205311-09B	PDP-25	Aqueous	E300	Anions by IC method - Water	105578	10	05/29/22 06:16 PM	IC2_220529A
	PDP-25	Aqueous	E300	Anions by IC method - Water	105578	1	05/29/22 09:40 PM	IC2_220529A
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	105602	1	05/31/22 05:50 PM	WC_220531C
2205311-10A	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/03/22 01:46 PM	ICP-MS4_220603B
	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	1	06/02/22 11:37 AM	ICP-MS5_220602A
	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105606	10	06/02/22 12:33 PM	ICP-MS5_220602A
2205311-10B	DUP-1	Aqueous	E300	Anions by IC method - Water	105578	10	05/29/22 06:33 PM	IC2_220529A
	DUP-1	Aqueous	E300	Anions by IC method - Water	105578	1	05/29/22 09:57 PM	IC2_220529A
	DUP-1	Aqueous	M2540C	Total Dissolved Solids	105602	1	05/31/22 05:50 PM	WC_220531C

DHL Analytical, Inc.

Date: *07-Jun-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-18A
Project:	Luminant - MLSES PDP5 - CCR	**Lab ID:**	2205311-01
Project No:	19122262	**Collection Date:**	05/24/22 01:15 PM
Lab Order:	2205311	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.176	0.0100	0.0300		mg/L	1	06/03/22 01:30 PM
Calcium	2.01	0.100	0.300		mg/L	1	06/02/22 11:16 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BTJ**
Chloride	7.31	0.300	1.00		mg/L	1	05/29/22 03:26 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/29/22 03:26 PM
Sulfate	6.83	1.00	3.00		mg/L	1	05/29/22 03:26 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	86.0	10.0	10.0		mg/L	1	05/27/22 04:45 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: *07-Jun-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-19
Project:	Luminant - MLSES PDP5 - CCR	**Lab ID:**	2205311-02
Project No:	19122262	**Collection Date:**	05/24/22 02:25 PM
Lab Order:	2205311	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.711	0.100	0.300		mg/L	10	06/03/22 01:32 PM
Calcium	189	1.00	3.00		mg/L	10	06/03/22 01:32 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BTJ**
Chloride	47.3	3.00	10.0		mg/L	10	05/29/22 04:51 PM
Fluoride	0.192	0.100	0.400	J	mg/L	1	05/29/22 08:15 PM
Sulfate	346	10.0	30.0		mg/L	10	05/29/22 04:51 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1010	10.0	10.0		mg/L	1	05/27/22 04:45 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: *07-Jun-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-22
Project:	Luminant - MLSES PDP5 - CCR	**Lab ID:**	2205311-03
Project No:	19122262	**Collection Date:**	05/24/22 03:15 PM
Lab Order:	2205311	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.137	0.0100	0.0300		mg/L	1	06/03/22 01:34 PM
Calcium	16.4	0.100	0.300		mg/L	1	06/02/22 11:21 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BTJ**
Chloride	9.92	0.300	1.00		mg/L	1	05/29/22 08:32 PM
Fluoride	0.183	0.100	0.400	J	mg/L	1	05/29/22 08:32 PM
Sulfate	104	1.00	3.00		mg/L	1	05/29/22 08:32 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	289	10.0	10.0		mg/L	1	05/27/22 04:45 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: *07-Jun-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-23
Project:	Luminant - MLSES PDP5 - CCR	**Lab ID:**	2205311-04
Project No:	19122262	**Collection Date:**	05/24/22 04:10 PM
Lab Order:	2205311	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0441	0.0100	0.0300		mg/L	1	06/03/22 01:36 PM
Calcium	4.03	0.100	0.300		mg/L	1	06/02/22 11:24 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BTJ**
Chloride	5.90	0.300	1.00		mg/L	1	05/29/22 03:43 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/29/22 03:43 PM
Sulfate	1.44	1.00	3.00	J	mg/L	1	05/29/22 03:43 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	110	10.0	10.0		mg/L	1	05/27/22 04:45 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: *07-Jun-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-20A
Project:	Luminant - MLSES PDP5 - CCR	**Lab ID:**	2205311-05
Project No:	19122262	**Collection Date:**	05/24/22 05:00 PM
Lab Order:	2205311	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.102	0.0100	0.0300		mg/L	1	06/03/22 12:49 PM
Calcium	15.3	0.100	0.300		mg/L	1	06/02/22 11:10 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BTJ**
Chloride	10.6	0.300	1.00		mg/L	1	05/29/22 04:00 PM
Fluoride	0.239	0.100	0.400	J	mg/L	1	05/29/22 04:00 PM
Sulfate	65.7	1.00	3.00		mg/L	1	05/29/22 04:00 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	207	10.0	10.0		mg/L	1	05/27/22 04:45 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: *07-Jun-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-26
Project:	Luminant - MLSES PDP5 - CCR	**Lab ID:**	2205311-06
Project No:	19122262	**Collection Date:**	05/25/22 07:45 AM
Lab Order:	2205311	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0424	0.0100	0.0300		mg/L	1	06/03/22 01:38 PM
Calcium	2.62	0.100	0.300		mg/L	1	06/02/22 11:26 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BTJ**
Chloride	4.08	0.300	1.00		mg/L	1	05/29/22 04:17 PM
Fluoride	0.109	0.100	0.400	J	mg/L	1	05/29/22 04:17 PM
Sulfate	2.46	1.00	3.00	J	mg/L	1	05/29/22 04:17 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	111	10.0	10.0		mg/L	1	05/31/22 05:50 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: *07-Jun-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-17A
Project:	Luminant - MLSES PDP5 - CCR	**Lab ID:**	2205311-07
Project No:	19122262	**Collection Date:**	05/25/22 08:35 AM
Lab Order:	2205311	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.487	0.0100	0.0300		mg/L	1	06/03/22 01:40 PM
Calcium	6.27	0.100	0.300		mg/L	1	06/02/22 11:29 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BTJ**
Chloride	8.67	0.300	1.00		mg/L	1	05/29/22 07:58 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/29/22 07:58 PM
Sulfate	49.4	1.00	3.00		mg/L	1	05/29/22 07:58 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	149	10.0	10.0		mg/L	1	05/31/22 05:50 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: *07-Jun-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-24
Project:	Luminant - MLSES PDP5 - CCR	**Lab ID:**	2205311-08
Project No:	19122262	**Collection Date:**	05/25/22 09:30 AM
Lab Order:	2205311	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	4.20	0.100	0.300		mg/L	10	06/03/22 01:42 PM
Calcium	47.7	1.00	3.00		mg/L	10	06/03/22 01:42 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BTJ**
Chloride	15.6	0.300	1.00		mg/L	1	05/29/22 09:23 PM
Fluoride	0.789	0.100	0.400		mg/L	1	05/29/22 09:23 PM
Sulfate	449	10.0	30.0		mg/L	10	05/29/22 05:59 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	736	10.0	10.0		mg/L	1	05/31/22 05:50 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: *07-Jun-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-25
Project:	Luminant - MLSES PDP5 - CCR	**Lab ID:**	2205311-09
Project No:	19122262	**Collection Date:**	05/25/22 10:20 AM
Lab Order:	2205311	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.151	0.0100	0.0300		mg/L	1	06/03/22 01:44 PM
Calcium	47.5	1.00	3.00		mg/L	10	06/02/22 12:30 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BTJ**
Chloride	102	3.00	10.0		mg/L	10	05/29/22 06:16 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/29/22 09:40 PM
Sulfate	58.4	10.0	30.0		mg/L	10	05/29/22 06:16 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	454	10.0	10.0		mg/L	1	05/31/22 05:50 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: *07-Jun-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	DUP-1
Project:	Luminant - MLSES PDP5 - CCR	**Lab ID:**	2205311-10
Project No:	19122262	**Collection Date:**	05/25/22 10:20 AM
Lab Order:	2205311	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.154	0.0100	0.0300		mg/L	1	06/03/22 01:46 PM
Calcium	48.8	1.00	3.00		mg/L	10	06/02/22 12:33 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BTJ**
Chloride	102	3.00	10.0		mg/L	10	05/29/22 06:33 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/29/22 09:57 PM
Sulfate	58.2	10.0	30.0		mg/L	10	05/29/22 06:33 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	448	10.0	10.0		mg/L	1	05/31/22 05:50 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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_220511B

Sample ID: **DCS2-105256** Batch ID: **105256** TestNo: **SW6020B** Units: **mg/L**
SampType: **DCS2** Run ID: **ICP-MS4_220511B** Analysis Date: **5/11/2022 12:23:00 PM** Prep Date: **5/10/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.318	0.300	0.300	0	106	70	130	0	0	

Sample ID: **DCS4-105256** Batch ID: **105256** TestNo: **SW6020B** Units: **mg/L**
SampType: **DCS4** Run ID: **ICP-MS4_220511B** Analysis Date: **5/11/2022 12:31:00 PM** Prep Date: **5/10/2022**

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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_220603B

The QC data in batch 105606 applies to the following samples: 2205311-01A, 2205311-02A, 2205311-03A, 2205311-04A, 2205311-05A, 2205311-06A, 2205311-07A, 2205311-08A, 2205311-09A, 2205311-10A

Sample ID: **MB-105606** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS4_220603B** Analysis Date: **6/3/2022 12:41:00 PM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	<0.0100	0.0300								

Sample ID: **LCS-105606** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS4_220603B** Analysis Date: **6/3/2022 12:43:00 PM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.194	0.0300	0.200	0	96.9	80	120			

Sample ID: **LCSD-105606** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS4_220603B** Analysis Date: **6/3/2022 12:45:00 PM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.200	0.0300	0.200	0	100	80	120	3.36	15	

Sample ID: **2205311-05A SD** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS4_220603B** Analysis Date: **6/3/2022 12:51:00 PM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0956	0.150	0	0.102				6.00	20	

Sample ID: **2205311-05A PDS** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS4_220603B** Analysis Date: **6/3/2022 1:12:00 PM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.269	0.0300	0.200	0.102	84.0	75	125			

Sample ID: **2205311-05A MS** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS4_220603B** Analysis Date: **6/3/2022 1:14:00 PM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.283	0.0300	0.200	0.102	90.6	75	125			

Sample ID: **2205311-05A MSD** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS4_220603B** Analysis Date: **6/3/2022 1:16:00 PM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.283	0.0300	0.200	0.102	90.6	75	125	0.001	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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_220603B

Sample ID: **ICV-220603**	Batch ID: **R121430**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_220603B**	Analysis Date: **6/3/2022 10:39:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.101	0.0300	0.100	0	101	90	110			
Calcium	2.67	0.300	2.50	0	107	90	110			

Sample ID: **LCVL-220603**	Batch ID: **R121430**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_220603B**	Analysis Date: **6/3/2022 10:50:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0196	0.0300	0.0200	0	98.2	80	120			
Calcium	0.0907	0.300	0.100	0	90.7	80	120			

Sample ID: **CCV2-220603**	Batch ID: **R121430**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_220603B**	Analysis Date: **6/3/2022 12:11:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.198	0.0300	0.200	0	99.0	90	110			
Calcium	5.42	0.300	5.00	0	108	90	110			

Sample ID: **CCV3-220603**	Batch ID: **R121430**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_220603B**	Analysis Date: **6/3/2022 1:18:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.199	0.0300	0.200	0	99.4	90	110			
Calcium	5.33	0.300	5.00	0	107	90	110			

Sample ID: **CCV4-220603**	Batch ID: **R121430**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_220603B**	Analysis Date: **6/3/2022 1:50:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.185	0.0300	0.200	0	92.7	90	110			
Calcium	5.12	0.300	5.00	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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_220519B

Sample ID: **DCS2-105256** Batch ID: **105256** TestNo: **SW6020B** Units: **mg/L**
SampType: **DCS2** Run ID: **ICP-MS5_220519B** Analysis Date: **5/19/2022 11:03:00 AM** Prep Date: **5/10/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.348	0.300	0.300	0	116	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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_220602A

The QC data in batch 105606 applies to the following samples: 2205311-01A, 2205311-02A, 2205311-03A, 2205311-04A, 2205311-05A, 2205311-06A, 2205311-07A, 2205311-08A, 2205311-09A, 2205311-10A

Sample ID: **MB-105606** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_220602A** Analysis Date: **6/2/2022 10:59:00 AM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	<0.100	0.300								

Sample ID: **LCS-105606** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_220602A** Analysis Date: **6/2/2022 11:02:00 AM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.83	0.300	5.00	0	96.5	80	120			

Sample ID: **LCSD-105606** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_220602A** Analysis Date: **6/2/2022 11:05:00 AM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.28	0.300	5.00	0	106	80	120	8.99	15	

Sample ID: **2205311-05A SD** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS5_220602A** Analysis Date: **6/2/2022 11:14:00 AM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	15.2	1.50	0	15.4				1.26	20	

Sample ID: **2205311-05A PDS** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS5_220602A** Analysis Date: **6/2/2022 11:39:00 AM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	19.5	0.300	5.00	15.3	82.2	75	125			

Sample ID: **2205311-05A MS** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS5_220602A** Analysis Date: **6/2/2022 11:42:00 AM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	20.3	0.300	5.00	15.3	99.0	75	125			

Sample ID: **2205311-05A MSD** Batch ID: **105606** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS5_220602A** Analysis Date: **6/2/2022 11:45:00 AM** Prep Date: **6/1/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	20.2	0.300	5.00	15.3	96.4	75	125	0.646	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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_220602A

Sample ID: **ICV-220602**	Batch ID: **R121405**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS5_220602A**	Analysis Date: **6/2/2022 10:45:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	2.59	0.300	2.50	0	104	90	110			

Sample ID: **LCVL-220602**	Batch ID: **R121405**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS5_220602A**	Analysis Date: **6/2/2022 10:51:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.110	0.300	0.100	0	110	80	120			

Sample ID: **CCV1-220602**	Batch ID: **R121405**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_220602A**	Analysis Date: **6/2/2022 11:48:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.24	0.300	5.00	0	105	90	110			

Sample ID: **CCV2-220602**	Batch ID: **R121405**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_220602A**	Analysis Date: **6/2/2022 12:24:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.12	0.300	5.00	0	102	90	110			

Sample ID: **CCV3-220602**	Batch ID: **R121405**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_220602A**	Analysis Date: **6/2/2022 12:45:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.12	0.300	5.00	0	102	90	110			

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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220520A

Sample ID: **DCS3-105436** Batch ID: **105436** TestNo: **E300** Units: **mg/L**
SampType: **DCS3** Run ID: **IC2_220520A** Analysis Date: **5/20/2022 2:46:54 PM** Prep Date: **5/20/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1.08	1.00	1.000	0	108	70	130	0	0	
Fluoride	0.378	0.400	0.4000	0	94.6	70	130	0	0	
Sulfate	3.05	3.00	3.000	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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220529A

The QC data in batch 105578 applies to the following samples: 2205311-01B, 2205311-02B, 2205311-03B, 2205311-04B, 2205311-05B, 2205311-06B, 2205311-07B, 2205311-08B, 2205311-09B, 2205311-10B

Sample ID: **MB-105578** Batch ID: **105578** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_220529A** Analysis Date: **5/29/2022 9:53:05 AM** Prep Date: **5/29/2022**

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-105578** Batch ID: **105578** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_220529A** Analysis Date: **5/29/2022 10:10:05 AM** Prep Date: **5/29/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.54	1.00	10.00	0	95.4	90	110			
Fluoride	3.80	0.400	4.000	0	95.0	90	110			
Sulfate	29.1	3.00	30.00	0	97.0	90	110			

Sample ID: **LCSD-105578** Batch ID: **105578** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_220529A** Analysis Date: **5/29/2022 10:27:05 AM** Prep Date: **5/29/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.60	1.00	10.00	0	96.0	90	110	0.632	20	
Fluoride	3.83	0.400	4.000	0	95.9	90	110	0.938	20	
Sulfate	29.3	3.00	30.00	0	97.8	90	110	0.747	20	

Sample ID: **2205310-02BMS** Batch ID: **105578** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_220529A** Analysis Date: **5/29/2022 11:45:39 AM** Prep Date: **5/29/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1970	100	2000	55.92	95.5	90	110			
Fluoride	2010	40.0	2000	0	101	90	110			
Sulfate	2210	300	2000	343.7	93.2	90	110			

Sample ID: **2205310-02BMSD** Batch ID: **105578** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_220529A** Analysis Date: **5/29/2022 12:02:39 PM** Prep Date: **5/29/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1980	100	2000	55.92	96.1	90	110	0.578	20	
Fluoride	2000	40.0	2000	0	100	90	110	0.752	20	
Sulfate	2220	300	2000	343.7	94.0	90	110	0.696	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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220529A

Sample ID: **2205311-02BMS**	Batch ID: **105578**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_220529A**	Analysis Date: **5/29/2022 5:08:38 PM**	Prep Date: **5/29/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	252	10.0	200.0	47.29	102	90	110			
Fluoride	210	4.00	200.0	0	105	90	110			
Sulfate	535	30.0	200.0	346.1	94.5	90	110			

Sample ID: **2205311-02BMSD**	Batch ID: **105578**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_220529A**	Analysis Date: **5/29/2022 5:25:38 PM**	Prep Date: **5/29/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	253	10.0	200.0	47.29	103	90	110	0.372	20	
Fluoride	210	4.00	200.0	0	105	90	110	0.304	20	
Sulfate	536	30.0	200.0	346.1	94.9	90	110	0.115	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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220529A

Sample ID: **ICV-220529**	Batch ID: **R121321**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_220529A**	Analysis Date: **5/29/2022 9:19:05 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.8	1.00	25.00	0	99.1	90	110			
Fluoride	9.88	0.400	10.00	0	98.8	90	110			
Sulfate	74.6	3.00	75.00	0	99.5	90	110			

Sample ID: **CCV1-220529**	Batch ID: **R121321**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220529A**	Analysis Date: **5/29/2022 2:52:39 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.60	1.00	10.00	0	96.0	90	110			
Fluoride	3.85	0.400	4.000	0	96.3	90	110			
Sulfate	29.3	3.00	30.00	0	97.5	90	110			

Sample ID: **CCV2-220529**	Batch ID: **R121321**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220529A**	Analysis Date: **5/29/2022 7:24:39 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.63	1.00	10.00	0	96.3	90	110			
Fluoride	3.86	0.400	4.000	0	96.6	90	110			
Sulfate	29.5	3.00	30.00	0	98.2	90	110			

Sample ID: **CCV3-220529**	Batch ID: **R121321**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220529A**	Analysis Date: **5/29/2022 11:22:38 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.59	1.00	10.00	0	95.9	90	110			
Fluoride	3.84	0.400	4.000	0	96.0	90	110			
Sulfate	29.3	3.00	30.00	0	97.8	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_220527D

The QC data in batch 105564 applies to the following samples: 2205311-01B, 2205311-02B, 2205311-03B, 2205311-04B, 2205311-05B

Sample ID: **MB-105564**	Batch ID: **105564**	TestNo: **M2540C**	Units: **mg/L**
SampType: **MBLK**	Run ID: **WC_220527D**	Analysis Date: **5/27/2022 4:45:00 PM**	Prep Date: **5/27/2022**

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-105564**	Batch ID: **105564**	TestNo: **M2540C**	Units: **mg/L**
SampType: **LCS**	Run ID: **WC_220527D**	Analysis Date: **5/27/2022 4:45:00 PM**	Prep Date: **5/27/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	773	10.0	745.6	0	104	90	113			

Sample ID: **2205275-03C-DUP**	Batch ID: **105564**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_220527D**	Analysis Date: **5/27/2022 4:45:00 PM**	Prep Date: **5/27/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1550	50.0	0	1615				4.11	5	

Sample ID: **2205275-05C-DUP**	Batch ID: **105564**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_220527D**	Analysis Date: **5/27/2022 4:45:00 PM**	Prep Date: **5/27/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	573	10.0	0	584.0				1.90	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: 2205311
Project: Luminant - MLSES PDP5 - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_220531C

The QC data in batch 105602 applies to the following samples: 2205311-06B, 2205311-07B, 2205311-08B, 2205311-09B, 2205311-10B

Sample ID: **MB-105602** Batch ID: **105602** TestNo: **M2540C** Units: **mg/L**
SampType: **MBLK** Run ID: **WC_220531C** Analysis Date: **5/31/2022 5:50:00 PM** Prep Date: **5/31/2022**

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-105602** Batch ID: **105602** TestNo: **M2540C** Units: **mg/L**
SampType: **LCS** Run ID: **WC_220531C** Analysis Date: **5/31/2022 5:50:00 PM** Prep Date: **5/31/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	762	10.0	745.6	0	102	90	113			

Sample ID: **2205310-03B-DUP** Batch ID: **105602** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_220531C** Analysis Date: **5/31/2022 5:50:00 PM** Prep Date: **5/31/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3940	50.0	0	3935				0	5	

Sample ID: **2205310-08B-DUP** Batch ID: **105602** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_220531C** Analysis Date: **5/31/2022 5:50:00 PM** Prep Date: **5/31/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3190	50.0	0	3175				0.314	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: *07-Jun-22*

CLIENT: WSP-Golder
Work Order: 2205311
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

September 29, 2022

Will Vienne
WSP-Golder
2201 Double Creek Dr #4004
Round Rock, Texas 78664
TEL: (512) 671-3434
FAX (512) 671-3446

Order No.: 2209186

RE: MLSES - PDP 5 CCR

Dear Will Vienne:

DHL Analytical, Inc. received 10 sample(s) on 9/23/2022 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: T104704211-22-28

Table of Contents

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: GOLDER
ADDRESS: ROUND ROCK, TX
PHONE: EMAIL:
DATA REPORTED TO: WILL VIENNE
ADDITIONAL REPORT COPIES TO:

PO#: 31404097.002
PROJECT LOCATION OR NAME: MLSES - PDP 5 CCR
CLIENT PROJECT # 31404097.002

LABORATORY USE ONLY
DHL WORKORDER #: 2209186

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	HNO_3	H_2SO_4	NaOH ☐ Zn Acetate ☐	ICE ☒ UNPRESERVED ☐	ANALYSES	APPENDIX III	APPENDIX IV	Per Will Vienne. ☒ 9/23/22	FIELD NOTES
MW-18A	01	9-21-22	1200	W	P	4		X			X		X	X		
PDP-24	02	9-21-22	1305	W	P	4		X			X		X	X		
MW-17A	03	9-21-22	1405	W	P	4		X			X		X	X		
PDP-25	04	9-21-22	1455	W	P	4		X			X		X	X		
MW-19	05	9-21-22	1555	W	P	4		X			X		X	X		
PDP-22	06	9-21-22	1645	W	P	4		X			X		X	X		
PDP-23	07	9-21-22	1740	W	P	4		X			X		X	X		
PDP-26	08	9-22-22	0745	W	P	4		X			X		X	X		
DUP-1	09	9-22-22	0745	W	P	4		X			X		X	X		
MW-20A	10	9-22-22	0845	W	P	4		X			X		X	X		

Relinquished By: (Sign) — DATE/TIME 9-22-22 1830 — Received by: Fedex
Relinquished By: (Sign) Fedex — DATE/TIME 9-23-22 0828 — 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 _____ ☐

LABORATORY USE ONLY
RECEIVING TEMP (°C): 1.1 °C THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☑ INTACT ☐ NOT USED
CARRIER: ☐ LSO ☑ FEDEX ☐ UPS ☐ COURIER ☐ OTHER ☐ HAND DELIVERED

☐ **DHL DISPOSAL @ 5.00 each** ☐ **Return**

DHL COC REV 3 | MAR 2021

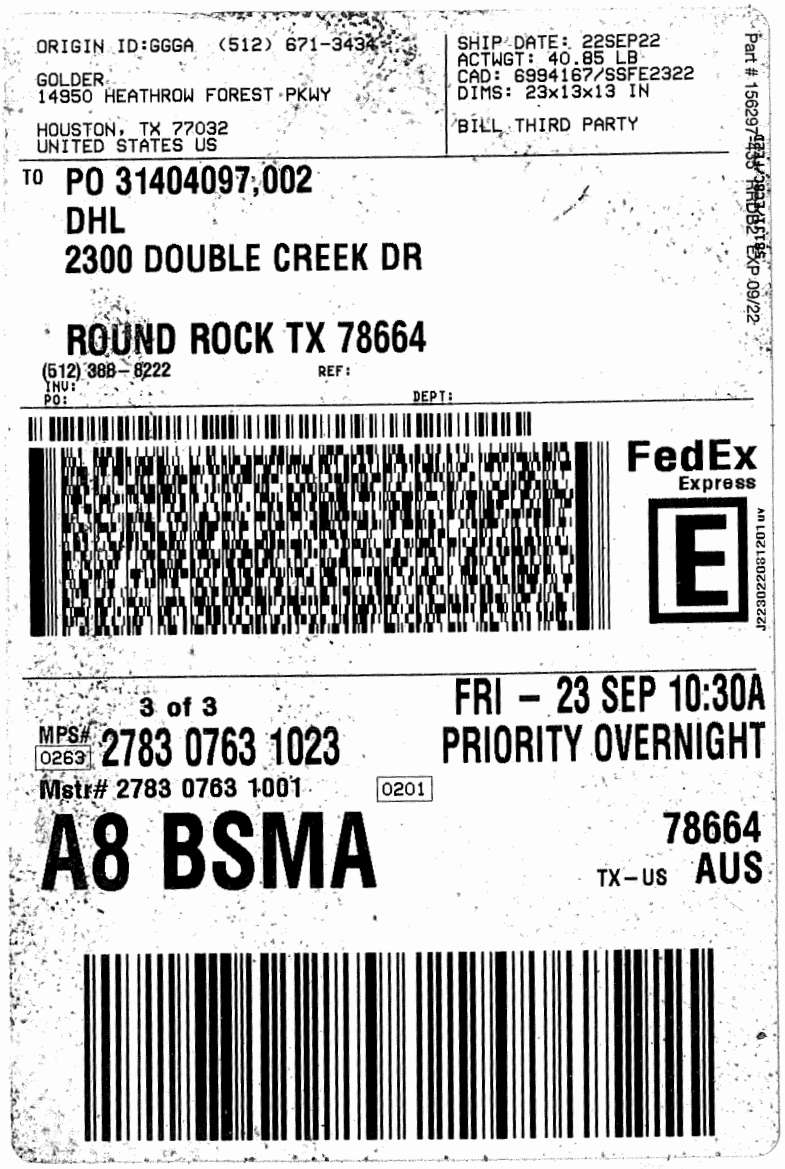
Eric Lau

From: John DuPont
Sent: Tuesday, May 28, 2019 11:35 AM
To: Eric Lau
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:GGGA (512) 671-3434
GOLDER
14950 HEATHROW FOREST PKWY
HOUSTON, TX 77032
UNITED STATES US

SHIP DATE: 22SEP22
ACTWGT: 40.85 LB
CAD: 6994167/SSFE2322
DIMS: 23x13x13 IN
BILL THIRD PARTY

TO PO 31404097;002
DHL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx Express

3 of 3
MPS# 2783 0763 1023
Mstr# 2783 0763 1001

FRI - 23 SEP 10:30A
PRIORITY OVERNIGHT

A8 BSMA

78664
TX-US AUS

CUSTODY SEAL

DATE 9-22-22

SIGNATURE

DHL ANALYTICAL

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name WSP-Golder | Date Received: 9/23/2022

Work Order Number 2209186 | Received by: KAO

Checklist completed by: [signature] 9/23/2022 (Signature / Date) | Reviewed by SW 9/23/2022 (Initials / Date)

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ✓	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ✓	No	
Sufficient sample volume for indicated test?	Yes ✓	No	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	1.1 °C
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

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: MLSES - PDP 5 CCR	**LRC Date:** 9/29/2022
Reviewer Name: Angie O'Donnell	**Laboratory Work Order: 2209186**
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: MLSES - PDP 5 CCR	**LRC Date:** 9/29/2022
Reviewer Name: Angie O'Donnell	**Laboratory Work Order: 2209186**
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

09/29/22
Date

Name: Dr. Derhsing Luu
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *29-Sep-22*

CLIENT: WSP-Golder
Project: MLSES - PDP 5 CCR
Lab Order: 2209186

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

The samples were received and log-in performed on 9/23/2022. A total of 10 samples were received and analyzed. The samples arrived in good condition and were properly packaged.

Exception Report R7-03

For Metals Analysis, the recovery of Calcium for the Matrix Spike and Matrix Spike Duplicate(2209179-05 MS/MSD) was 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: *29-Sep-22*

CLIENT: WSP-Golder
Project: MLSES - PDP 5 CCR
Lab Order: 2209186

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2209186-01	MW-18A		09/21/22 12:00 PM	9/23/2022
2209186-02	PDP-24		09/21/22 01:05 PM	9/23/2022
2209186-03	MW-17A		09/21/22 02:05 PM	9/23/2022
2209186-04	PDP-25		09/21/22 02:55 PM	9/23/2022
2209186-05	MW-19		09/21/22 03:55 PM	9/23/2022
2209186-06	PDP-22		09/21/22 04:45 PM	9/23/2022
2209186-07	PDP-23		09/21/22 05:40 PM	9/23/2022
2209186-08	PDP-26		09/22/22 07:45 AM	9/23/2022
2209186-09	DUP-1		09/22/22 07:45 AM	9/23/2022
2209186-10	MW-20A		09/22/22 08:45 AM	9/23/2022

Lab Order: 2209186
Client: WSP-Golder
Project: MLSES - PDP 5 CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2209186-01A	MW-18A	09/21/22 12:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	MW-18A	09/21/22 12:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
2209186-01B	MW-18A	09/21/22 12:00 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	MW-18A	09/21/22 12:00 PM	Aqueous	M2540C	TDS Preparation	09/26/22 10:53 AM	107137
2209186-02A	PDP-24	09/21/22 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	PDP-24	09/21/22 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
2209186-02B	PDP-24	09/21/22 01:05 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	PDP-24	09/21/22 01:05 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	PDP-24	09/21/22 01:05 PM	Aqueous	M2540C	TDS Preparation	09/26/22 10:53 AM	107137
2209186-03A	MW-17A	09/21/22 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	MW-17A	09/21/22 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
2209186-03B	MW-17A	09/21/22 02:05 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	MW-17A	09/21/22 02:05 PM	Aqueous	M2540C	TDS Preparation	09/26/22 10:53 AM	107137
2209186-04A	PDP-25	09/21/22 02:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	PDP-25	09/21/22 02:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	PDP-25	09/21/22 02:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
2209186-04B	PDP-25	09/21/22 02:55 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	PDP-25	09/21/22 02:55 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	PDP-25	09/21/22 02:55 PM	Aqueous	M2540C	TDS Preparation	09/26/22 10:53 AM	107137
2209186-05A	MW-19	09/21/22 03:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	MW-19	09/21/22 03:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	MW-19	09/21/22 03:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
2209186-05B	MW-19	09/21/22 03:55 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	MW-19	09/21/22 03:55 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	MW-19	09/21/22 03:55 PM	Aqueous	M2540C	TDS Preparation	09/26/22 10:53 AM	107137
2209186-06A	PDP-22	09/21/22 04:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	PDP-22	09/21/22 04:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
2209186-06B	PDP-22	09/21/22 04:45 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133

Lab Order: 2209186
Client: WSP-Golder
Project: MLSES - PDP 5 CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2209186-06B	PDP-22	09/21/22 04:45 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	PDP-22	09/21/22 04:45 PM	Aqueous	M2540C	TDS Preparation	09/26/22 10:53 AM	107137
2209186-07A	PDP-23	09/21/22 05:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	PDP-23	09/21/22 05:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
2209186-07B	PDP-23	09/21/22 05:40 PM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	PDP-23	09/21/22 05:40 PM	Aqueous	M2540C	TDS Preparation	09/26/22 10:53 AM	107137
2209186-08A	PDP-26	09/22/22 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	PDP-26	09/22/22 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
2209186-08B	PDP-26	09/22/22 07:45 AM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	PDP-26	09/22/22 07:45 AM	Aqueous	M2540C	TDS Preparation	09/27/22 02:03 PM	107154
2209186-09A	DUP-1	09/22/22 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	DUP-1	09/22/22 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
2209186-09B	DUP-1	09/22/22 07:45 AM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	DUP-1	09/22/22 07:45 AM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	DUP-1	09/22/22 07:45 AM	Aqueous	M2540C	TDS Preparation	09/27/22 02:03 PM	107154
2209186-10A	MW-20A	09/22/22 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
	MW-20A	09/22/22 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	09/26/22 08:03 AM	107124
2209186-10B	MW-20A	09/22/22 08:45 AM	Aqueous	E300	Anion Preparation	09/26/22 09:38 AM	107133
	MW-20A	09/22/22 08:45 AM	Aqueous	M2540C	TDS Preparation	09/27/22 02:03 PM	107154

Lab Order: 2209186
Client: WSP-Golder
Project: MLSES - PDP 5 CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2209186-01A	MW-18A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 11:48 AM	ICP-MS5_220927B
	MW-18A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 12:51 PM	ICP-MS4_220927A
2209186-01B	MW-18A	Aqueous	E300	Anions by IC method - Water	107133	1	09/27/22 12:36 AM	IC2_220926A
	MW-18A	Aqueous	M2540C	Total Dissolved Solids	107137	1	09/26/22 04:00 PM	WC_220926A
2209186-02A	PDP-24	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	10	09/27/22 12:53 PM	ICP-MS4_220927A
	PDP-24	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 11:50 AM	ICP-MS5_220927B
2209186-02B	PDP-24	Aqueous	E300	Anions by IC method - Water	107133	10	09/26/22 06:39 PM	IC2_220926A
	PDP-24	Aqueous	E300	Anions by IC method - Water	107133	1	09/27/22 12:53 AM	IC2_220926A
	PDP-24	Aqueous	M2540C	Total Dissolved Solids	107137	1	09/26/22 04:00 PM	WC_220926A
2209186-03A	MW-17A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 11:53 AM	ICP-MS5_220927B
	MW-17A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 12:55 PM	ICP-MS4_220927A
2209186-03B	MW-17A	Aqueous	E300	Anions by IC method - Water	107133	1	09/27/22 01:10 AM	IC2_220926A
	MW-17A	Aqueous	M2540C	Total Dissolved Solids	107137	1	09/26/22 04:00 PM	WC_220926A
2209186-04A	PDP-25	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 12:57 PM	ICP-MS4_220927A
	PDP-25	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 11:56 AM	ICP-MS5_220927B
	PDP-25	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	10	09/27/22 02:59 PM	ICP-MS5_220927B
2209186-04B	PDP-25	Aqueous	E300	Anions by IC method - Water	107133	10	09/26/22 06:56 PM	IC2_220926A
	PDP-25	Aqueous	E300	Anions by IC method - Water	107133	1	09/27/22 01:27 AM	IC2_220926A
	PDP-25	Aqueous	M2540C	Total Dissolved Solids	107137	1	09/26/22 04:00 PM	WC_220926A
2209186-05A	MW-19	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 12:59 PM	ICP-MS4_220927A
	MW-19	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 11:58 AM	ICP-MS5_220927B
	MW-19	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	10	09/27/22 03:01 PM	ICP-MS5_220927B
2209186-05B	MW-19	Aqueous	E300	Anions by IC method - Water	107133	1	09/27/22 01:44 AM	IC2_220926A
	MW-19	Aqueous	E300	Anions by IC method - Water	107133	10	09/26/22 07:47 PM	IC2_220926A
	MW-19	Aqueous	M2540C	Total Dissolved Solids	107137	1	09/26/22 04:00 PM	WC_220926A
2209186-06A	PDP-22	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 01:01 PM	ICP-MS4_220927A
	PDP-22	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 12:01 PM	ICP-MS5_220927B
2209186-06B	PDP-22	Aqueous	E300	Anions by IC method - Water	107133	10	09/26/22 08:04 PM	IC2_220926A

Lab Order: 2209186
Client: WSP-Golder
Project: MLSES - PDP 5 CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2209186-06B	PDP-22	Aqueous	E300	Anions by IC method - Water	107133	1	09/27/22 03:09 AM	IC2_220926A
	PDP-22	Aqueous	M2540C	Total Dissolved Solids	107137	1	09/26/22 04:00 PM	WC_220926A
2209186-07A	PDP-23	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 01:03 PM	ICP-MS4_220927A
	PDP-23	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 12:03 PM	ICP-MS5_220927B
2209186-07B	PDP-23	Aqueous	E300	Anions by IC method - Water	107133	1	09/27/22 03:26 AM	IC2_220926A
	PDP-23	Aqueous	M2540C	Total Dissolved Solids	107137	1	09/26/22 04:00 PM	WC_220926A
2209186-08A	PDP-26	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 01:05 PM	ICP-MS4_220927A
	PDP-26	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 12:06 PM	ICP-MS5_220927B
2209186-08B	PDP-26	Aqueous	E300	Anions by IC method - Water	107133	1	09/27/22 03:43 AM	IC2_220926A
	PDP-26	Aqueous	M2540C	Total Dissolved Solids	107154	1	09/27/22 05:05 PM	WC_220927A
2209186-09A	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 01:07 PM	ICP-MS4_220927A
	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 12:08 PM	ICP-MS5_220927B
2209186-09B	DUP-1	Aqueous	E300	Anions by IC method - Water	107133	10	09/26/22 08:21 PM	IC2_220926A
	DUP-1	Aqueous	E300	Anions by IC method - Water	107133	1	09/27/22 04:00 AM	IC2_220926A
	DUP-1	Aqueous	M2540C	Total Dissolved Solids	107154	1	09/27/22 05:05 PM	WC_220927A
2209186-10A	MW-20A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 01:09 PM	ICP-MS4_220927A
	MW-20A	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107124	1	09/27/22 12:11 PM	ICP-MS5_220927B
2209186-10B	MW-20A	Aqueous	E300	Anions by IC method - Water	107133	1	09/27/22 04:17 AM	IC2_220926A
	MW-20A	Aqueous	M2540C	Total Dissolved Solids	107154	1	09/27/22 05:05 PM	WC_220927A

DHL Analytical, Inc.

Date: *29-Sep-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-18A
Project:	MLSES - PDP 5 CCR	**Lab ID:**	2209186-01
Project No:	31404097.002	**Collection Date:**	09/21/22 12:00 PM
Lab Order:	2209186	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.186	0.0100	0.0300		mg/L	1	09/27/22 12:51 PM
Calcium	3.60	0.100	0.300		mg/L	1	09/27/22 11:48 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	8.18	0.300	1.00		mg/L	1	09/27/22 12:36 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	09/27/22 12:36 AM
Sulfate	11.7	1.00	3.00		mg/L	1	09/27/22 12:36 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	89.0	10.0	10.0		mg/L	1	09/26/22 04:00 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: *29-Sep-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-24
Project:	MLSES - PDP 5 CCR	**Lab ID:**	2209186-02
Project No:	31404097.002	**Collection Date:**	09/21/22 01:05 PM
Lab Order:	2209186	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	4.23	0.100	0.300		mg/L	10	09/27/22 12:53 PM
Calcium	46.7	1.00	3.00		mg/L	10	09/27/22 12:53 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	17.8	0.300	1.00		mg/L	1	09/27/22 12:53 AM
Fluoride	0.771	0.100	0.400		mg/L	1	09/27/22 12:53 AM
Sulfate	456	10.0	30.0		mg/L	10	09/26/22 06:39 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	744	10.0	10.0		mg/L	1	09/26/22 04:00 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: *29-Sep-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-17A
Project:	MLSES - PDP 5 CCR	**Lab ID:**	2209186-03
Project No:	31404097.002	**Collection Date:**	09/21/22 02:05 PM
Lab Order:	2209186	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.386	0.0100	0.0300		mg/L	1	09/27/22 12:55 PM
Calcium	3.83	0.100	0.300		mg/L	1	09/27/22 11:53 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	8.73	0.300	1.00		mg/L	1	09/27/22 01:10 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	09/27/22 01:10 AM
Sulfate	32.6	1.00	3.00		mg/L	1	09/27/22 01:10 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	98.0	10.0	10.0		mg/L	1	09/26/22 04:00 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: *29-Sep-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-25
Project:	MLSES - PDP 5 CCR	**Lab ID:**	2209186-04
Project No:	31404097.002	**Collection Date:**	09/21/22 02:55 PM
Lab Order:	2209186	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.166	0.0100	0.0300		mg/L	1	09/27/22 12:57 PM
Calcium	52.8	1.00	3.00		mg/L	10	09/27/22 02:59 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	109	3.00	10.0		mg/L	10	09/26/22 06:56 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	09/27/22 01:27 AM
Sulfate	61.6	1.00	3.00		mg/L	1	09/27/22 01:27 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	436	10.0	10.0		mg/L	1	09/26/22 04:00 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: *29-Sep-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-19
Project:	MLSES - PDP 5 CCR	**Lab ID:**	2209186-05
Project No:	31404097.002	**Collection Date:**	09/21/22 03:55 PM
Lab Order:	2209186	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.382	0.0100	0.0300		mg/L	1	09/27/22 12:59 PM
Calcium	45.0	1.00	3.00		mg/L	10	09/27/22 03:01 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	92.2	3.00	10.0		mg/L	10	09/26/22 07:47 PM
Fluoride	0.108	0.100	0.400	J	mg/L	1	09/27/22 01:44 AM
Sulfate	212	10.0	30.0		mg/L	10	09/26/22 07:47 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	723	10.0	10.0		mg/L	1	09/26/22 04:00 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: *29-Sep-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-22
Project:	MLSES - PDP 5 CCR	**Lab ID:**	2209186-06
Project No:	31404097.002	**Collection Date:**	09/21/22 04:45 PM
Lab Order:	2209186	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.141	0.0100	0.0300		mg/L	1	09/27/22 01:01 PM
Calcium	14.9	0.100	0.300		mg/L	1	09/27/22 12:01 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	10.4	0.300	1.00		mg/L	1	09/27/22 03:09 AM
Fluoride	0.106	0.100	0.400	J	mg/L	1	09/27/22 03:09 AM
Sulfate	112	1.00	3.00		mg/L	1	09/27/22 03:09 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	280	10.0	10.0		mg/L	1	09/26/22 04:00 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: *29-Sep-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-23
Project:	MLSES - PDP 5 CCR	**Lab ID:**	2209186-07
Project No:	31404097.002	**Collection Date:**	09/21/22 05:40 PM
Lab Order:	2209186	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0663	0.0100	0.0300		mg/L	1	09/27/22 01:03 PM
Calcium	2.53	0.100	0.300		mg/L	1	09/27/22 12:03 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	6.72	0.300	1.00		mg/L	1	09/27/22 03:26 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	09/27/22 03:26 AM
Sulfate	1.18	1.00	3.00	J	mg/L	1	09/27/22 03:26 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	104	10.0	10.0		mg/L	1	09/26/22 04:00 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: *29-Sep-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	PDP-26
Project:	MLSES - PDP 5 CCR	**Lab ID:**	2209186-08
Project No:	31404097.002	**Collection Date:**	09/22/22 07:45 AM
Lab Order:	2209186	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0500	0.0100	0.0300		mg/L	1	09/27/22 01:05 PM
Calcium	2.61	0.100	0.300		mg/L	1	09/27/22 12:06 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	4.40	0.300	1.00		mg/L	1	09/27/22 03:43 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	09/27/22 03:43 AM
Sulfate	2.08	1.00	3.00	J	mg/L	1	09/27/22 03:43 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	92.0	10.0	10.0		mg/L	1	09/27/22 05:05 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: *29-Sep-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	DUP-1
Project:	MLSES - PDP 5 CCR	**Lab ID:**	2209186-09
Project No:	31404097.002	**Collection Date:**	09/22/22 07:45 AM
Lab Order:	2209186	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0557	0.0100	0.0300		mg/L	1	09/27/22 01:07 PM
Calcium	2.99	0.100	0.300		mg/L	1	09/27/22 12:08 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	4.36	0.300	1.00		mg/L	1	09/27/22 04:00 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	09/27/22 04:00 AM
Sulfate	2.15	1.00	3.00	J	mg/L	1	09/27/22 04:00 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	104	10.0	10.0		mg/L	1	09/27/22 05:05 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: *29-Sep-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-20A
Project:	MLSES - PDP 5 CCR	**Lab ID:**	2209186-10
Project No:	31404097.002	**Collection Date:**	09/22/22 08:45 AM
Lab Order:	2209186	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0466	0.0100	0.0300		mg/L	1	09/27/22 01:09 PM
Calcium	2.93	0.100	0.300		mg/L	1	09/27/22 12:11 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	6.68	0.300	1.00		mg/L	1	09/27/22 04:17 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	09/27/22 04:17 AM
Sulfate	1.42	1.00	3.00	J	mg/L	1	09/27/22 04:17 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	84.0	10.0	10.0		mg/L	1	09/27/22 05:05 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: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_220822A

Sample ID: **DCS2-106706**	Batch ID: **106706**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS2**	Run ID: **ICP-MS4_220822A**	Analysis Date: **8/22/2022 10:55:00 AM**	Prep Date: **8/19/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.364	0.300	0.300	0	121	70	130	0	0	

Sample ID: **DCS4-106706**	Batch ID: **106706**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS4**	Run ID: **ICP-MS4_220822A**	Analysis Date: **8/22/2022 11:00:00 AM**	Prep Date: **8/19/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0267	0.0300	0.0300	0	88.9	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: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_220927A

The QC data in batch 107124 applies to the following samples: 2209186-01A, 2209186-02A, 2209186-03A, 2209186-04A, 2209186-05A, 2209186-06A, 2209186-07A, 2209186-08A, 2209186-09A, 2209186-10A

Sample ID: **MB-107124** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS4_220927A** Analysis Date: **9/27/2022 12:06:00 PM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	<0.0100	0.0300								

Sample ID: **LCS-107124** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS4_220927A** Analysis Date: **9/27/2022 12:08:00 PM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.188	0.0300	0.200	0	94.2	80	120			

Sample ID: **LCSD-107124** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS4_220927A** Analysis Date: **9/27/2022 12:10:00 PM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.193	0.0300	0.200	0	96.7	80	120	2.65	15	

Sample ID: **2209179-05A SD** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS4_220927A** Analysis Date: **9/27/2022 12:16:00 PM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.13	0.750	0	0.948				17.6	20	
Calcium	63.4	7.50	0	62.1				2.02	20	

Sample ID: **2209179-05A PDS** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS4_220927A** Analysis Date: **9/27/2022 12:36:00 PM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	2.00	0.150	1.00	0.948	106	75	125			
Calcium	89.9	1.50	25.0	62.1	111	75	125			

Sample ID: **2209179-05A MS** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS4_220927A** Analysis Date: **9/27/2022 12:38:00 PM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.18	0.150	0.200	0.948	115	75	125			

Sample ID: **2209179-05A MSD** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS4_220927A** Analysis Date: **9/27/2022 12:40:00 PM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	1.19	0.150	0.200	0.948	120	75	125	0.902	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: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_220927A

Sample ID: **ICV-220927**	Batch ID: **R123228**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_220927A**	Analysis Date: **9/27/2022 11:29:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0995	0.0300	0.100	0	99.5	90	110			
Calcium	2.63	0.300	2.50	0	105	90	110			

Sample ID: **LCVL-220927**	Batch ID: **R123228**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_220927A**	Analysis Date: **9/27/2022 11:39:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0214	0.0300	0.0200	0	107	80	120			
Calcium	0.108	0.300	0.100	0	108	80	120			

Sample ID: **CCV1-220927**	Batch ID: **R123228**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_220927A**	Analysis Date: **9/27/2022 12:42:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.204	0.0300	0.200	0	102	90	110			
Calcium	5.14	0.300	5.00	0	103	90	110			

Sample ID: **CCV2-220927**	Batch ID: **R123228**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_220927A**	Analysis Date: **9/27/2022 1:11:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.201	0.0300	0.200	0	101	90	110			
Calcium	5.20	0.300	5.00	0	104	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_220822B

Sample ID: **DCS2-106706**	Batch ID: **106706**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS2**	Run ID: **ICP-MS5_220822B**	Analysis Date: **8/22/2022 11:09:00 AM**	Prep Date: **8/19/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.345	0.300	0.300	0	115	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: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_220927B

The QC data in batch 107124 applies to the following samples: 2209186-01A, 2209186-02A, 2209186-03A, 2209186-04A, 2209186-05A, 2209186-06A, 2209186-07A, 2209186-08A, 2209186-09A, 2209186-10A

Sample ID: **MB-107124** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_220927B** Analysis Date: **9/27/2022 10:57:00 AM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	<0.100	0.300								

Sample ID: **LCS-107124** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_220927B** Analysis Date: **9/27/2022 10:59:00 AM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.98	0.300	5.00	0	99.6	80	120			

Sample ID: **LCSD-107124** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_220927B** Analysis Date: **9/27/2022 11:02:00 AM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.05	0.300	5.00	0	101	80	120	1.36	15	

Sample ID: **2209179-05A MS** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS5_220927B** Analysis Date: **9/27/2022 11:38:00 AM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	59.1	0.300	5.00	55.9	64.9	75	125			S

Sample ID: **2209179-05A MSD** Batch ID: **107124** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS5_220927B** Analysis Date: **9/27/2022 11:40:00 AM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	59.4	0.300	5.00	55.9	69.8	75	125	0.416	15	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: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_220927B

Sample ID: **ICV-220927**	Batch ID: **R123226**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS5_220927B**	Analysis Date: **9/27/2022 10:42:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	2.58	0.300	2.50	0	103	90	110			

Sample ID: **LCVL-220927**	Batch ID: **R123226**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS5_220927B**	Analysis Date: **9/27/2022 10:49:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.0962	0.300	0.100	0	96.2	80	120			

Sample ID: **CCV1-220927**	Batch ID: **R123226**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_220927B**	Analysis Date: **9/27/2022 11:42:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.05	0.300	5.00	0	101	90	110			

Sample ID: **CCV2-220927**	Batch ID: **R123226**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_220927B**	Analysis Date: **9/27/2022 12:14:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.01	0.300	5.00	0	100	90	110			

Sample ID: **CCV5-220927**	Batch ID: **R123226**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_220927B**	Analysis Date: **9/27/2022 2:39:00 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			

Sample ID: **CCV6-220927**	Batch ID: **R123226**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_220927B**	Analysis Date: **9/27/2022 3:07:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.01	0.300	5.00	0	100	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220922B

Sample ID: **DCS2-107107** Batch ID: **107107** TestNo: **E300** Units: **mg/L**
SampType: **DCS2** Run ID: **IC2_220922B** Analysis Date: **9/22/2022 3:13:53 PM** Prep Date: **9/22/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	0.435	1.00	0.5000	0	86.9	70	130	0	0	
Fluoride	0.201	0.400	0.2000	0	101	70	130	0	0	
Sulfate	1.50	3.00	1.500	0	100	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: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220926A

The QC data in batch 107133 applies to the following samples: 2209186-01B, 2209186-02B, 2209186-03B, 2209186-04B, 2209186-05B, 2209186-06B, 2209186-07B, 2209186-08B, 2209186-09B, 2209186-10B

Sample ID: **MB-107133** Batch ID: **107133** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_220926A** Analysis Date: **9/26/2022 11:11:56 AM** Prep Date: **9/26/2022**

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-107133** Batch ID: **107133** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_220926A** Analysis Date: **9/26/2022 11:28:56 AM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.95	1.00	10.00	0	99.5	90	110			
Fluoride	3.97	0.400	4.000	0	99.2	90	110			
Sulfate	30.4	3.00	30.00	0	101	90	110			

Sample ID: **LCSD-107133** Batch ID: **107133** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_220926A** Analysis Date: **9/26/2022 11:45:56 AM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10.00	0	102	90	110	2.11	20	
Fluoride	3.96	0.400	4.000	0	99.0	90	110	0.194	20	
Sulfate	30.2	3.00	30.00	0	101	90	110	0.522	20	

Sample ID: **2209179-06BMS** Batch ID: **107133** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_220926A** Analysis Date: **9/26/2022 3:49:02 PM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	269	10.0	200.0	72.19	98.6	90	110			
Fluoride	203	4.00	200.0	1.236	101	90	110			
Sulfate	281	30.0	200.0	79.54	101	90	110			

Sample ID: **2209179-06BMSD** Batch ID: **107133** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_220926A** Analysis Date: **9/26/2022 4:06:02 PM** Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	261	10.0	200.0	72.19	94.6	90	110	2.99	20	
Fluoride	198	4.00	200.0	1.236	98.2	90	110	2.63	20	
Sulfate	269	30.0	200.0	79.54	94.5	90	110	4.61	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: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220926A

Sample ID: **2209186-04BMS**	Batch ID: **107133**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_220926A**	Analysis Date: **9/26/2022 7:13:02 PM**	Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	306	10.0	200.0	108.6	98.7	90	110			
Fluoride	202	4.00	200.0	0	101	90	110			
Sulfate	263	30.0	200.0	58.58	102	90	110			

Sample ID: **2209186-04BMSD**	Batch ID: **107133**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_220926A**	Analysis Date: **9/26/2022 7:30:02 PM**	Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	305	10.0	200.0	108.6	98.1	90	110	0.424	20	
Fluoride	202	4.00	200.0	0	101	90	110	0.355	20	
Sulfate	261	30.0	200.0	58.58	101	90	110	0.558	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: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220926A

Sample ID: **ICV-220926**	Batch ID: **R123195**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_220926A**	Analysis Date: **9/26/2022 10:37:56 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.5	1.00	25.00	0	102	90	110			
Fluoride	10.3	0.400	10.00	0	103	90	110			
Sulfate	78.1	3.00	75.00	0	104	90	110			

Sample ID: **CCV1-220926**	Batch ID: **R123195**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220926A**	Analysis Date: **9/26/2022 6:05:02 PM**	Prep Date:

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			
Fluoride	3.98	0.400	4.000	0	99.6	90	110			
Sulfate	30.2	3.00	30.00	0	101	90	110			

Sample ID: **CCV2-220926**	Batch ID: **R123195**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220926A**	Analysis Date: **9/26/2022 10:37:02 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.93	1.00	10.00	0	99.3	90	110			
Fluoride	4.02	0.400	4.000	0	100	90	110			
Sulfate	30.5	3.00	30.00	0	102	90	110			

Sample ID: **CCV3-220926**	Batch ID: **R123195**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220926A**	Analysis Date: **9/27/2022 2:35:02 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.92	1.00	10.00	0	99.2	90	110			
Fluoride	3.99	0.400	4.000	0	99.7	90	110			
Sulfate	30.6	3.00	30.00	0	102	90	110			

Sample ID: **CCV4-220926**	Batch ID: **R123195**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220926A**	Analysis Date: **9/27/2022 5:08:02 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.1	1.00	10.00	0	101	90	110			
Fluoride	4.07	0.400	4.000	0	102	90	110			
Sulfate	31.0	3.00	30.00	0	103	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_220926A

The QC data in batch 107137 applies to the following samples: 2209186-01B, 2209186-02B, 2209186-03B, 2209186-04B, 2209186-05B, 2209186-06B, 2209186-07B

Sample ID: **MB-107137**	Batch ID: **107137**	TestNo: **M2540C**	Units: **mg/L**
SampType: **MBLK**	Run ID: **WC_220926A**	Analysis Date: **9/26/2022 4:00:00 PM**	Prep Date: **9/26/2022**

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-107137**	Batch ID: **107137**	TestNo: **M2540C**	Units: **mg/L**
SampType: **LCS**	Run ID: **WC_220926A**	Analysis Date: **9/26/2022 4:00:00 PM**	Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	742	10.0	745.6	0	99.5	90	113			

Sample ID: **2209172-02D-DUP**	Batch ID: **107137**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_220926A**	Analysis Date: **9/26/2022 4:00:00 PM**	Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	2700	50.0	0	2730				1.10	5	

Sample ID: **2209184-02C-DUP**	Batch ID: **107137**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_220926A**	Analysis Date: **9/26/2022 4:00:00 PM**	Prep Date: **9/26/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	27500	50.0	0	27730				0.978	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: 2209186
Project: MLSES - PDP 5 CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_220927A

The QC data in batch 107154 applies to the following samples: 2209186-08B, 2209186-09B, 2209186-10B

Sample ID: **MB-107154**	Batch ID: **107154**	TestNo: **M2540C**	Units: **mg/L**
SampType: **MBLK**	Run ID: **WC_220927A**	Analysis Date: **9/27/2022 5:05:00 PM**	Prep Date: **9/27/2022**

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-107154**	Batch ID: **107154**	TestNo: **M2540C**	Units: **mg/L**
SampType: **LCS**	Run ID: **WC_220927A**	Analysis Date: **9/27/2022 5:05:00 PM**	Prep Date: **9/27/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	742	10.0	745.6	0	99.5	90	113			

Sample ID: **2209184-03C-DUP**	Batch ID: **107154**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_220927A**	Analysis Date: **9/27/2022 5:05:00 PM**	Prep Date: **9/27/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	10500	200	0	10360				1.72	5	

Sample ID: **2209184-04C-DUP**	Batch ID: **107154**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_220927A**	Analysis Date: **9/27/2022 5:05:00 PM**	Prep Date: **9/27/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	14900	200	0	14280				3.98	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: *29-Sep-22*

CLIENT: WSP-Golder
Work Order: 2209186
Project: MLSES - PDP 5 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

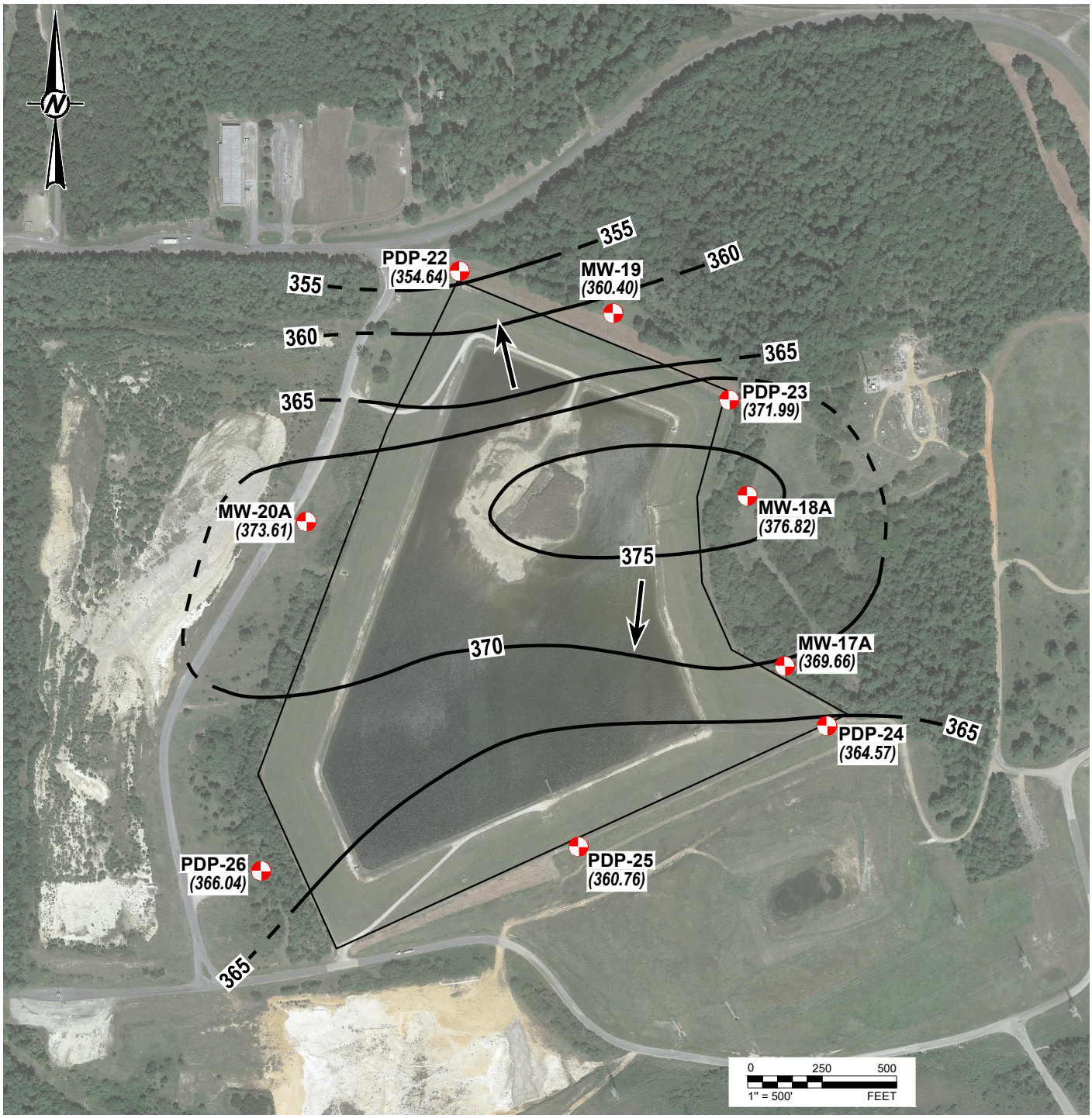
TestNo: SW6020B	**MDL**	**MQL**
Analyte	**mg/L**	**mg/L**
Boron	0.0100	0.0300
Calcium	0.100	0.300

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

ATTACHMENT 2

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

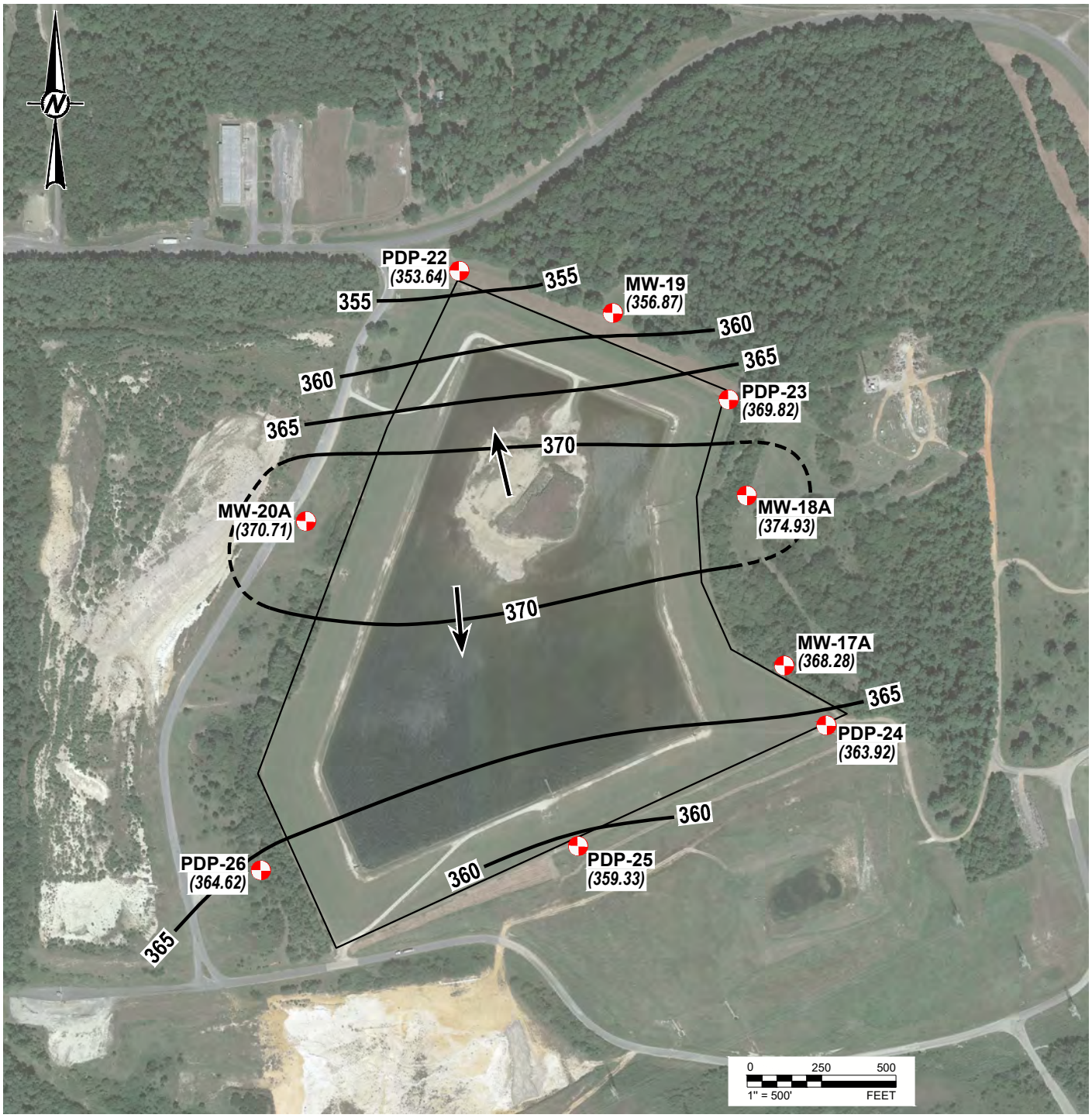
YYYY-MM-DD	2022-12-20
DESIGNED	TNB
PREPARED	TNB
REVIEWED	JJ
APPROVED	WFV

PROJECT NO. 31404097.001 | REV. 0 | FIGURE 3

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

0 1 in

Last Edited By: tbookout Date: 2022-12-20 Time:12:48:13 PM | Printed By: TBookout Date: 2022-12-20 Time:12:49:25 PM
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 (May 2022).dwg



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
SEPTEMBER 22, 2022

CONSULTANT
wsp

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

PROJECT NO. 31404097.002 | REV. 0 | FIGURE 2

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

Last Edited By: usad701305 Date: 2022-12-20 Time:12:48:18 PM | Printed By: USAD701305 Date: 2023-01-10 Time:3:14:08 PM
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

ATTACHMENT 3
ALTERNATE SOURCE DEMONSTRATION

ALTERNATE SOURCE DEMONSTRATION SUMMARY

MARTIN LAKE STEAM ELECTRIC STATION – PDP-5

Introduction

This Alternate Source Demonstration 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 2021 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 14, 2022 indicating an intent to pursue an Alternate Source Demonstration. This Alternate Source Demonstration will be submitted to the Executive Director pursuant to 30 T.A.C. §352.941(c)(2).

PDP-5 History and CCR Monitoring Well Network

A Site Plan showing PDP-5 and vicinity is shown 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 2017a).

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.

2021 Semi-Annual Detection Monitoring Results and Discussion

Detection Monitoring Program groundwater data collected from the PDP-5 CCR monitoring well network from 2017 through 2021 are summarized in Table 1. Detection Monitoring Program groundwater samples were collected on a semi-annual basis in 2021 in accordance with 40 CFR 257.94. Golder collected the first 2021 Detection Monitoring Program groundwater samples in June 2021 and the second semi-annual Detection Monitoring Program groundwater samples in October 2021. As described in the Statistical Analysis Plan (SAP) for the Site (PBW 2017b), 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).

Based on the 2021 semi-annual analytical results, SSIs were identified for boron in well PDP-25, calcium in well PDP-23, and chloride in well MW-19. It should be noted that SSIs had also been identified for these same constituents in previous years and attributed to alternate sources. In addition, prediction limits were exceeded for boron in well PDP-23 and calcium in wells MW-20A and PDP-25 during the first semi-annual 2021 sampling event but not during the second semi-annual 2021 sampling event. In accordance with the SAP, background prediction limits are based on a 1-of-2 resampling approach, meaning that if zero or one concentration measurement from a

series of two independent samples collected from a well do not exceed the appropriate prediction limit, then an SSI over background has not occurred at a CCR unit. As a result, SSIs were not indicated for the constituents/wells that exceeded prediction limits during the first semi-annual 2021 sampling event but not during the second semi-annual 2021 sampling event. The chloride concentration in well MW-19 exceeded the prediction limit during the second semi-annual 2021 sampling event but not during the first semi-annual 2021 sampling event. The chloride concentration in MW-19 during the second semi-annual 2021 sampling event is considered a potential SSI because the well was not resampled after the second semi-annual 2021 sampling event.

The boron SSI concentrations in the 2021 groundwater samples from well PDP-25 (sample concentrations of 0.159 mg/L and 0.234 mg/L) exceeded the boron prediction limit of 0.136 mg/L for that well; however, the 2021 PDP-25 boron sample results are significantly lower than the boron sample concentrations observed at other Site wells where SSIs were not indicated. For example, five of the eight other CCR monitoring wells (MW-17A, MW-18A, MW-19, PDP-22, and PDP-24) had boron sample concentrations in 2021 that were higher than one or both of the PDP-25 samples, but SSIs were not indicated in these other wells. Since the boron sample concentrations observed at PDP-25 are similar or less than those observed in other Site wells, they are attributed to variability caused by the heterogeneity of the uppermost aquifer at the Site.

The calcium SSI concentrations in the 2021 groundwater samples from well PDP-23 (sample concentrations of 2.32 mg/L and 2.38 mg/L) exceeded the calcium prediction limit of 2.0 mg/L for that well. The historical variability of calcium in groundwater samples collected Site-wide has been high, ranging from about 1 mg/L to 140 mg/L and the 2021 calcium SSI sample concentrations observed at PDP-23 fall in this historical range. Also, five of the eight other monitoring wells (MW-17A, MW-19, MW-20A, PDP-24, and PDP-25) had calcium sample concentrations in 2021 that were higher than one or both of the PDP-23 samples, but SSIs were not indicated in these other wells. Since the calcium sample concentrations observed at PDP-23 are similar or less than those observed in other Site wells and are within the historical range of calcium concentrations at the Site, the calcium SSIs are attributed to variability caused by the heterogeneity of the uppermost aquifer at the Site.

The chloride SSI concentration in the second semi-annual 2021 groundwater sample from well MW-19 (sample concentration of 62.9 mg/L) slightly 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 been high, ranging from about 1 mg/L to 135 mg/L and the 2021 chloride SSI sample concentration observed at MW-19 falls in this historical range. Also, the historical variability of chloride in groundwater samples from MW-19 has been high, ranging from 5.22 mg/L to 65.1 mg/L. In addition, one other Site well (PDP-25) had chloride sample concentrations in 2021 that were higher than concentrations observed in the MW-19 samples, but SSIs were not indicated in that well. Since the chloride sample concentrations observed at MW-19 are similar or less than those observed in other Site wells and are within the range of historical chloride concentrations at the Site and in well MW-19, the chloride SSI is attributed to variability caused by the heterogeneity of the uppermost aquifer at the Site.

It should also be noted that groundwater conditions in the vicinity of PDP-5 are influenced by the closed and capped former pre-CCR Rule coal ash surface impoundments beneath and adjacent to PDP-5. As a result, Detection Monitoring 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.

Conclusion

SSIs were identified for boron, calcium, and chloride during the 2021 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 2021 sample data are not considered evidence of a release from the CCR unit. In accordance with Section 257.94(e)(2), Luminant should continue the Detection Monitoring Program. Initiation of an Assessment Monitoring Program is not required at this time.

References

Pastor, Behling & Wheeler, LLC, 2017a. Coal Combustion Residual Rule Groundwater Monitoring System Certification, Martin Lake Steam Electric Station, PDP 5, Rusk County, Texas. October 16, 2017.

Pastor, Behling & Wheeler, LLC, 2017b. Coal Combustion Residual Rule Statistical Analysis Plan, Martin Lake Steam Electric Station, PDP 5, Rusk County, Texas. October 11, 2017.

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

PROFESSIONAL CERTIFICATION

This document and all attachments were prepared by Golder Associates USA Inc., Member of WSP, under my direction or supervision in accordance with a system designed to assure 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 requirements of Section 257.94(e)(2) of the CCR Rule.

Patrick J. Behling, P.E.
Principal Engineer
GOLDER ASSOCIATES USA INC., MEMBER OF WSP

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
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
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
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

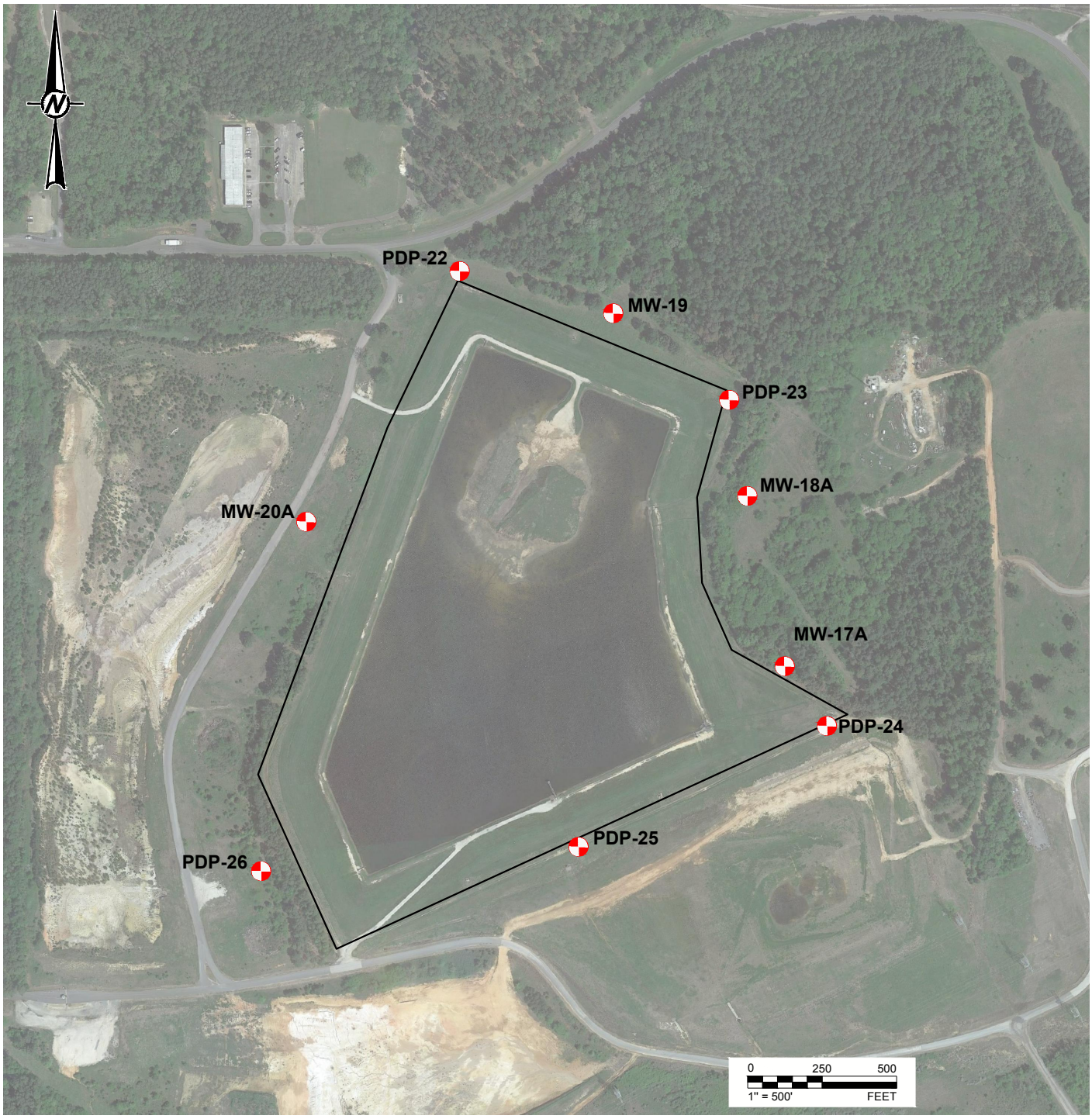
TABLE 1
APPENDIX III ANALYTICAL RESULTS
MLSES PDP-5

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-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
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
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
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

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-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

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



LEGEND

CCR MONITORING WELL

REFERENCE(S)

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

CLIENT
LUMINANT

PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

TITLE
PDP-5
SITE MAP

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2020-04-30
DESIGNED	AJD
PREPARED	TNB
REVIEWED	WFV
APPROVED	WFV

PROJECT NO. 19122262 | REV. 0 | FIGURE 1