2022 Annual Groundwater Monitoring and Corrective Action Report

Oak Grove Steam Electric Station Ash Landfill 1 - Robertson County, Texas

Prepared for:

Oak Grove Management Company LLC

Prepared by:

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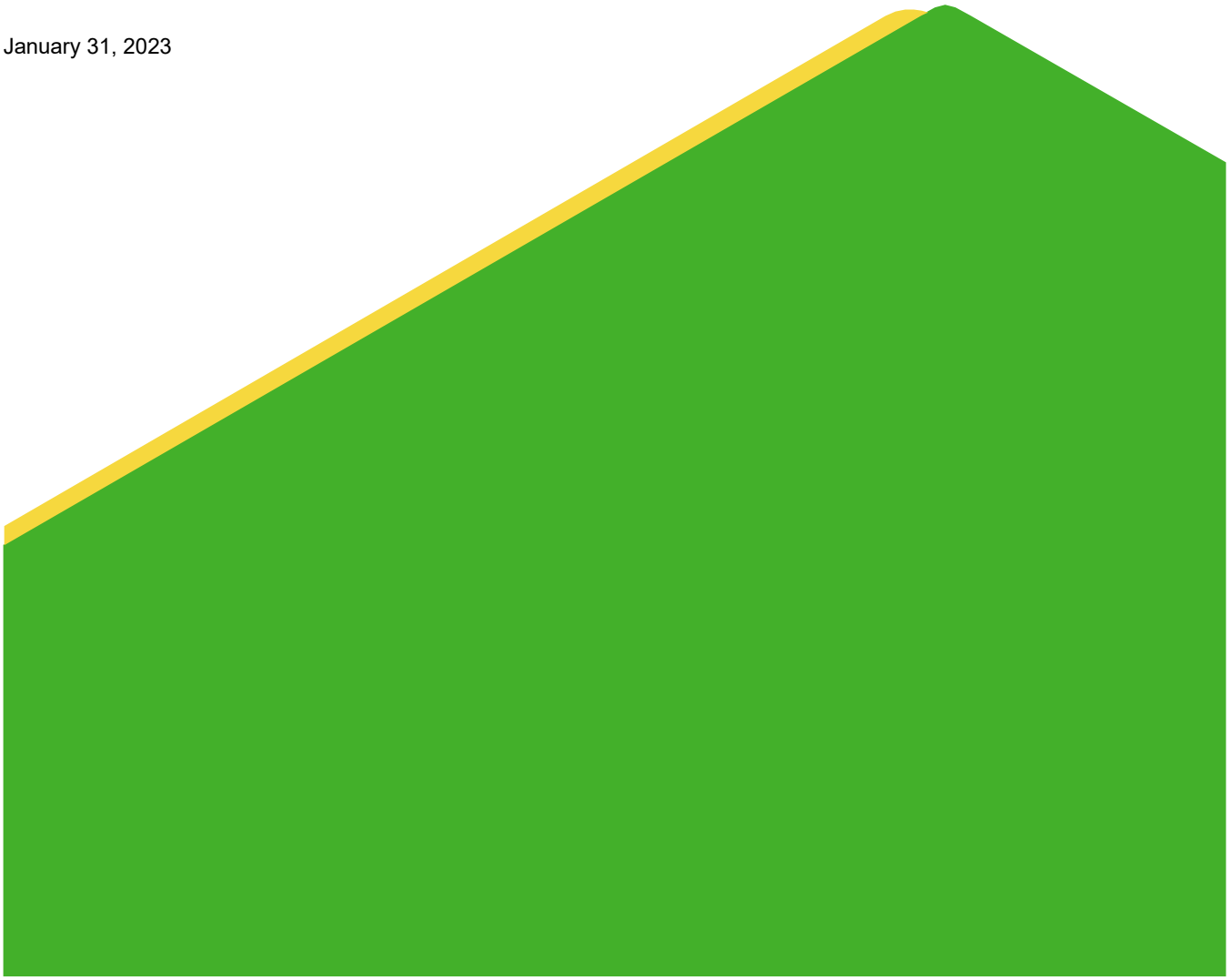

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ACRONYMS AND ABBREVIATIONS

CCR	Coal Combustion Residuals
C.F.R.	Code of Federal Regulations
GWPS	Groundwater Protection Standard
MCL	Maximum Concentration Level
mg/L	Milligrams per Liter
NA	Not Applicable
OGSES	Oak Grove Steam Electric Station
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 Oak Grove Management Company LLC 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 Ash Landfill 1 (the “CCR unit”) at the Oak Grove Steam Electric Station (OGSES) in Robertson 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 the Ash Landfill 1 was established in September 2017. Statistically significant increases (SSIs) above background prediction limits were identified for several Appendix III parameters as part of the 2018 through 2021 Detection Monitoring events; however, Alternate Source Demonstrations were completed which indicated that a source other than the CCR unit caused the SSIs. During 2022, SSIs above background prediction limits were identified for several Appendix III constituents, including for boron and sulfate in wells MW-07 and MW-09. 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 Ash Landfill 1 is currently in a Detection Monitoring Program. WSP Golder collected the initial Detection Monitoring Program groundwater samples from the Ash Landfill 1 CCR monitoring well network in October 2017. Subsequent Detection Monitoring Program groundwater samples have been collected on a semi-annual basis since that time. Data evaluation is completed using procedures described in the Statistical Analysis Plan (Golder, 2022) 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
October 2017	Appendix III	No	No
June 2018 September 2018 November 2018 (re-samples)	Appendix III	Yes	No (Alternate Source Demonstration Completed)
May 2019 August 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	To Be Determined (Alternate Source Currently Being Assessed)

The statistical background values and Appendix III analytical data are presented in Tables 1 and 2, respectively. Laboratory analytical reports are provided in Attachment 1. SSIs of Appendix III parameters were identified during the 2018 through 2022 sampling events. An initial Alternate Source Demonstration was completed in 2019, which indicated that a source other than the CCR unit caused SSIs observed in the 2018 sample data. Similarly, Alternate Source Demonstrations were completed each year from 2020 to 2022 based on the previous year's groundwater sample data. As a result, the Ash Landfill 1 has remained in the Detection Monitoring Program. A summary of the Alternate Source Demonstration based on the 2021 sample data is presented in Attachment 2 as required by §257.94(e)(2). The completed Alternate Source Demonstration for 2021 sample data was also submitted to the executive director via email 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 analytical data from the 2022 semi-annual Detection Monitoring Program sampling events were evaluated using procedures described in the Statistical Analysis Plan to identify SSIs of Appendix III parameters over background concentrations. SSIs of Appendix III parameters over background concentrations were identified for two constituents (boron and sulfate) for which SSIs had been identified in previous years and 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 SSIs, an Assessment Monitoring Program will be established in accordance with §257.94(e)(2).

A notification was submitted to the executive director via email on 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 conducted in May and September 2022. The number of groundwater samples that were collected for analysis of 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 units and monitoring wells is provided as Figure 1. No CCR wells were installed or decommissioned in 2022.

Water elevations measured in the CCR wells during the semi-annual groundwater sampling events were used to develop groundwater potentiometric surface maps, which are presented in Attachment 3. The inferred direction and magnitude of groundwater flow near the Ash Landfill 1 was generally to the east-northeast at approximately 18 feet per year.

An Alternate Source Demonstration was completed in April 2022 in accordance with §257.94(e)(2), which documented that a source other than Ash Landfill 1 caused the SSIs detected over background levels during the 2021 Detection Monitoring Program sampling events. Per §257.94(e)(2) a copy of the 2021 Alternate Source Demonstration is provided in Attachment 2 in this annual report. 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)

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 §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. Coal Combustion Residual Rule Statistical Analysis Plan - Revision No. 1, Oak Grove Steam Electric Station, Ash Landfill 1, Robertson County, Texas.

Signature Page

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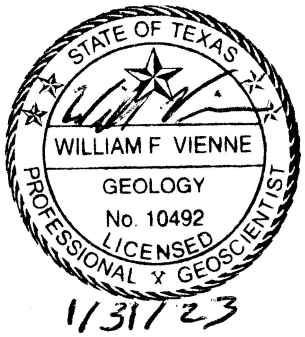
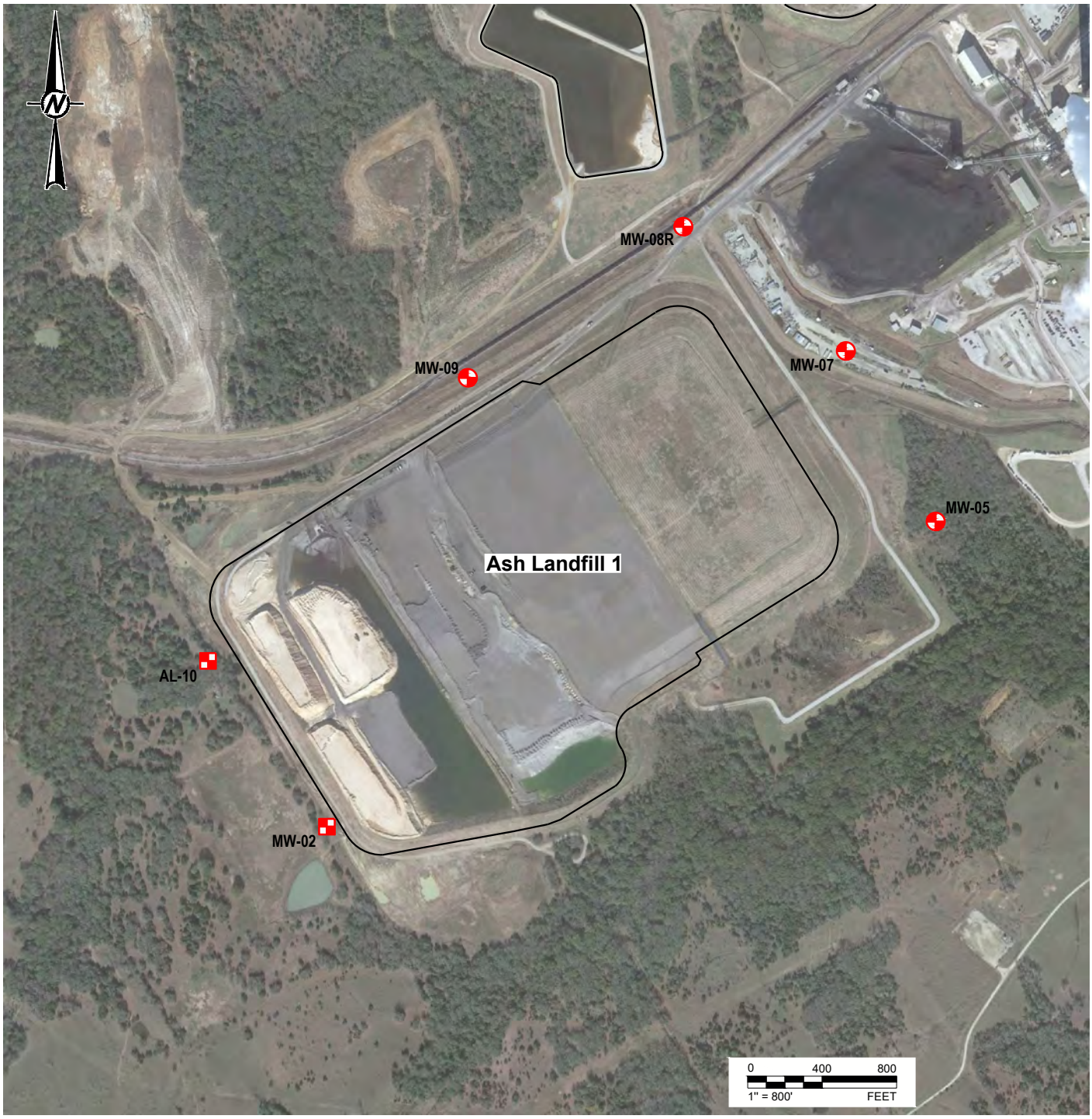
Senior Hydrogeologist



FIGURES



LEGEND

- DOWNGRADIENT CCR MONITORING WELL
- UPGRADIENT CCR MONITORING WELL

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 12/9/18.

CLIENT
LUMINANT

PROJECT
OAK GROVE STEAM ELECTRIC STATION
ROBERTSON COUNTY, TEXAS

TITLE
DETAILED SITE PLAN - ASH LANDFILL

CONSULTANT
wsp

YYYY-MM-DD	2020-01-23
DESIGNED	AJD
PREPARED	AJD
REVIEWED	WFV
APPROVED	WFV

PROJECT NO.	REV.	FIGURE
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TABLES

Table 1
Statistical Background Value
OGSES Ash Landfill 1

Parameter	Statistical Background Value
Boron (mg/L)	0.124
Calcium (mg/L)	74.9
Chloride (mg/L)	353
Fluoride (mg/L)	0.4
field pH (s.u.)	6.31 7.09
Sulfate (mg/L)	97.4
Total Dissolved Solids (mg/L)	948

TABLE 2
APPENDIX III ANALYTICAL RESULTS
OGSES ASH LANDFILL 1

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
Upgradient Wells								
AL-10	11/04/15	0.0682	34.5	149	0.149 J	6.86	72.6	590
	12/18/15	0.0539	37.5	81	0.15 J	6.45	20.6	414
	02/10/16	0.0637	48.6	108	0.197 J	6.75	34.9	599
	04/15/16	0.0573	44.8	86	0.133	6.51	23.6	549
	06/16/16	0.0915	34.7	66.7	0.155 J	6.44	23.5	436
	08/25/16	0.105	87.5	444	<0.1	6.61	96.3	1,120
	10/04/16	0.0756	35.1	57.3	0.278 J	6.92	20.1	507
	12/22/16	0.0759	32.5	57.2	0.195 J	6.78	21.5	527
	10/02/17	0.0973	27	50.6	0.120 J	6.85	12.2	398
	06/04/18	0.0875	21.9	62.1	0.183 J	6.67	11.6	362
	09/06/18	0.113	21.9	56.7	0.260 J	6.66	11.8	371
	05/17/19	0.114	16.8	67.9	0.262 J	6.64	12.4	340
	08/20/19	0.115	18.8	66.2	0.363 J	6.87	11.8	333
	05/07/20	0.128	18.8	52.2	<0.100	6.78	11.1	317
	09/09/20	0.139	16.8	49.2	0.208 J	6.86	10.6	301
	06/16/21	0.107	15.2	41.9	0.27 J	6.82	9.92	267
	10/12/21	0.0878	15.1	51.4	<0.1	6.82	9.84	269
	05/11/22	0.0894	11.8	39.9	0.217 J	6.63	8.47	251
	09/26/22	0.107	10.5	34.7	0.180 J	6.69	9.47	234
MW-02	11/04/15	0.064	32.5	138	0.135 J	6.92	71.4	539
	12/18/15	0.0476	29	61.7	0.118 J	6.83	15.9	308
	02/10/16	0.0853	25.4	83.5	0.229 J	6.63	34	320
	04/15/16	0.0597	39.6	68	0.102	6.51	18.1	440
	06/16/16	0.106	26.5	87.8	0.161 J	6.89	34.8	343
	08/25/16	0.0492	12.9	21.9	0.164 J	6.58	22.4	163
	10/04/16	0.113	61.4	222	0.185 J	6.69	97.4	667
	12/21/16	0.11	47.8	185	0.293 J	6.78	83.4	590
	10/02/17	0.0567	22.2	42.4	<0.100	6.68	9.67	310
	06/04/18	0.144	82.4	275	0.139 J	6.28	121	740
	09/06/18	0.148	70.9	259	0.221 J	6.02	116	872
	05/17/19	0.0981	20	67.6	0.321 J	6.63	31.1	306
	08/20/19	0.0875	19.9	53.8	0.558	6.59	20.1	260
	05/07/20	0.0996	11.5	2.87	<0.100	6.63	6.14	106
	09/09/20	0.166	55.6	210	0.287 J	6.76	99.2	592
	06/16/21	0.0756	48	164	0.977	6.62	35.9	646
	10/12/21	0.0848	23.8	56.6	0.36	6.62	20.7	245
	05/11/22	0.110	47.6	152	0.179	6.63	62.3	504
	09/26/22	0.126	66.4	298	0.128 J	6.52	131	755
Downgradient Wells								
MW-05	11/04/15	0.0628	15.4	64.8	0.272 J	7.11	13.6	285
	12/18/15	0.0621	13	60.2	0.476	6.52	10.5	232
	02/10/16	0.0447	14	59.7	0.397 J	6.67	11.9	235
	04/15/16	0.0458	14.3	55.4	0.284	6.42	10.7	288
	06/15/16	0.058	14.2	60.4	0.306 J	6.61	11.8	269
	08/24/16	0.0877	13.1	63	0.262 J	6.75	11.8	287
	10/04/16	0.059	15.4	57.9	0.477	6.87	10.9	253
	12/22/16	0.0759	61.4	264	0.446	6.63	55.6	778
	10/02/17	0.0665	17.5	58.6	0.295 J	6.89	10.4	246
	06/05/18	0.0739	16.8	60	0.391 J	6.43	12.1	253
	09/07/18	0.077	15.8	63.3	0.392 J	6.11	10.6	249
	05/17/19	0.0686	13.5	66.4	0.462	6.57	11.2	257
	08/20/19	0.079	16	66.7	0.514	6.78	10.8	263
	05/07/20	0.0985	18	71.8	0.344 J	6.68	10.6	264
	09/09/20	0.201	20.5	79.8	0.372 J	6.81	66.5	407
	06/16/21	0.0753	17.7	77.7	0.415	6.69	10	255
	10/12/21	0.0615	20.9	83.6	0.433	6.52	11.7	282
	10/12/2021 DUP	0.0703	20.9	85.5	0.425	6.52	12.1	272
	05/12/22	0.0773	20	80.9	0.438	6.74	11.5	285
	09/26/22	0.0768	19.8	87.8	0.383 J	6.73	12	290

TABLE 2
APPENDIX III ANALYTICAL RESULTS
OGSES ASH LANDFILL 1

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
MW-07	11/03/15	0.0483	8.57	20.2	0.289 J	6.42	11.5	276
	12/17/15	0.0539	8.75	17.7	0.319 J	6.86	14.7	243
	02/09/16	0.0547	13.3	28.9	0.276 J	7.18	25.3	283
	04/15/16	0.0567	10	20.9	0.187	6.71	16	341
	06/15/16	0.0639	10.5	22.9	0.226 J	6.75	23.2	294
	08/24/16	0.0691	9.58	20.4	0.159 J	6.89	21.8	290
	10/04/16	0.0549	10.3	15.6	0.277 J	6.82	17.1	256
	12/22/16	0.054	12.5	22.9	0.229 J	6.29	34.7	262
	10/02/17	0.0733	13.9	15.8	0.178 J	6.59	38.4	298
	06/05/18	0.105	17.5	15.7	0.169 J	5.98	61.1	316
	09/07/18	0.151	19.7	21.5	0.250 J	6.18	80.3	357
	11/6/2018 resample	0.154	--	--	--	--	--	--
	05/17/19	0.132	17.1	20.2	0.244 J	6.83	84.1	355
	08/19/19	0.215	22.8	19.7	0.367 J	6.77	100	385
	05/07/20	0.302	29.7	22.4	0.234 J	6.84	123	432
	09/09/20	0.297	26.9	24.7	0.302 J	6.58	121	413
	06/16/21	0.186	25.8	26.2	0.378 J	6.84	108	404
	6/16/21 DUP	0.177	25.5	26.6	0.378 J	6.84	110	399
	10/13/21	0.181	31.6	29.6	<0.353	6.85	130	422
	05/12/22	0.297	34.6	31.4	0.208 J	6.75	144	484
	05/12/22 DUP	0.315	34.5	31.6	0.209 J	6.75	144	481
	09/26/22	0.282	35.8	33.9	0.143	6.41	150	499
	9/26/2022 DUP	0.280	34.1	33.8	0.149	6.41	145	504
MW-08	11/04/15	0.0631	120	599	0.17 J	6.81	138	2,070
	12/18/15	0.0604	70.4	488	0.158 J	6.78	49.8	1,140
	02/09/16	0.0695	140	612	0.175 J	6.42	170	1,530
	04/15/16	0.0726	133	566	<0.1	6.61	139	1,680
	06/16/16	0.0677	76.6	520	<0.1	6.76	83.6	1,090
	8/2016	Destroyed						
MW-08R	12/22/16	0.0702	32.4	166	0.355 J	6.93	39.7	617
	03/21/17	0.0662	117	563	0.2 J	5.83	98.3	1,220
	04/20/17	0.0696	115	560	0.149 J	5.91	94.9	1,190
	10/02/17	0.061	13.1	14.4	<0.100	6.63	28.7	243
	06/05/18	0.082	18.9	53.9	0.138 J	6.37	9.66	302
	09/07/18	0.0921	106	504	0.242 J	5.84	96.9	1,550
	11/6/2018 resample	--	15.7	19	--	--	--	268
	05/17/19	0.102	16.7	69.8	0.269 J	6.54	12.4	326
	08/20/19	0.096	24.9	48	0.501	6.84	30.7	255
	05/07/20	0.122	19	51.8	0.117 J	6.83	11.1	320
	09/09/20	0.0977	15.8	55.5	0.344 J	6.68	19.0	256
	06/16/21	0.116	15.3	43.5	0.263 J	6.76	9.26	266
	10/12/21	0.107	32.8	268	<0.1	6.76	136	874
	05/11/22	0.0648	43.8	111	0.979	6.89	27.3	563
	09/26/22	0.104	10.6	30.1	0.154	6.52	7.24	193

TABLE 2
APPENDIX III ANALYTICAL RESULTS
OGSES ASH LANDFILL 1

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
MW-09	11/03/15	0.0722	36.4	155	0.149 J	6.45	74.9	583
	12/18/15	0.077	40.3	157	0.266 J	6.48	83.1	528
	02/09/16	0.072	38.4	158	0.152 J	6.16	80	445
	04/15/16	0.0734	42.2	151	<0.1	6.41	80.9	568
	06/15/16	0.0778	43.1	174	<0.1	6.52	98.7	574
	08/25/16	0.0829	45.6	195	<0.1	6.76	116	715
	10/04/16	0.0803	47.8	179	0.256 J	6.64	108	648
	12/22/16	0.0776	42.6	290	0.159 J	6.87	116	791
	10/02/17	0.106	58.2	140	<0.100	6.76	95.3	433
	06/04/18	0.091	21.7	6.48	0.162 J	6.28	6.08	135
	09/06/18	0.0999	49.8	186	0.134 J	5.61	104	704
	11/6/18 resample	--	--	--	--	--	58.6	--
	05/17/19	0.12	17.2	366	0.541	6.72	53.2	935
	08/20/19	0.117	26	61.2	0.359 J	6.96	22.3	331
	05/07/20	0.0988	20.2	45.1	0.234 J	6.68	17.3	212
	09/09/20	0.123	48.5	156	0.152 J	6.72	99.6	468
	06/16/21	0.0682	16.3	4.18	<0.100	6.84	8.19	127
	10/12/21	0.0821	20.7	29.9	<0.100	6.84	31.2	223
	05/12/22	0.111	67.9	195	0.124 J	6.57	119	582
	09/26/22	0.132	63.9	155	<0.100	6.79	108	482

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

ATTACHMENT 1

LABORATORY ANALYTICAL REPORTS

May 23, 2022

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

Order No.: 2205136

RE: Luminant-OGSES-Ash Landfill-CCR

Dear Will Vienne:

DHL Analytical, Inc. received 7 sample(s) on 5/12/2022 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: 5-12-22
PO#:

LABORATORY USE ONLY
DHL WORKORDER #: 2205136

PROJECT LOCATION OR NAME: LUMINANT - OBSES - ASH LANDFILL - CCR
CLIENT PROJECT # 19122262-F3 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	FIELD NOTES
MW-02	01	5-11-22	1330	W	P	2		X			X	X	
MW-08R	02	5-11-22	1645	W	P	2		X			X	X	
MW-05	03	5-12-22	0845	W	P	2		X			X	X	
MW-07	04	5-12-22	0955	W	P	2		X			X	X	
DUP-01	05	5-12-22	0955	W	P	2		X			X	X	
AL-10	06	5-11-22	1535	W	P	2		X			X	X	
MW-09	07	5-12-22	1050	W	P	2		X			X	X	

Relinquished By: (Sign) DATE/TIME 5-12-22 1358 Received by:
Relinquished By: (Sign) DATE/TIME 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): 0.3 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

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name **Golder** Date Received: **5/12/2022**

Work Order Number **2205136** Received by: **EL**

Checklist completed by: Signature 5/12/2022 Date Reviewed by Initials (DL) 5/12/2022 Date

Carrier name: Hand Delivered

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	**0.3** °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-OGSES-Ash Landfill-CCR	**LRC Date:** 5/23/22
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2205136
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-OGSES-Ash Landfill-CCR	**LRC Date:** 5/23/22
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2205136
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			**S9-01**
S10	OI	**Method Detection Limit (MDL) Studies**					
		1) Was a MDL study performed for each reported analyte?	X				
		2) Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency Test Reports:**					
		1) Was the lab's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards Documentation**					
		1) Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/Analyte Identification Procedures**					
		1) Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of Analyst Competency (DOC)**					
		1) Was DOC conducted consistent with NELAC Chapter 5 – Appendix C?	X				
		2) Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/Validation Documentation for Methods** (NELAC Chapter 5)					
		1) Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory Standard Operating Procedures (SOPs):**					
		1) Are laboratory SOPs current and on file for each method performed?	X				

1 Items identified by the letter "R" should be included in the laboratory data package submitted to the TCEQ in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2 O = organic analyses; I = inorganic analyses (and general chemistry, when applicable).
3 NA = Not applicable.
4 NR = Not Reviewed.
5 ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked).

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

This data package consists of:

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

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

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

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

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

Name: John DuPont
Official Title: General Manager

Signature

05/24/22
Date

Name: Dr. Derhsing Luu
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *23-May-22*

CLIENT: WSP-Golder
Project: Luminant-OGSES-Ash Landfill-CCR
Lab Order: 2205136

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 5/12/22. A total of 7 samples were received. The samples arrived in good condition and were properly
packaged.

Exception Report S9-01

For Metals analysis performed on 5/17/22 the RPD for the serial dilution was slightly above control limits for Boron. This is flagged accordingly in the QC summary report. The PDS was within control limits for this analyte. No further corrective actions were taken.

DHL Analytical, Inc.

Date: *23-May-22*

CLIENT: WSP-Golder
Project: Luminant-OGSES-Ash Landfill-CCR
Lab Order: 2205136

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2205136-01	MW-02		05/11/22 01:30 PM	5/12/2022
2205136-02	MW-08R		05/11/22 04:45 PM	5/12/2022
2205136-03	MW-05		05/12/22 08:45 AM	5/12/2022
2205136-04	MW-07		05/12/22 09:55 AM	5/12/2022
2205136-05	DUP-01		05/12/22 09:55 AM	5/12/2022
2205136-06	AL-10		05/11/22 03:35 PM	5/12/2022
2205136-07	MW-09		05/12/22 10:50 AM	5/12/2022

Lab Order: 2205136
Client: WSP-Golder
Project: Luminant-OGSES-Ash Landfill-C

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2205136-01A	MW-02	05/11/22 01:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
	MW-02	05/11/22 01:30 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
2205136-01B	MW-02	05/11/22 01:30 PM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	MW-02	05/11/22 01:30 PM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	MW-02	05/11/22 01:30 PM	Aqueous	M2540C	TDS Preparation	05/16/22 09:13 AM	105348
2205136-02A	MW-08R	05/11/22 04:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
	MW-08R	05/11/22 04:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
2205136-02B	MW-08R	05/11/22 04:45 PM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	MW-08R	05/11/22 04:45 PM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	MW-08R	05/11/22 04:45 PM	Aqueous	M2540C	TDS Preparation	05/16/22 09:13 AM	105348
2205136-03A	MW-05	05/12/22 08:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
2205136-03B	MW-05	05/12/22 08:45 AM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	MW-05	05/12/22 08:45 AM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	MW-05	05/12/22 08:45 AM	Aqueous	M2540C	TDS Preparation	05/16/22 09:13 AM	105348
2205136-04A	MW-07	05/12/22 09:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
	MW-07	05/12/22 09:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
2205136-04B	MW-07	05/12/22 09:55 AM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	MW-07	05/12/22 09:55 AM	Aqueous	M2540C	TDS Preparation	05/16/22 09:13 AM	105348
2205136-05A	DUP-01	05/12/22 09:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
	DUP-01	05/12/22 09:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
2205136-05B	DUP-01	05/12/22 09:55 AM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	DUP-01	05/12/22 09:55 AM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	DUP-01	05/12/22 09:55 AM	Aqueous	M2540C	TDS Preparation	05/16/22 09:13 AM	105348
2205136-06A	AL-10	05/11/22 03:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
2205136-06B	AL-10	05/11/22 03:35 PM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	AL-10	05/11/22 03:35 PM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	AL-10	05/11/22 03:35 PM	Aqueous	M2540C	TDS Preparation	05/16/22 09:13 AM	105348
2205136-07A	MW-09	05/12/22 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344

Lab Order: 2205136
Client: WSP-Golder
Project: Luminant-OGSES-Ash Landfill-C

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2205136-07A	MW-09	05/12/22 10:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/16/22 09:11 AM	105344
2205136-07B	MW-09	05/12/22 10:50 AM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	MW-09	05/12/22 10:50 AM	Aqueous	E300	Anion Preparation	05/17/22 10:38 AM	105373
	MW-09	05/12/22 10:50 AM	Aqueous	M2540C	TDS Preparation	05/16/22 09:13 AM	105348

Lab Order: 2205136
Client: WSP-Golder
Project: Luminant-OGSES-Ash Landfill-C

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2205136-01A	MW-02	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	10	05/17/22 02:35 PM	ICP-MS4_220517A
	MW-02	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	1	05/17/22 01:35 PM	ICP-MS4_220517A
2205136-01B	MW-02	Aqueous	E300	Anions by IC method - Water	105373	10	05/17/22 09:11 PM	IC2_220517A
	MW-02	Aqueous	E300	Anions by IC method - Water	105373	1	05/18/22 04:16 AM	IC2_220517A
	MW-02	Aqueous	M2540C	Total Dissolved Solids	105348	1	05/16/22 04:50 PM	WC_220516E
2205136-02A	MW-08R	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	1	05/17/22 01:37 PM	ICP-MS4_220517A
	MW-08R	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	10	05/17/22 02:37 PM	ICP-MS4_220517A
2205136-02B	MW-08R	Aqueous	E300	Anions by IC method - Water	105373	10	05/17/22 09:28 PM	IC2_220517A
	MW-08R	Aqueous	E300	Anions by IC method - Water	105373	1	05/18/22 04:33 AM	IC2_220517A
	MW-08R	Aqueous	M2540C	Total Dissolved Solids	105348	1	05/16/22 04:50 PM	WC_220516E
2205136-03A	MW-05	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	1	05/17/22 01:39 PM	ICP-MS4_220517A
2205136-03B	MW-05	Aqueous	E300	Anions by IC method - Water	105373	10	05/17/22 09:45 PM	IC2_220517A
	MW-05	Aqueous	E300	Anions by IC method - Water	105373	1	05/18/22 04:50 AM	IC2_220517A
	MW-05	Aqueous	M2540C	Total Dissolved Solids	105348	1	05/16/22 04:50 PM	WC_220516E
2205136-04A	MW-07	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	1	05/17/22 01:41 PM	ICP-MS4_220517A
	MW-07	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	10	05/17/22 02:39 PM	ICP-MS4_220517A
2205136-04B	MW-07	Aqueous	E300	Anions by IC method - Water	105373	1	05/18/22 05:07 AM	IC2_220517A
	MW-07	Aqueous	M2540C	Total Dissolved Solids	105348	1	05/16/22 04:50 PM	WC_220516E
2205136-05A	DUP-01	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	1	05/17/22 01:43 PM	ICP-MS4_220517A
	DUP-01	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	10	05/17/22 02:41 PM	ICP-MS4_220517A
2205136-05B	DUP-01	Aqueous	E300	Anions by IC method - Water	105373	10	05/17/22 10:02 PM	IC2_220517A
	DUP-01	Aqueous	E300	Anions by IC method - Water	105373	1	05/18/22 05:24 AM	IC2_220517A
	DUP-01	Aqueous	M2540C	Total Dissolved Solids	105348	1	05/16/22 04:50 PM	WC_220516E
2205136-06A	AL-10	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	1	05/17/22 01:31 PM	ICP-MS4_220517A
2205136-06B	AL-10	Aqueous	E300	Anions by IC method - Water	105373	10	05/17/22 10:19 PM	IC2_220517A
	AL-10	Aqueous	E300	Anions by IC method - Water	105373	1	05/18/22 05:41 AM	IC2_220517A
	AL-10	Aqueous	M2540C	Total Dissolved Solids	105348	1	05/16/22 04:50 PM	WC_220516E
2205136-07A	MW-09	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	1	05/17/22 01:45 PM	ICP-MS4_220517A

Lab Order: 2205136
Client: WSP-Golder
Project: Luminant-OGSES-Ash Landfill-C

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2205136-07A	MW-09	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	105344	10	05/17/22 02:43 PM	ICP-MS4_220517A
2205136-07B	MW-09	Aqueous	E300	Anions by IC method - Water	105373	10	05/17/22 10:36 PM	IC2_220517A
	MW-09	Aqueous	E300	Anions by IC method - Water	105373	1	05/18/22 05:58 AM	IC2_220517A
	MW-09	Aqueous	M2540C	Total Dissolved Solids	105348	1	05/16/22 04:50 PM	WC_220516E

DHL Analytical, Inc.

Date: *24-May-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-02
Project:	Luminant-OGSES-Ash Landfill-CCR	**Lab ID:**	2205136-01
Project No:	19122262-F3	**Collection Date:**	05/11/22 01:30 PM
Lab Order:	2205136	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.110	0.0100	0.0300		mg/L	1	05/17/22 01:35 PM
Calcium	47.6	1.00	3.00		mg/L	10	05/17/22 02:35 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	152	3.00	10.0		mg/L	10	05/17/22 09:11 PM
Fluoride	0.179	0.100	0.400	J	mg/L	1	05/18/22 04:16 AM
Sulfate	62.3	1.00	3.00		mg/L	1	05/18/22 04:16 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	504	10.0	10.0		mg/L	1	05/16/22 04:50 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *24-May-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-08R
Project:	Luminant-OGSES-Ash Landfill-CCR	**Lab ID:**	2205136-02
Project No:	19122262-F3	**Collection Date:**	05/11/22 04:45 PM
Lab Order:	2205136	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0648	0.0100	0.0300		mg/L	1	05/17/22 01:37 PM
Calcium	43.8	1.00	3.00		mg/L	10	05/17/22 02:37 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	111	3.00	10.0		mg/L	10	05/17/22 09:28 PM
Fluoride	0.979	0.100	0.400		mg/L	1	05/18/22 04:33 AM
Sulfate	27.3	1.00	3.00		mg/L	1	05/18/22 04:33 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	563	10.0	10.0		mg/L	1	05/16/22 04:50 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: *24-May-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-05
Project:	Luminant-OGSES-Ash Landfill-CCR	**Lab ID:**	2205136-03
Project No:	19122262-F3	**Collection Date:**	05/12/22 08:45 AM
Lab Order:	2205136	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0773	0.0100	0.0300		mg/L	1	05/17/22 01:39 PM
Calcium	20.0	0.100	0.300		mg/L	1	05/17/22 01:39 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	80.9	3.00	10.0		mg/L	10	05/17/22 09:45 PM
Fluoride	0.438	0.100	0.400		mg/L	1	05/18/22 04:50 AM
Sulfate	11.5	1.00	3.00		mg/L	1	05/18/22 04:50 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	285	10.0	10.0		mg/L	1	05/16/22 04:50 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: *24-May-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-07
Project:	Luminant-OGSES-Ash Landfill-CCR	**Lab ID:**	2205136-04
Project No:	19122262-F3	**Collection Date:**	05/12/22 09:55 AM
Lab Order:	2205136	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.297	0.0100	0.0300		mg/L	1	05/17/22 01:41 PM
Calcium	34.6	1.00	3.00		mg/L	10	05/17/22 02:39 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	31.4	0.300	1.00		mg/L	1	05/18/22 05:07 AM
Fluoride	0.208	0.100	0.400	J	mg/L	1	05/18/22 05:07 AM
Sulfate	144	1.00	3.00		mg/L	1	05/18/22 05:07 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	484	10.0	10.0		mg/L	1	05/16/22 04:50 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: *24-May-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	DUP-01
Project:	Luminant-OGSES-Ash Landfill-CCR	**Lab ID:**	2205136-05
Project No:	19122262-F3	**Collection Date:**	05/12/22 09:55 AM
Lab Order:	2205136	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.315	0.0100	0.0300		mg/L	1	05/17/22 01:43 PM
Calcium	34.5	1.00	3.00		mg/L	10	05/17/22 02:41 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	31.6	0.300	1.00		mg/L	1	05/18/22 05:24 AM
Fluoride	0.209	0.100	0.400	J	mg/L	1	05/18/22 05:24 AM
Sulfate	144	1.00	3.00		mg/L	1	05/18/22 05:24 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	481	10.0	10.0		mg/L	1	05/16/22 04:50 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: *24-May-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	AL-10
Project:	Luminant-OGSES-Ash Landfill-CCR	**Lab ID:**	2205136-06
Project No:	19122262-F3	**Collection Date:**	05/11/22 03:35 PM
Lab Order:	2205136	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0894	0.0100	0.0300		mg/L	1	05/17/22 01:31 PM
Calcium	11.8	0.100	0.300		mg/L	1	05/17/22 01:31 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	39.9	0.300	1.00		mg/L	1	05/18/22 05:41 AM
Fluoride	0.217	0.100	0.400	J	mg/L	1	05/18/22 05:41 AM
Sulfate	8.47	1.00	3.00		mg/L	1	05/18/22 05:41 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	251	10.0	10.0		mg/L	1	05/16/22 04:50 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: *24-May-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-09
Project:	Luminant-OGSES-Ash Landfill-CCR	**Lab ID:**	2205136-07
Project No:	19122262-F3	**Collection Date:**	05/12/22 10:50 AM
Lab Order:	2205136	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.111	0.0100	0.0300		mg/L	1	05/17/22 01:45 PM
Calcium	67.9	1.00	3.00		mg/L	10	05/17/22 02:43 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	195	3.00	10.0		mg/L	10	05/17/22 10:36 PM
Fluoride	0.124	0.100	0.400	J	mg/L	1	05/18/22 05:58 AM
Sulfate	119	10.0	30.0		mg/L	10	05/17/22 10:36 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	582	10.0	10.0		mg/L	1	05/16/22 04:50 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: 2205136
Project: Luminant-OGSES-Ash Landfill-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: 2205136
Project: Luminant-OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_220517A

The QC data in batch 105344 applies to the following samples: 2205136-01A, 2205136-02A, 2205136-03A, 2205136-04A, 2205136-05A, 2205136-06A, 2205136-07A

Sample ID: **MB-105344** Batch ID: **105344** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS4_220517A** Analysis Date: **5/17/2022 1:23:00 PM** Prep Date: **5/16/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	<0.0100	0.0300								
Calcium	<0.100	0.300								

Sample ID: **LCS-105344** Batch ID: **105344** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS4_220517A** Analysis Date: **5/17/2022 1:25:00 PM** Prep Date: **5/16/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.192	0.0300	0.200	0	96.0	80	120			
Calcium	5.24	0.300	5.00	0	105	80	120			

Sample ID: **LCSD-105344** Batch ID: **105344** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS4_220517A** Analysis Date: **5/17/2022 1:27:00 PM** Prep Date: **5/16/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.201	0.0300	0.200	0	101	80	120	4.64	15	
Calcium	5.04	0.300	5.00	0	101	80	120	4.01	15	

Sample ID: **2205136-06A SD** Batch ID: **105344** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS4_220517A** Analysis Date: **5/17/2022 1:33:00 PM** Prep Date: **5/16/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.111	0.150	0	0.0894				21.9	20	R
Calcium	11.6	1.50	0	11.8				1.66	20	

Sample ID: **2205136-06A PDS** Batch ID: **105344** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS4_220517A** Analysis Date: **5/17/2022 1:53:00 PM** Prep Date: **5/16/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.289	0.0300	0.200	0.0894	99.8	75	125			
Calcium	17.5	0.300	5.00	11.8	114	75	125			

Sample ID: **2205136-06A MS** Batch ID: **105344** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS4_220517A** Analysis Date: **5/17/2022 1:57:00 PM** Prep Date: **5/16/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.276	0.0300	0.200	0.0894	93.4	75	125			
Calcium	16.8	0.300	5.00	11.8	100	75	125			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2205136
Project: Luminant-OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_220517A

Sample ID: **2205136-06A MSD** Batch ID: **105344** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS4_220517A** Analysis Date: **5/17/2022 1:59:00 PM** Prep Date: **5/16/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.288	0.0300	0.200	0.0894	99.1	75	125	4.09	15	
Calcium	17.1	0.300	5.00	11.8	106	75	125	1.88	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: 2205136
Project: Luminant-OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_220517A

Sample ID: **ICV-220517**	Batch ID: **R121087**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_220517A**	Analysis Date: **5/17/2022 11:40:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0961	0.0300	0.100	0	96.1	90	110			
Calcium	2.66	0.300	2.50	0	106	90	110			

Sample ID: **LCVL-220517**	Batch ID: **R121087**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_220517A**	Analysis Date: **5/17/2022 11:48:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0238	0.0300	0.0200	0	119	80	120			
Calcium	0.0944	0.300	0.100	0	94.4	80	120			

Sample ID: **CCV3-220517**	Batch ID: **R121087**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_220517A**	Analysis Date: **5/17/2022 1:19:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.194	0.0300	0.200	0	97.1	90	110			
Calcium	5.19	0.300	5.00	0	104	90	110			

Sample ID: **CCV4-220517**	Batch ID: **R121087**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_220517A**	Analysis Date: **5/17/2022 2:01:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.187	0.0300	0.200	0	93.7	90	110			
Calcium	5.17	0.300	5.00	0	103	90	110			

Sample ID: **CCV5-220517**	Batch ID: **R121087**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_220517A**	Analysis Date: **5/17/2022 2:25:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.09	0.300	5.00	0	102	90	110			

Sample ID: **CCV6-220517**	Batch ID: **R121087**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_220517A**	Analysis Date: **5/17/2022 3:08:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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: 2205136
Project: Luminant-OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220412A

Sample ID: **DCS3-104836** Batch ID: **104836** TestNo: **E300** Units: **mg/L**
SampType: **DCS3** Run ID: **IC2_220412A** Analysis Date: **4/12/2022 4:01:40 PM** Prep Date: **4/12/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1.07	1.00	1.000	0	107	70	130	0	0	
Fluoride	0.426	0.400	0.4000	0	106	70	130	0	0	
Sulfate	3.01	3.00	3.000	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: 2205136
Project: Luminant-OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220517A

The QC data in batch 105373 applies to the following samples: 2205136-01B, 2205136-02B, 2205136-03B, 2205136-04B, 2205136-05B, 2205136-06B, 2205136-07B

Sample ID: **MB-105373** Batch ID: **105373** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_220517A** Analysis Date: **5/17/2022 10:55:01 AM** Prep Date: **5/17/2022**

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-105373** Batch ID: **105373** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_220517A** Analysis Date: **5/17/2022 11:12:01 AM** Prep Date: **5/17/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.84	1.00	10.00	0	98.4	90	110			
Fluoride	3.83	0.400	4.000	0	95.8	90	110			
Sulfate	29.5	3.00	30.00	0	98.4	90	110			

Sample ID: **LCSD-105373** Batch ID: **105373** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_220517A** Analysis Date: **5/17/2022 11:29:01 AM** Prep Date: **5/17/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.76	1.00	10.00	0	97.6	90	110	0.780	20	
Fluoride	3.81	0.400	4.000	0	95.2	90	110	0.623	20	
Sulfate	29.2	3.00	30.00	0	97.3	90	110	1.15	20	

Sample ID: **2205135-04BMS** Batch ID: **105373** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_220517A** Analysis Date: **5/17/2022 4:05:16 PM** Prep Date: **5/17/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	3040	100	2000	1008	102	90	110			
Fluoride	1960	40.0	2000	0	98.2	90	110			
Sulfate	2480	300	2000	526.0	97.5	90	110			

Sample ID: **2205135-04BMSD** Batch ID: **105373** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_220517A** Analysis Date: **5/17/2022 4:22:16 PM** Prep Date: **5/17/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	3050	100	2000	1008	102	90	110	0.270	20	
Fluoride	1970	40.0	2000	0	98.4	90	110	0.175	20	
Sulfate	2470	300	2000	526.0	97.1	90	110	0.283	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: 2205136
Project: Luminant-OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220517A

Sample ID: **2205135-06BMS**	Batch ID: **105373**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_220517A**	Analysis Date: **5/17/2022 4:56:16 PM**	Prep Date: **5/17/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	3810	100	2000	1878	96.9	90	110			
Fluoride	1790	40.0	2000	0	89.7	90	110			
Sulfate	2040	300	2000	0	102	90	110			

Sample ID: **2205135-06BMSD**	Batch ID: **105373**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_220517A**	Analysis Date: **5/17/2022 5:13:16 PM**	Prep Date: **5/17/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	3860	100	2000	1878	99.3	90	110	1.29	20	
Fluoride	1820	40.0	2000	0	91.1	90	110	1.48	20	
Sulfate	2060	300	2000	0	103	90	110	1.33	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: 2205136
Project: Luminant-OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220517A

Sample ID: **ICV-220517**	Batch ID: **R121092**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_220517A**	Analysis Date: **5/17/2022 10:21:01 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.4	1.00	25.00	0	102	90	110			
Fluoride	9.99	0.400	10.00	0	99.9	90	110			
Sulfate	76.3	3.00	75.00	0	102	90	110			

Sample ID: **CCV1-220517**	Batch ID: **R121092**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220517A**	Analysis Date: **5/17/2022 7:46:16 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.81	1.00	10.00	0	98.1	90	110			
Fluoride	3.86	0.400	4.000	0	96.5	90	110			
Sulfate	29.4	3.00	30.00	0	98.1	90	110			

Sample ID: **CCV2-220517**	Batch ID: **R121092**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220517A**	Analysis Date: **5/17/2022 11:44:18 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.88	1.00	10.00	0	98.8	90	110			
Sulfate	29.6	3.00	30.00	0	98.6	90	110			

Sample ID: **CCV3-220517**	Batch ID: **R121092**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220517A**	Analysis Date: **5/18/2022 3:42:16 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.96	1.00	10.00	0	99.6	90	110			
Fluoride	3.92	0.400	4.000	0	98.0	90	110			
Sulfate	29.9	3.00	30.00	0	99.5	90	110			

Sample ID: **CCV4-220517**	Batch ID: **R121092**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_220517A**	Analysis Date: **5/18/2022 6:49:16 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.97	1.00	10.00	0	99.7	90	110			
Fluoride	3.94	0.400	4.000	0	98.5	90	110			
Sulfate	29.9	3.00	30.00	0	99.7	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2205136
Project: Luminant-OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_220516E

The QC data in batch 105348 applies to the following samples: 2205136-01B, 2205136-02B, 2205136-03B, 2205136-04B, 2205136-05B, 2205136-06B, 2205136-07B

Sample ID: **MB-105348** Batch ID: **105348** TestNo: **M2540C** Units: **mg/L**
SampType: **MBLK** Run ID: **WC_220516E** Analysis Date: **5/16/2022 4:50:00 PM** Prep Date: **5/16/2022**

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-105348** Batch ID: **105348** TestNo: **M2540C** Units: **mg/L**
SampType: **LCS** Run ID: **WC_220516E** Analysis Date: **5/16/2022 4:50:00 PM** Prep Date: **5/16/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	755	10.0	745.6	0	101	90	113			

Sample ID: **2205099-01B-DUP** Batch ID: **105348** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_220516E** Analysis Date: **5/16/2022 4:50:00 PM** Prep Date: **5/16/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3180	50.0	0	3220				1.25	5	

Sample ID: **2205099-02B-DUP** Batch ID: **105348** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_220516E** Analysis Date: **5/16/2022 4:50:00 PM** Prep Date: **5/16/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	2550	50.0	0	2545				0	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: *23-May-22*

CLIENT: WSP-Golder
Work Order: 2205136
Project: Luminant-OGSES-Ash Landfill-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

October 10, 2022

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

Order No.: 2209260

RE: OGSES-Ash Landfill-CCR

Dear Will Vienne:

DHL Analytical, Inc. received 7 sample(s) on 9/29/2022 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: AUSTIN, TX
PHONE: EMAIL:
DATA REPORTED TO: WILL VIENNE
ADDITIONAL REPORT COPIES TO:

PO#: 3140497.006
PROJECT LOCATION OR NAME: OGSES-ASH LANDFILL - CCR
CLIENT PROJECT # 3140497.006

LABORATORY USE ONLY
DHL WORKORDER #: 2209260

COLLECTOR: JOHN BEAUDOIN

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	FIELD NOTES
MW02	01	9-26-22	0915	W	P	2		X				X		APPENDIX III	
AL 10	02	9-26-22	1100	W	P	2		X				X		APPENDIX III	
MW09	03	9-26-22	1205	W	P	2		X				X		APPENDIX III	
MW08R	04	9-26-22	1310	W	P	2		X				X		APPENDIX III	
MW05	05	9-26-22	1510	W	P	2		X				X		APPENDIX III	
MW07	06	9-26-22	1600	W	P	2		X				X		APPENDIX III	
DUP-1	07	9-26-22	1600	W	P	2		X				X		APPENDIX III	

Relinquished By: (Sign)	DATE/TIME	Received by:
	9-28-22 1830	Fedex
Fedex	9-29-22 0853	
	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): 1.3°C, 0.7°C, 1.7°C, 1.5°C THERM #:
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:ACTA (512) 388-8222
JOHN BRAYTON
GOLDER ASSOCIATES CORPORATION
14950 HEATHROW FOREST PKWY STE 280
PO #31404097.006
HOUSTON, TX 77032
UNITED STATES US

SHIP DATE: 28SEP22
ACTWGT: 57.30 LB
CAD: 6993649/SSFE2322
DIMS: 24x14x13 IN

BILL THIRD PARTY

TO

DHL
2300 DOUBLE CREEK DR

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

FedEx Express

2 of 5
MPS# 2785 3093 7961
Mstr# 2785 3093 7950

THU - 29 SEP 10:30A
PRIORITY OVERNIGHT

0263 0201

44 BSMA

78664
TX-US AUS

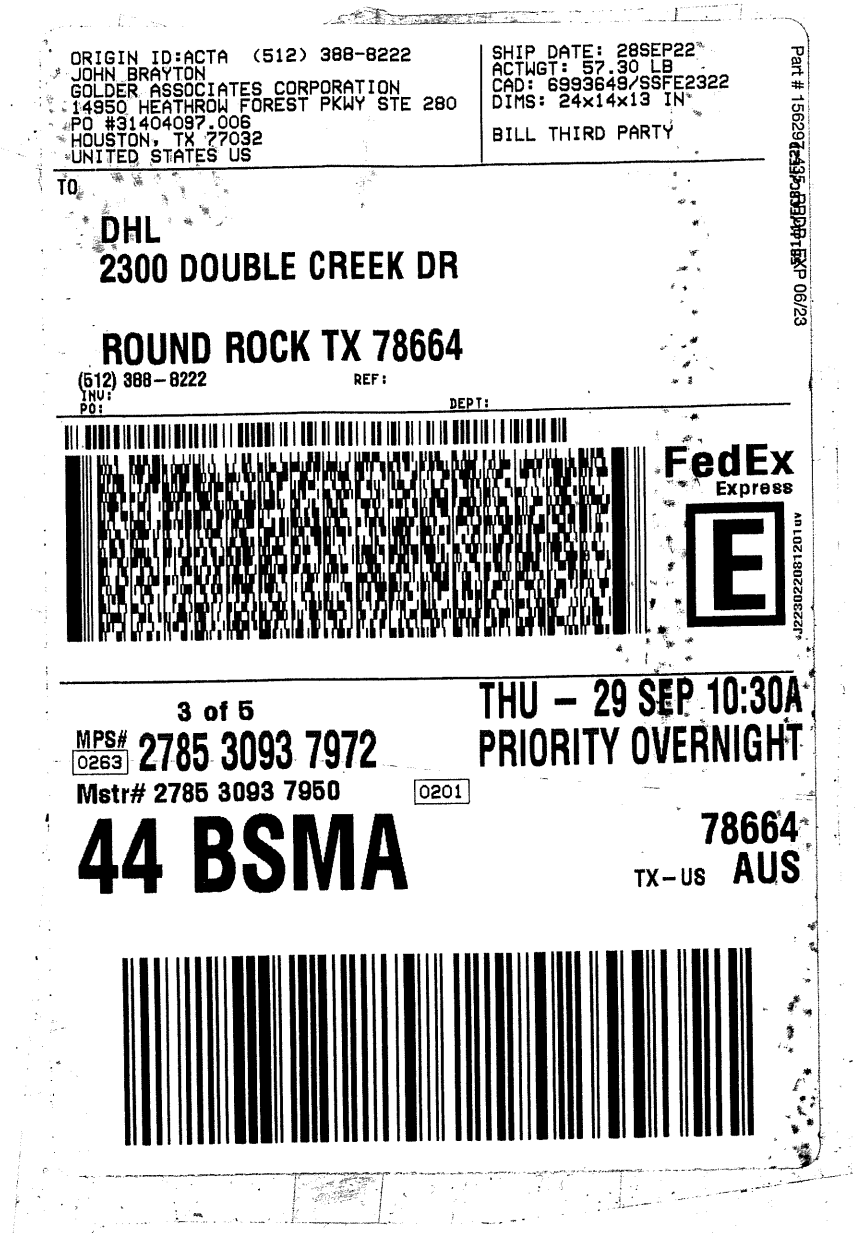
Part # 156297-115 DHL EXP 06/23

CUSTODY SEAL

DATE 9-28-22

SIGNATURE

DHL ANALYTICAL



ORIGIN ID:ACTA (512) 388-8222
JOHN BRAYTON
GOLDER ASSOCIATES CORPORATION
14950 HEATHROW FOREST PKWY STE 280
PO #31404097.006
HOUSTON, TX 77032
UNITED STATES US

SHIP DATE: 28SEP22
ACTWGT: 57.30 LB
CAD: 6993649/SSFE2322
DIMS: 24x14x13 IN

BILL THIRD PARTY

TO

DHL
2300 DOUBLE CREEK DR

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

FedEx Express

3 of 5
MPS# 0263 2785 3093 7972
Mstr# 2785 3093 7950 0201

THU - 29 SEP 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS

Part # 156297-495-RRDD-1EXP 06/23

CUSTODY SEAL

DATE 9.28.22

SIGNATURE

DHL ANALYTICAL

ORIGIN ID:ACTA (512) 388-8222
JOHN BRAYTON
GOLDER ASSOCIATES CORPORATION
14950 HEATHROW FOREST PKWY STE 280
PO #31404097.006
HOUSTON, TX 77032
UNITED STATES US

SHIP DATE: 28SEP22
ACTWGT: 57.30 LB
CAD: 6993649/SSFE2322
DIMS: 24x14x13 IN

BILL THIRD PARTY

TO

DHL
2300 DOUBLE CREEK DR

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

Part # 156236435-FEDEX EXP 06/23

FedEx Express

4 of 5
MPS# 2785 3093 7983
0263
Mstr# 2785 3093 7950
0201

THU - 29 SEP 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS

CUSTODY SEAL

DATE 9-28-22

SIGNATURE

DHL ANALYTICAL

ORIGIN ID:ACTA (512) 388-8222
JOHN BRAYTON
GOLDER ASSOCIATES CORPORATION
14950 HEATHROW FOREST PKWY STE 280
PO #31404097.006
HOUSTON, TX 77032
UNITED STATES US

SHIP DATE: 28SEP22
ACTWGT: 57.30 LB
CAD: 6993649/SSFE2322
DIMS: 24x14x13 IN
BILL THIRD PARTY

TO
DHL
2300 DOUBLE CREEK DR
ROUND ROCK TX 78664
(512) 388-8222 REF:
INV:
PO: DEPT:

FedEx
Express
E

J223022081201uv

Part # 156297-435 RIT2 EXP 06/23

5 of 5
MPS# 0263 2785 3093 7994
Mstr# 2785 3098 7950 0201

THU – 29 SEP 10:30A
PRIORITY OVERNIGHT

44 BSMA

78664
TX-US AUS

CUSTODY SEAL
DATE 9-28-22
SIGNATURE [signature]

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name WSP-Golder | Date Received: 9/29/2022

Work Order Number 2209260 | Received by: KAO

Checklist completed by: _____ (Signature) 9/29/2022 (Date) | Reviewed by PL (Initials) 9/29/2022 (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 ☐	1.3 °C 10.7/1.7/1.5C
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: OGSES-Ash Landfill-CCR	**LRC Date:** 10/10/22
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2209260
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: OGSES-Ash Landfill-CCR	**LRC Date:** 10/10/22
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2209260
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			**S9-01**
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

10/10/22
Date

Name: Dr. Derhsing Luu
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *10-Oct-22*

CLIENT: WSP-Golder
Project: OGSES-Ash Landfill-CCR
Lab Order: 2209260

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 9/29/22. A total of 7 samples were received. The samples arrived in good condition and were properly packaged.

Exception Report R7-03

For Anions analysis performed on 10/5/22 (batch 107267) the matrix spike and matrix spike duplicate recoveries (2209257-05 MS/MSD) were below control limits for Chloride. This was due to matrix effect. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was not from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

Exception Report S9-01

For Metals analysis performed on 10/4/22 the PDS recovery was below control limits for Calcium. This is flagged accordingly in the QC summary report. The serial dilution was within control limits for this analyte. No further corrective actions were taken.

DHL Analytical, Inc.

Date: *10-Oct-22*

CLIENT: WSP-Golder
Project: OGSES-Ash Landfill-CCR
Lab Order: 2209260

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2209260-01	MW-02		09/26/22 09:15 AM	9/29/2022
2209260-02	AL-10		09/26/22 11:00 AM	9/29/2022
2209260-03	MW-09		09/26/22 12:05 PM	9/29/2022
2209260-04	MW-08R		09/26/22 01:10 PM	9/29/2022
2209260-05	MW-05		09/26/22 03:10 PM	9/29/2022
2209260-06	MW-07		09/26/22 04:00 PM	9/29/2022
2209260-07	DUP-1		09/26/22 04:00 PM	9/29/2022

Lab Order: 2209260
Client: WSP-Golder
Project: OGSES-Ash Landfill-CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2209260-01A	MW-02	09/26/22 09:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217
	MW-02	09/26/22 09:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217
2209260-01B	MW-02	09/26/22 09:15 AM	Aqueous	E300	Anion Preparation	10/05/22 09:00 AM	107267
	MW-02	09/26/22 09:15 AM	Aqueous	E300	Anion Preparation	10/05/22 09:00 AM	107267
	MW-02	09/26/22 09:15 AM	Aqueous	M2540C	TDS Preparation	09/30/22 10:37 AM	107211
2209260-02A	AL-10	09/26/22 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217
2209260-02B	AL-10	09/26/22 11:00 AM	Aqueous	E300	Anion Preparation	10/05/22 09:00 AM	107267
	AL-10	09/26/22 11:00 AM	Aqueous	M2540C	TDS Preparation	09/30/22 10:37 AM	107211
2209260-03A	MW-09	09/26/22 12:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217
	MW-09	09/26/22 12:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217
2209260-03B	MW-09	09/26/22 12:05 PM	Aqueous	E300	Anion Preparation	10/05/22 09:00 AM	107267
	MW-09	09/26/22 12:05 PM	Aqueous	E300	Anion Preparation	10/05/22 09:00 AM	107267
	MW-09	09/26/22 12:05 PM	Aqueous	M2540C	TDS Preparation	09/30/22 10:37 AM	107211
2209260-04A	MW-08R	09/26/22 01:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217
2209260-04B	MW-08R	09/26/22 01:10 PM	Aqueous	E300	Anion Preparation	10/05/22 09:00 AM	107267
	MW-08R	09/26/22 01:10 PM	Aqueous	E300	Anion Preparation	10/05/22 09:00 AM	107267
	MW-08R	09/26/22 01:10 PM	Aqueous	M2540C	TDS Preparation	09/30/22 10:37 AM	107211
2209260-05A	MW-05	09/26/22 03:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217
2209260-05B	MW-05	09/26/22 03:10 PM	Aqueous	E300	Anion Preparation	10/05/22 09:00 AM	107267
	MW-05	09/26/22 03:10 PM	Aqueous	E300	Anion Preparation	10/05/22 09:00 AM	107267
	MW-05	09/26/22 03:10 PM	Aqueous	M2540C	TDS Preparation	09/30/22 10:37 AM	107211
2209260-06A	MW-07	09/26/22 04:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217
	MW-07	09/26/22 04:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217
2209260-06B	MW-07	09/26/22 04:00 PM	Aqueous	E300	Anion Preparation	10/06/22 09:47 AM	107288
	MW-07	09/26/22 04:00 PM	Aqueous	E300	Anion Preparation	10/06/22 09:47 AM	107288
	MW-07	09/26/22 04:00 PM	Aqueous	M2540C	TDS Preparation	09/30/22 10:37 AM	107211
2209260-07A	DUP-1	09/26/22 04:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217
	DUP-1	09/26/22 04:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/03/22 08:01 AM	107217

Lab Order: 2209260
Client: WSP-Golder
Project: OGSES-Ash Landfill-CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2209260-07B	DUP-1	09/26/22 04:00 PM	Aqueous	E300	Anion Preparation	10/06/22 09:47 AM	107288
	DUP-1	09/26/22 04:00 PM	Aqueous	E300	Anion Preparation	10/06/22 09:47 AM	107288
	DUP-1	09/26/22 04:00 PM	Aqueous	M2540C	TDS Preparation	09/30/22 10:37 AM	107211

Lab Order: 2209260
Client: WSP-Golder
Project: OGSES-Ash Landfill-CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2209260-01A	MW-02	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	10	10/04/22 01:30 PM	ICP-MS5_221004B
	MW-02	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	1	10/04/22 12:59 PM	ICP-MS5_221004B
2209260-01B	MW-02	Aqueous	E300	Anions by IC method - Water	107267	10	10/05/22 02:12 PM	IC2_221005A
	MW-02	Aqueous	E300	Anions by IC method - Water	107267	1	10/05/22 09:34 PM	IC2_221005A
	MW-02	Aqueous	M2540C	Total Dissolved Solids	107211	1	09/30/22 01:10 PM	WC_220930A
2209260-02A	AL-10	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	1	10/04/22 01:02 PM	ICP-MS5_221004B
2209260-02B	AL-10	Aqueous	E300	Anions by IC method - Water	107267	1	10/05/22 09:51 PM	IC2_221005A
	AL-10	Aqueous	M2540C	Total Dissolved Solids	107211	1	09/30/22 01:10 PM	WC_220930A
2209260-03A	MW-09	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	1	10/04/22 01:04 PM	ICP-MS5_221004B
	MW-09	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	10	10/04/22 01:32 PM	ICP-MS5_221004B
2209260-03B	MW-09	Aqueous	E300	Anions by IC method - Water	107267	10	10/05/22 02:29 PM	IC2_221005A
	MW-09	Aqueous	E300	Anions by IC method - Water	107267	1	10/05/22 10:08 PM	IC2_221005A
	MW-09	Aqueous	M2540C	Total Dissolved Solids	107211	1	09/30/22 01:10 PM	WC_220930A
2209260-04A	MW-08R	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	1	10/04/22 01:07 PM	ICP-MS5_221004B
2209260-04B	MW-08R	Aqueous	E300	Anions by IC method - Water	107267	1	10/05/22 10:25 PM	IC2_221005A
	MW-08R	Aqueous	E300	Anions by IC method - Water	107267	10	10/05/22 03:20 PM	IC2_221005A
	MW-08R	Aqueous	M2540C	Total Dissolved Solids	107211	1	09/30/22 01:10 PM	WC_220930A
2209260-05A	MW-05	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	1	10/04/22 01:09 PM	ICP-MS5_221004B
2209260-05B	MW-05	Aqueous	E300	Anions by IC method - Water	107267	10	10/05/22 03:37 PM	IC2_221005A
	MW-05	Aqueous	E300	Anions by IC method - Water	107267	1	10/05/22 10:42 PM	IC2_221005A
	MW-05	Aqueous	M2540C	Total Dissolved Solids	107211	1	09/30/22 01:10 PM	WC_220930A
2209260-06A	MW-07	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	10	10/04/22 01:35 PM	ICP-MS5_221004B
	MW-07	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	1	10/04/22 01:12 PM	ICP-MS5_221004B
2209260-06B	MW-07	Aqueous	E300	Anions by IC method - Water	107288	10	10/06/22 06:13 PM	IC2_221006A
	MW-07	Aqueous	E300	Anions by IC method - Water	107288	1	10/07/22 01:18 AM	IC2_221006A
	MW-07	Aqueous	M2540C	Total Dissolved Solids	107211	1	09/30/22 01:10 PM	WC_220930A
2209260-07A	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	1	10/04/22 01:15 PM	ICP-MS5_221004B
	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	107217	10	10/04/22 01:37 PM	ICP-MS5_221004B

Lab Order: 2209260
Client: WSP-Golder
Project: OGSES-Ash Landfill-CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2209260-07B	DUP-1	Aqueous	E300	Anions by IC method - Water	107288	10	10/06/22 06:30 PM	IC2_221006A
	DUP-1	Aqueous	E300	Anions by IC method - Water	107288	1	10/07/22 01:35 AM	IC2_221006A
	DUP-1	Aqueous	M2540C	Total Dissolved Solids	107211	1	09/30/22 01:10 PM	WC_220930A

DHL Analytical, Inc.

Date: *10-Oct-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-02
Project:	OGSES-Ash Landfill-CCR	**Lab ID:**	2209260-01
Project No:	31404097.006	**Collection Date:**	09/26/22 09:15 AM
Lab Order:	2209260	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.126	0.0100	0.0300		mg/L	1	10/04/22 12:59 PM
Calcium	66.4	1.00	3.00		mg/L	10	10/04/22 01:30 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	298	3.00	10.0		mg/L	10	10/05/22 02:12 PM
Fluoride	0.128	0.100	0.400	J	mg/L	1	10/05/22 09:34 PM
Sulfate	131	1.00	3.00		mg/L	1	10/05/22 09:34 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	755	10.0	10.0		mg/L	1	09/30/22 01:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *10-Oct-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	AL-10
Project:	OGSES-Ash Landfill-CCR	**Lab ID:**	2209260-02
Project No:	31404097.006	**Collection Date:**	09/26/22 11:00 AM
Lab Order:	2209260	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.107	0.0100	0.0300		mg/L	1	10/04/22 01:02 PM
Calcium	10.5	0.100	0.300		mg/L	1	10/04/22 01:02 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	34.7	0.300	1.00		mg/L	1	10/05/22 09:51 PM
Fluoride	0.180	0.100	0.400	J	mg/L	1	10/05/22 09:51 PM
Sulfate	9.47	1.00	3.00		mg/L	1	10/05/22 09:51 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	234	10.0	10.0		mg/L	1	09/30/22 01:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *10-Oct-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-09
Project:	OGSES-Ash Landfill-CCR	**Lab ID:**	2209260-03
Project No:	31404097.006	**Collection Date:**	09/26/22 12:05 PM
Lab Order:	2209260	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.132	0.0100	0.0300		mg/L	1	10/04/22 01:04 PM
Calcium	63.9	1.00	3.00		mg/L	10	10/04/22 01:32 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	155	3.00	10.0		mg/L	10	10/05/22 02:29 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/05/22 10:08 PM
Sulfate	108	1.00	3.00		mg/L	1	10/05/22 10:08 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	482	10.0	10.0		mg/L	1	09/30/22 01:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *10-Oct-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-08R
Project:	OGSES-Ash Landfill-CCR	**Lab ID:**	2209260-04
Project No:	31404097.006	**Collection Date:**	09/26/22 01:10 PM
Lab Order:	2209260	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.104	0.0100	0.0300		mg/L	1	10/04/22 01:07 PM
Calcium	10.6	0.100	0.300		mg/L	1	10/04/22 01:07 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	30.1	0.300	1.00		mg/L	1	10/05/22 10:25 PM
Fluoride	0.154	0.100	0.400	J	mg/L	1	10/05/22 10:25 PM
Sulfate	7.24	1.00	3.00		mg/L	1	10/05/22 10:25 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	193	10.0	10.0		mg/L	1	09/30/22 01:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *10-Oct-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-05
Project:	OGSES-Ash Landfill-CCR	**Lab ID:**	2209260-05
Project No:	31404097.006	**Collection Date:**	09/26/22 03:10 PM
Lab Order:	2209260	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.0768	0.0100	0.0300		mg/L	1	10/04/22 01:09 PM
Calcium	19.8	0.100	0.300		mg/L	1	10/04/22 01:09 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	87.8	3.00	10.0		mg/L	10	10/05/22 03:37 PM
Fluoride	0.383	0.100	0.400	J	mg/L	1	10/05/22 10:42 PM
Sulfate	12.0	1.00	3.00		mg/L	1	10/05/22 10:42 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	290	10.0	10.0		mg/L	1	09/30/22 01:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *10-Oct-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	MW-07
Project:	OGSES-Ash Landfill-CCR	**Lab ID:**	2209260-06
Project No:	31404097.006	**Collection Date:**	09/26/22 04:00 PM
Lab Order:	2209260	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.282	0.0100	0.0300		mg/L	1	10/04/22 01:12 PM
Calcium	35.8	1.00	3.00		mg/L	10	10/04/22 01:35 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	33.9	0.300	1.00		mg/L	1	10/07/22 01:18 AM
Fluoride	0.143	0.100	0.400	J	mg/L	1	10/07/22 01:18 AM
Sulfate	150	1.00	3.00		mg/L	1	10/07/22 01:18 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	499	10.0	10.0		mg/L	1	09/30/22 01:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *10-Oct-22*

CLIENT:	WSP-Golder	**Client Sample ID:**	DUP-1
Project:	OGSES-Ash Landfill-CCR	**Lab ID:**	2209260-07
Project No:	31404097.006	**Collection Date:**	09/26/22 04:00 PM
Lab Order:	2209260	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Boron	0.280	0.0100	0.0300		mg/L	1	10/04/22 01:15 PM
Calcium	34.1	1.00	3.00		mg/L	10	10/04/22 01:37 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	33.8	0.300	1.00		mg/L	1	10/07/22 01:35 AM
Fluoride	0.149	0.100	0.400	J	mg/L	1	10/07/22 01:35 AM
Sulfate	145	10.0	30.0		mg/L	10	10/06/22 06:30 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	504	10.0	10.0		mg/L	1	09/30/22 01:10 PM

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2209260
Project: OGSES-Ash Landfill-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	

Sample ID: **DCS4-106706**	Batch ID: **106706**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS4**	Run ID: **ICP-MS5_220822B**	Analysis Date: **8/22/2022 11:15:00 AM**	Prep Date: **8/19/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0317	0.0300	0.0300	0	106	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: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_221004B

The QC data in batch 107217 applies to the following samples: 2209260-01A, 2209260-02A, 2209260-03A, 2209260-04A, 2209260-05A, 2209260-06A, 2209260-07A

Sample ID: **MB-107217** Batch ID: **107217** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 11:58:00 AM** Prep Date: **10/3/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	<0.0100	0.0300								
Calcium	<0.100	0.300								

Sample ID: **LCS-107217** Batch ID: **107217** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 12:00:00 PM** Prep Date: **10/3/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.196	0.0300	0.200	0	98.2	80	120			
Calcium	5.10	0.300	5.00	0	102	80	120			

Sample ID: **LCSD-107217** Batch ID: **107217** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 12:03:00 PM** Prep Date: **10/3/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.202	0.0300	0.200	0	101	80	120	2.81	15	
Calcium	5.11	0.300	5.00	0	102	80	120	0.049	15	

Sample ID: **2209258-06A SD** Batch ID: **107217** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 12:11:00 PM** Prep Date: **10/3/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0714	0.150	0	0.0739				3.56	20	
Calcium	47.8	1.50	0	47.9				0.286	20	

Sample ID: **2209258-06A PDS** Batch ID: **107217** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 12:36:00 PM** Prep Date: **10/3/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.272	0.0300	0.200	0.0739	98.9	75	125			
Calcium	50.3	0.300	5.00	47.9	47.8	75	125			S

Sample ID: **2209258-06A MS** Batch ID: **107217** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 12:40:00 PM** Prep Date: **10/3/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.269	0.0300	0.200	0.0739	97.5	75	125			
Calcium	53.4	0.300	5.00	47.9	109	75	125			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_221004B

Sample ID: **2209258-06A MSD** Batch ID: **107217** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 12:42:00 PM** Prep Date: **10/3/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.268	0.0300	0.200	0.0739	96.8	75	125	0.481	15	
Calcium	52.6	0.300	5.00	47.9	92.9	75	125	1.56	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: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_221004B

Sample ID: **ICV-221004** Batch ID: **R123330** TestNo: **SW6020B** Units: **mg/L**
SampType: **ICV** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 10:43:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0987	0.0300	0.100	0	98.7	90	110			
Calcium	2.51	0.300	2.50	0	100	90	110			

Sample ID: **LCVL-221004** Batch ID: **R123330** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCVL** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 10:49:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0205	0.0300	0.0200	0	102	80	120			
Calcium	0.103	0.300	0.100	0	103	80	120			

Sample ID: **CCV1-221004** Batch ID: **R123330** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 11:46:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.202	0.0300	0.200	0	101	90	110			
Calcium	5.16	0.300	5.00	0	103	90	110			

Sample ID: **CCV2-221004** Batch ID: **R123330** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 12:46:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.198	0.0300	0.200	0	99.2	90	110			
Calcium	5.17	0.300	5.00	0	103	90	110			

Sample ID: **CCV3-221004** Batch ID: **R123330** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 1:17:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.198	0.0300	0.200	0	98.9	90	110			
Calcium	5.18	0.300	5.00	0	104	90	110			

Sample ID: **CCV4-221004** Batch ID: **R123330** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS5_221004B** Analysis Date: **10/4/2022 1:40:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.15	0.300	5.00	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: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_220929A

Sample ID: **DCS3-107190** Batch ID: **107190** TestNo: **E300** Units: **mg/L**
SampType: **DCS3** Run ID: **IC2_220929A** Analysis Date: **9/29/2022 2:55:02 PM** Prep Date: **9/29/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	0.934	1.00	1.000	0	93.4	70	130	0	0	
Fluoride	0.433	0.400	0.4000	0	108	70	130	0	0	
Sulfate	2.92	3.00	3.000	0	97.4	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: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_221005A

The QC data in batch 107267 applies to the following samples: 2209260-01B, 2209260-02B, 2209260-03B, 2209260-04B, 2209260-05B

Sample ID: **MB-107267** Batch ID: **107267** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_221005A** Analysis Date: **10/5/2022 10:36:14 AM** Prep Date: **10/5/2022**

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-107267** Batch ID: **107267** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_221005A** Analysis Date: **10/5/2022 10:53:14 AM** Prep Date: **10/5/2022**

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	3.99	0.400	4.000	0	99.9	90	110			
Sulfate	30.8	3.00	30.00	0	103	90	110			

Sample ID: **LCSD-107267** Batch ID: **107267** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_221005A** Analysis Date: **10/5/2022 11:10:14 AM** Prep Date: **10/5/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110	0.340	20	
Fluoride	3.99	0.400	4.000	0	99.8	90	110	0.017	20	
Sulfate	30.8	3.00	30.00	0	103	90	110	0.111	20	

Sample ID: **2209257-05BMS** Batch ID: **107267** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_221005A** Analysis Date: **10/5/2022 1:21:37 PM** Prep Date: **10/5/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	471	10.0	200.0	323.5	73.6	90	110			S
Fluoride	195	4.00	200.0	0	97.3	90	110			
Sulfate	304	30.0	200.0	123.4	90.4	90	110			

Sample ID: **2209257-05BMSD** Batch ID: **107267** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_221005A** Analysis Date: **10/5/2022 1:38:37 PM** Prep Date: **10/5/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	489	10.0	200.0	323.5	82.9	90	110	3.87	20	S
Fluoride	203	4.00	200.0	0	101	90	110	4.16	20	
Sulfate	319	30.0	200.0	123.4	97.9	90	110	4.82	20	

Sample ID: **2209260-03BMS** Batch ID: **107267** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_221005A** Analysis Date: **10/5/2022 2:46:37 PM** Prep Date: **10/5/2022**

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

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_221005A

Sample ID: **2209260-03BMS**	Batch ID: **107267**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_221005A**	Analysis Date: **10/5/2022 2:46:37 PM**	Prep Date: **10/5/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	338	10.0	200.0	155.1	91.7	90	110			
Fluoride	202	4.00	200.0	0	101	90	110			
Sulfate	294	30.0	200.0	101.4	96.1	90	110			

Sample ID: **2209260-03BMSD**	Batch ID: **107267**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_221005A**	Analysis Date: **10/5/2022 3:03:37 PM**	Prep Date: **10/5/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	339	10.0	200.0	155.1	91.9	90	110	0.137	20	
Fluoride	202	4.00	200.0	0	101	90	110	0.306	20	
Sulfate	294	30.0	200.0	101.4	96.5	90	110	0.313	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: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_221005A

Sample ID: **ICV-221005**	Batch ID: **R123357**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_221005A**	Analysis Date: **10/5/2022 10:02:14 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	25.3	1.00	25.00	0	101	90	110			
Fluoride	10.1	0.400	10.00	0	101	90	110			
Sulfate	77.8	3.00	75.00	0	104	90	110			

Sample ID: **CCV1-221005**	Batch ID: **R123357**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_221005A**	Analysis Date: **10/5/2022 5:02:37 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.97	1.00	10.00	0	99.7	90	110			
Fluoride	4.06	0.400	4.000	0	101	90	110			
Sulfate	30.6	3.00	30.00	0	102	90	110			

Sample ID: **CCV2-221005**	Batch ID: **R123357**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_221005A**	Analysis Date: **10/5/2022 9:00:37 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.99	1.00	10.00	0	99.9	90	110			
Fluoride	4.08	0.400	4.000	0	102	90	110			
Sulfate	30.7	3.00	30.00	0	102	90	110			

Sample ID: **CCV3-221005**	Batch ID: **R123357**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_221005A**	Analysis Date: **10/5/2022 11:33:37 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110			
Fluoride	4.12	0.400	4.000	0	103	90	110			
Sulfate	30.6	3.00	30.00	0	102	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_221006A

The QC data in batch 107288 applies to the following samples: 2209260-06B, 2209260-07B

Sample ID: **MB-107288** Batch ID: **107288** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_221006A** Analysis Date: **10/6/2022 11:20:52 AM** Prep Date: **10/6/2022**

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-107288** Batch ID: **107288** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_221006A** Analysis Date: **10/6/2022 11:37:52 AM** Prep Date: **10/6/2022**

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	3.93	0.400	4.000	0	98.4	90	110			
Sulfate	30.6	3.00	30.00	0	102	90	110			

Sample ID: **LCSD-107288** Batch ID: **107288** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_221006A** Analysis Date: **10/6/2022 11:54:52 AM** Prep Date: **10/6/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.96	1.00	10.00	0	99.6	90	110	1.27	20	
Fluoride	3.89	0.400	4.000	0	97.2	90	110	1.15	20	
Sulfate	30.3	3.00	30.00	0	101	90	110	1.12	20	

Sample ID: **2209276-06DMS** Batch ID: **107288** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_221006A** Analysis Date: **10/6/2022 4:31:33 PM** Prep Date: **10/6/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2090	100	2000	0	105	90	110			
Fluoride	2040	40.0	2000	0	102	90	110			
Sulfate	3570	300	2000	1608	97.9	90	110			

Sample ID: **2209276-06DMSD** Batch ID: **107288** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_221006A** Analysis Date: **10/6/2022 4:48:33 PM** Prep Date: **10/6/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2030	100	2000	0	101	90	110	3.32	20	
Fluoride	1970	40.0	2000	0	98.7	90	110	3.44	20	
Sulfate	3440	300	2000	1608	91.5	90	110	3.65	20	

Sample ID: **2209276-09DMS** Batch ID: **107288** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_221006A** Analysis Date: **10/6/2022 5:22:33 PM** Prep Date: **10/6/2022**

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

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_221006A

Sample ID: **2209276-09DMS**	Batch ID: **107288**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_221006A**	Analysis Date: **10/6/2022 5:22:33 PM**	Prep Date: **10/6/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2060	100	2000	0	103	90	110			
Fluoride	2010	40.0	2000	0	100	90	110			
Sulfate	3570	300	2000	1614	97.5	90	110			

Sample ID: **2209276-09DMSD**	Batch ID: **107288**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_221006A**	Analysis Date: **10/6/2022 5:39:33 PM**	Prep Date: **10/6/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2060	100	2000	0	103	90	110	0.005	20	
Fluoride	2010	40.0	2000	0	100	90	110	0.156	20	
Sulfate	3560	300	2000	1614	97.5	90	110	0.011	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: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_221006A

Sample ID: **ICV-221006**	Batch ID: **R123383**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_221006A**	Analysis Date: **10/6/2022 10:46:52 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.9	1.00	25.00	0	99.6	90	110			
Fluoride	9.81	0.400	10.00	0	98.1	90	110			
Sulfate	76.2	3.00	75.00	0	102	90	110			

Sample ID: **CCV1-221006**	Batch ID: **R123383**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_221006A**	Analysis Date: **10/6/2022 8:12:33 PM**	Prep Date:

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	3.98	0.400	4.000	0	99.5	90	110			
Sulfate	30.5	3.00	30.00	0	102	90	110			

Sample ID: **CCV2-221006**	Batch ID: **R123383**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_221006A**	Analysis Date: **10/7/2022 12:10:33 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	4.04	0.400	4.000	0	101	90	110			
Sulfate	30.8	3.00	30.00	0	103	90	110			

Sample ID: **CCV3-221006**	Batch ID: **R123383**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_221006A**	Analysis Date: **10/7/2022 4:08:33 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	4.10	0.400	4.000	0	103	90	110			
Sulfate	30.9	3.00	30.00	0	103	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	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: 2209260
Project: OGSES-Ash Landfill-CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_220930A

The QC data in batch 107211 applies to the following samples: 2209260-01B, 2209260-02B, 2209260-03B, 2209260-04B, 2209260-05B, 2209260-06B, 2209260-07B

Sample ID: **MB-107211**	Batch ID: **107211**	TestNo: **M2540C**	Units: **mg/L**
SampType: **MBLK**	Run ID: **WC_220930A**	Analysis Date: **9/30/2022 1:10:00 PM**	Prep Date: **9/30/2022**

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-107211**	Batch ID: **107211**	TestNo: **M2540C**	Units: **mg/L**
SampType: **LCS**	Run ID: **WC_220930A**	Analysis Date: **9/30/2022 1:10:00 PM**	Prep Date: **9/30/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	743	10.0	745.6	0	99.7	90	113			

Sample ID: **2209259-04B-DUP**	Batch ID: **107211**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_220930A**	Analysis Date: **9/30/2022 1:10:00 PM**	Prep Date: **9/30/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	2690	50.0	0	2700				0.557	5	

Sample ID: **2209259-06B-DUP**	Batch ID: **107211**	TestNo: **M2540C**	Units: **mg/L**
SampType: **DUP**	Run ID: **WC_220930A**	Analysis Date: **9/30/2022 1:10:00 PM**	Prep Date: **9/30/2022**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	4250	50.0	0	4435				4.26	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: *10-Oct-22*

CLIENT: WSP-Golder
Work Order: 2209260
Project: OGSES-Ash Landfill-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

ALTERNATE SOURCE DEMONSTRATION REPORT

ALTERNATE SOURCE DEMONSTRATION SUMMARY

OAK GROVE STEAM ELECTRIC STATION – ASH LANDFILL 1

Introduction

This Alternate Source Demonstration Summary was prepared to document that a source other than the Ash Landfill 1 (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 CFR 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).

Ash Landfill 1 CCR Monitoring Well Network

A Site Plan showing Ash Landfill 1 and vicinity is shown on Figure 1. The CCR groundwater monitoring well system at the Ash Landfill 1 consists of six monitoring wells (MW-02, MW-05, MW-07, MW-08R, MW-09, and AL-10) that are each screened in the uppermost aquifer at the Site. The uppermost aquifer at the Site occurs under unconfined conditions within the shallow sand units at the Site (PBW 2017). Groundwater elevations have consistently been highest west of the Ash Landfill 1 and lowest east of the Ash Landfill 1 during the background and detection monitoring period, with a groundwater flow direction from west to east. Based on the observed groundwater potentiometric surface at the Site, the location of each CCR monitoring well relative to the Ash Landfill 1 is as follows:

Upgradient/Background Wells	Downgradient Wells
MW-02 AL-10	MW-05 MW-07 MW-08R MW-09

2021 Semi-Annual Detection Monitoring Results and Discussion

Detection Monitoring Program groundwater data collected from the Ash Landfill 1 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 from the Site CCR monitoring well network in 2021 in accordance with 40 CFR 257.94. Golder collected the first semi-annual 2021 Detection Monitoring Program groundwater samples in June 2021 and the second semi-annual Detection Monitoring Program groundwater samples in October 2021.

SSIs above background prediction limits were identified for boron, sulfate, and other Appendix III parameters in downgradient wells as part of the 2018 through 2020 Detection Monitoring events; however, Alternate Source Demonstrations were completed which indicated that a source other than the CCR unit caused the SSIs.

Similarly, during 2021, SSIs above background prediction limits were identified for boron in well MW-07 (max concentration of 0.181 mg/L) and sulfate in wells MW-07 and MW-08R (max concentration of 136 mg/L). As shown on Table 1, similar concentrations for boron and sulfate above background prediction limits have been observed in upgradient wells; therefore, the SSIs identified in 2021 in downgradient wells are attributed to natural variation in groundwater quality related to the heterogeneity of the uppermost aquifer at the Site rather than a release from the Ash Landfill 1.

Conclusion

SSIs or potential SSIs were observed in downgradient wells MW-07 and MW-8R during the 2021 Detection Monitoring Program sampling events at Ash Landfill 1. However, all SSIs are attributed to natural variation in groundwater quality due to the heterogeneity of the groundwater system and 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 (PBW), 2017. Coal Combustion Residual Rule, Groundwater Monitoring System Certification, Oak Grove Steam Electric Station, Ash Landfill 1, Robertson County, Texas. October 16, 2017.

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

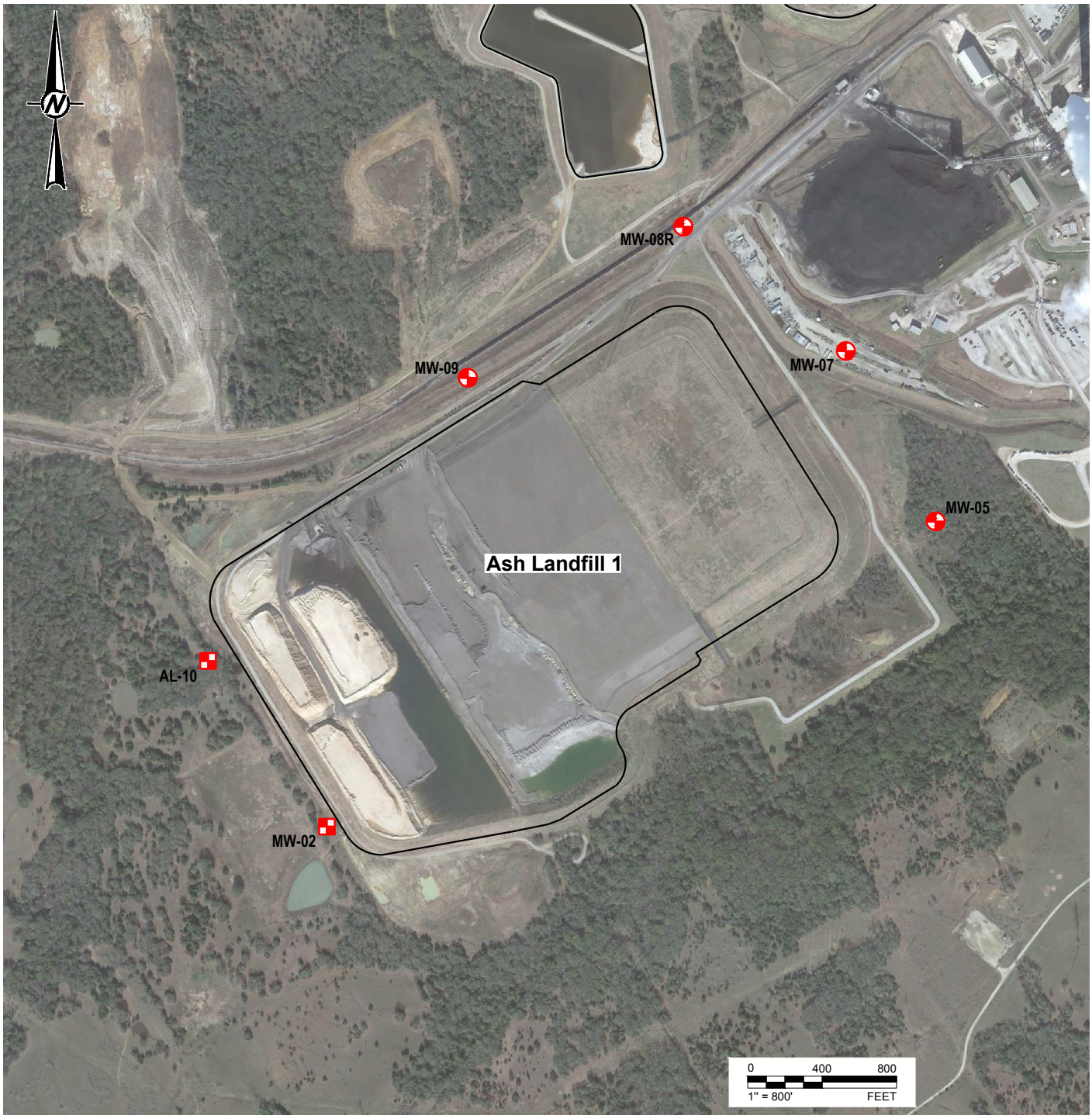
TABLE 1
APPENDIX III ANALYTICAL RESULTS
OGSES ASH LANDFILL 1

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
Prediction Limit		0.124	74.9	353	0.4	6.31 7.09	97.4	948
Upgradient Wells								
AL-10	11/04/15	0.0682	34.5	149	0.149 J	6.86	72.6	590
	12/18/15	0.0539	37.5	81	0.15 J	6.45	20.6	414
	02/10/16	0.0637	48.6	108	0.197 J	6.75	34.9	599
	04/15/16	0.0573	44.8	86	0.133	6.51	23.6	549
	06/16/16	0.0915	34.7	66.7	0.155 J	6.44	23.5	436
	08/25/16	0.105	87.5	444	<0.1	6.61	96.3	1,120
	10/04/16	0.0756	35.1	57.3	0.278 J	6.92	20.1	507
	12/22/16	0.0759	32.5	57.2	0.195 J	6.78	21.5	527
	10/02/17	0.0973	27	50.6	0.120 J	6.85	12.2	398
	06/04/18	0.0875	21.9	62.1	0.183 J	6.67	11.6	362
	09/06/18	0.113	21.9	56.7	0.260 J	6.66	11.8	371
	05/17/19	0.114	16.8	67.9	0.262 J	6.64	12.4	340
	08/20/19	0.115	18.8	66.2	0.363 J	6.87	11.8	333
	05/07/20	0.128	18.8	52.2	<0.100	6.78	11.1	317
	09/09/20	0.139	16.8	49.2	0.208 J	6.86	10.6	301
	06/16/21	0.107	15.2	41.9	0.27 J	6.82	9.92	267
	10/12/21	0.0878	15.1	51.4	<0.1	6.82	9.84	269
MW-02	11/04/15	0.064	32.5	138	0.135 J	6.92	71.4	539
	12/18/15	0.0476	29	61.7	0.118 J	6.83	15.9	308
	02/10/16	0.0853	25.4	83.5	0.229 J	6.63	34	320
	04/15/16	0.0597	39.6	68	0.102	6.51	18.1	440
	06/16/16	0.106	26.5	87.8	0.161 J	6.89	34.8	343
	08/25/16	0.0492	12.9	21.9	0.164 J	6.58	22.4	163
	10/04/16	0.113	61.4	222	0.185 J	6.69	97.4	667
	12/21/16	0.11	47.8	185	0.293 J	6.78	83.4	590
	10/02/17	0.0567	22.2	42.4	<0.100	6.68	9.67	310
	06/04/18	0.144	82.4	275	0.139 J	6.28	121	740
	09/06/18	0.148	70.9	259	0.221 J	6.02	116	872
	05/17/19	0.0981	20	67.6	0.321 J	6.63	31.1	306
	08/20/19	0.0875	19.9	53.8	0.558	6.59	20.1	260
	05/07/20	0.0996	11.5	2.87	<0.100	6.63	6.14	106
	09/09/20	0.166	55.6	210	0.287 J	6.76	99.2	592
	06/16/21	0.0756	48	164	0.977	6.62	35.9	646
	10/12/21	0.0848	23.8	56.6	0.36	6.62	20.7	245
Downgradient Wells								
MW-05	11/04/15	0.0628	15.4	64.8	0.272 J	7.11	13.6	285
	12/18/15	0.0621	13	60.2	0.476	6.52	10.5	232
	02/10/16	0.0447	14	59.7	0.397 J	6.67	11.9	235
	04/15/16	0.0458	14.3	55.4	0.284	6.42	10.7	288
	06/15/16	0.058	14.2	60.4	0.306 J	6.61	11.8	269
	08/24/16	0.0877	13.1	63	0.262 J	6.75	11.8	287
	10/04/16	0.059	15.4	57.9	0.477	6.87	10.9	253
	12/22/16	0.0759	61.4	264	0.446	6.63	55.6	778
	10/02/17	0.0665	17.5	58.6	0.295 J	6.89	10.4	246
	06/05/18	0.0739	16.8	60	0.391 J	6.43	12.1	253
	09/07/18	0.077	15.8	63.3	0.392 J	6.11	10.6	249
	05/17/19	0.0686	13.5	66.4	0.462	6.57	11.2	257
	08/20/19	0.079	16	66.7	0.514	6.78	10.8	263
	05/07/20	0.0985	18	71.8	0.344 J	6.68	10.6	264
	09/09/20	0.201	20.5	79.8	0.372 J	6.81	66.5	407
	06/16/21	0.0753	17.7	77.7	0.415	6.69	10	255
	10/12/21	0.0615	20.9	83.6	0.433	6.52	11.7	282
	10/12/2021 DUP	0.0703 J	20.9	85.5	0.425	6.52	12.1	272

TABLE 1
APPENDIX III ANALYTICAL RESULTS
OGSES ASH LANDFILL 1

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
Prediction Limit		0.124	74.9	353	0.4	6.31 7.09	97.4	948
MW-07	11/03/15	0.0483	8.57	20.2	0.289 J	6.42	11.5	276
	12/17/15	0.0539	8.75	17.7	0.319 J	6.86	14.7	243
	02/09/16	0.0547	13.3	28.9	0.276 J	7.18	25.3	283
	04/15/16	0.0567	10	20.9	0.187	6.71	16	341
	06/15/16	0.0639	10.5	22.9	0.226 J	6.75	23.2	294
	08/24/16	0.0691	9.58	20.4	0.159 J	6.89	21.8	290
	10/04/16	0.0549	10.3	15.6	0.277 J	6.82	17.1	256
	12/22/16	0.054	12.5	22.9	0.229 J	6.29	34.7	262
	10/02/17	0.0733	13.9	15.8	0.178 J	6.59	38.4	298
	06/05/18	0.105	17.5	15.7	0.169 J	5.98	61.1	316
	09/07/18	0.151	19.7	21.5	0.250 J	6.18	80.3	357
	11/6/2018 resample	0.154	--	--	--	--	--	--
	05/17/19	0.132	17.1	20.2	0.244 J	6.83	84.1	355
	08/19/19	0.215	22.8	19.7	0.367 J	6.77	100	385
	05/07/20	0.302	29.7	22.4	0.234 J	6.84	123	432
	09/09/20	0.297	26.9	24.7	0.302 J	6.58	121	413
	06/16/21	0.186	25.8	26.2	0.378 J	6.84	108	404
	6/16/21 DUP	0.177	25.5	26.6	0.378 J	6.84	110	399
	10/13/21	0.181	31.6	29.6	0.353	6.85	130	422
MW-08	11/04/15	0.0631	120	599	0.17 J	6.81	138	2,070
	12/18/15	0.0604	70.4	488	0.158 J	6.78	49.8	1,140
	02/09/16	0.0695	140	612	0.175 J	6.42	170	1,530
	04/15/16	0.0726	133	566	<0.1	6.61	139	1,680
	06/16/16	0.0677	76.6	520	<0.1	6.76	83.6	1,090
	8/2016	Destroyed						
MW-08R	12/22/16	0.0702	32.4	166	0.355 J	6.93	39.7	617
	03/21/17	0.0662	117	563	0.2 J	5.83	98.3	1,220
	04/20/17	0.0696	115	560	0.149 J	5.91	94.9	1,190
	10/02/17	0.061	13.1	14.4	<0.100	6.63	28.7	243
	06/05/18	0.082	18.9	53.9	0.138 J	6.37	9.66	302
	09/07/18	0.0921	106	504	0.242 J	5.84	96.9	1,550
	11/6/2018 resample	--	15.7	19	--	--	--	268
	05/17/19	0.102	16.7	69.8	0.269 J	6.54	12.4	326
	08/20/19	0.096	24.9	48	0.501	6.84	30.7	255
	05/07/20	0.122	19	51.8	0.117 J	6.83	11.1	320
	09/09/20	0.0977	15.8	55.5	0.344 J	6.68	19.0	256
	06/16/21	0.116	15.3	43.5	0.263 J	6.76	9.26	266
	10/12/21	0.107	32.8	268	<0.1	6.76	136	874
MW-09	11/03/15	0.0722	36.4	155	0.149 J	6.45	74.9	583
	12/18/15	0.077	40.3	157	0.266 J	6.48	83.1	528
	02/09/16	0.072	38.4	158	0.152 J	6.16	80	445
	04/15/16	0.0734	42.2	151	<0.1	6.41	80.9	568
	06/15/16	0.0778	43.1	174	<0.1	6.52	98.7	574
	08/25/16	0.0829	45.6	195	<0.1	6.76	116	715
	10/04/16	0.0803	47.8	179	0.256 J	6.64	108	648
	12/22/16	0.0776	42.6	290	0.159 J	6.87	116	791
	10/02/17	0.106	58.2	140	<0.100	6.76	95.3	433
	06/04/18	0.091	21.7	6.48	0.162 J	6.28	6.08	135
	09/06/18	0.0999	49.8	186	0.134 J	5.61	104	704
	11/6/2018 resample	--	--	--	--	--	58.6	--
	05/17/19	0.12	17.2	366	0.541	6.72	53.2	935
	08/20/19	0.117	26	61.2	0.359 J	6.96	22.3	331
	05/07/20	0.0988	20.2	45.1	0.234 J	6.68	17.3	212
	09/09/20	0.123	48.5	156	0.152 J	6.72	99.6	468
	06/16/21	0.0682	16.3	4.18	<0.100	6.84	8.19	127
	10/12/21	0.0821	20.7	29.9	<0.1	6.84	31.2	223

Notes:
1. Abbreviations: mg/L - milligrams per liter; TDS - total dissolved solids; s.u. - standard units.
2. J - concentration is below method quantitation limit; result is an estimate.
3. Highlighted sample results exceed the prediction limit.



LEGEND

- DOWNGRADIENT CCR MONITORING WELL
- UPGRADIENT CCR MONITORING WELL

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 12/9/18.

CLIENT
LUMINANT

PROJECT
OAK GROVE STEAM ELECTRIC STATION
ROBERTSON COUNTY, TEXAS

TITLE
DETAILED SITE PLAN - ASH LANDFILL

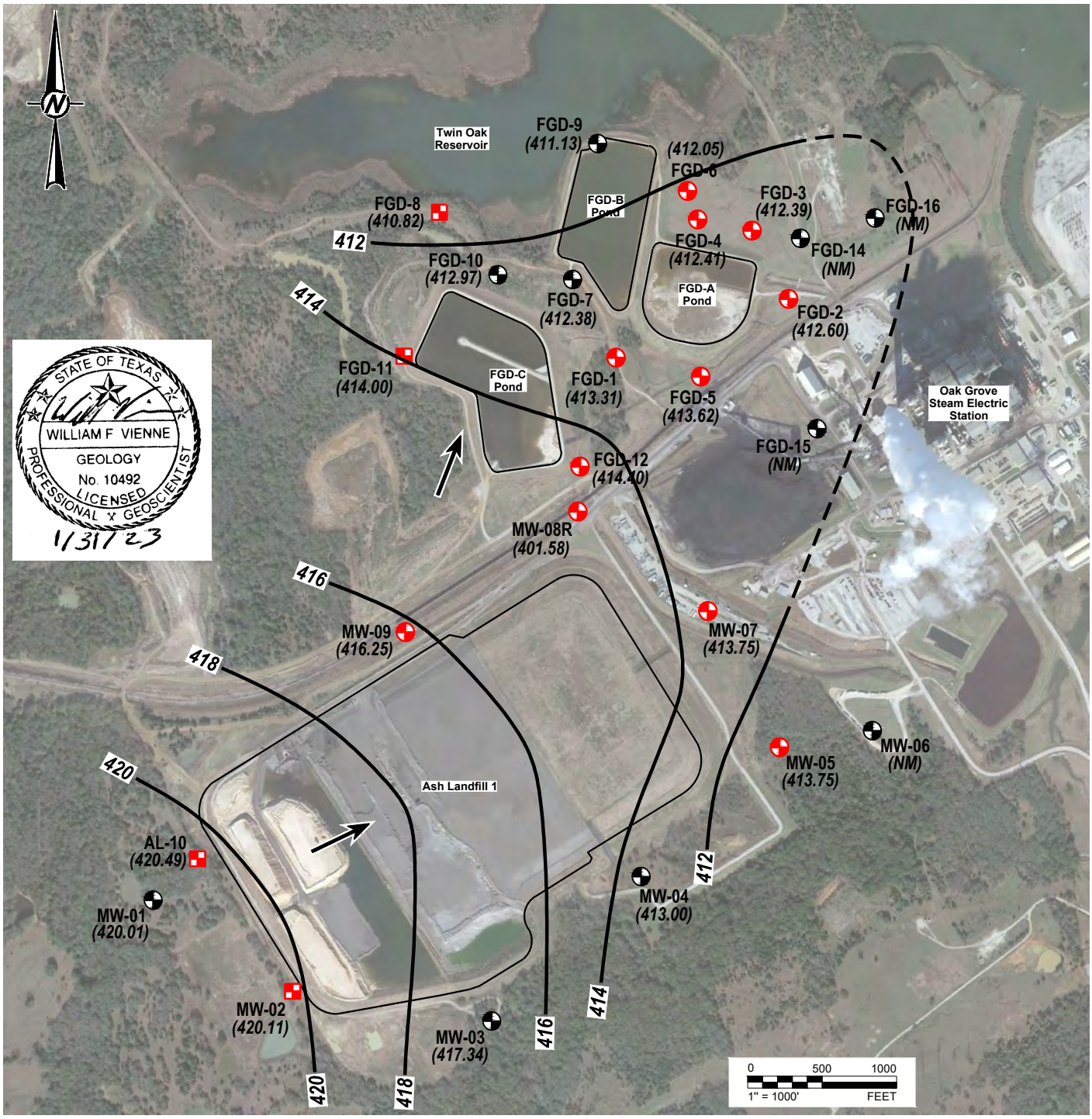
CONSULTANT
WSP GOLDER

YYYY-MM-DD	2020-01-23
DESIGNED	AJD
PREPARED	AJD
REVIEWED	WFV
APPROVED	WFV

PROJECT NO.	REV.	FIGURE
19122262	0	1

ATTACHMENT 3

2022 GROUNDWATER POTENTIOMETRIC SURFACE MAPS



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

LEGEND

- CCR MONITORING WELL
- BACKGROUND CCR MONITORING WELL
- NON-CCR WELL
- (410.06) GROUNDWATER POTENTIOMETRIC SURFACE (FT MSL)
- 400 GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR (C.I. = 2 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 12/9/18.

CLIENT
LUMINANT

PROJECT
OAK GROVE STEAM ELECTRIC STATION
ROBERTSON COUNTY, TEXAS

TITLE
ASH LANDFILL AND FGD PONDS POTENTIOMETRIC SURFACE MAP MAY 2022

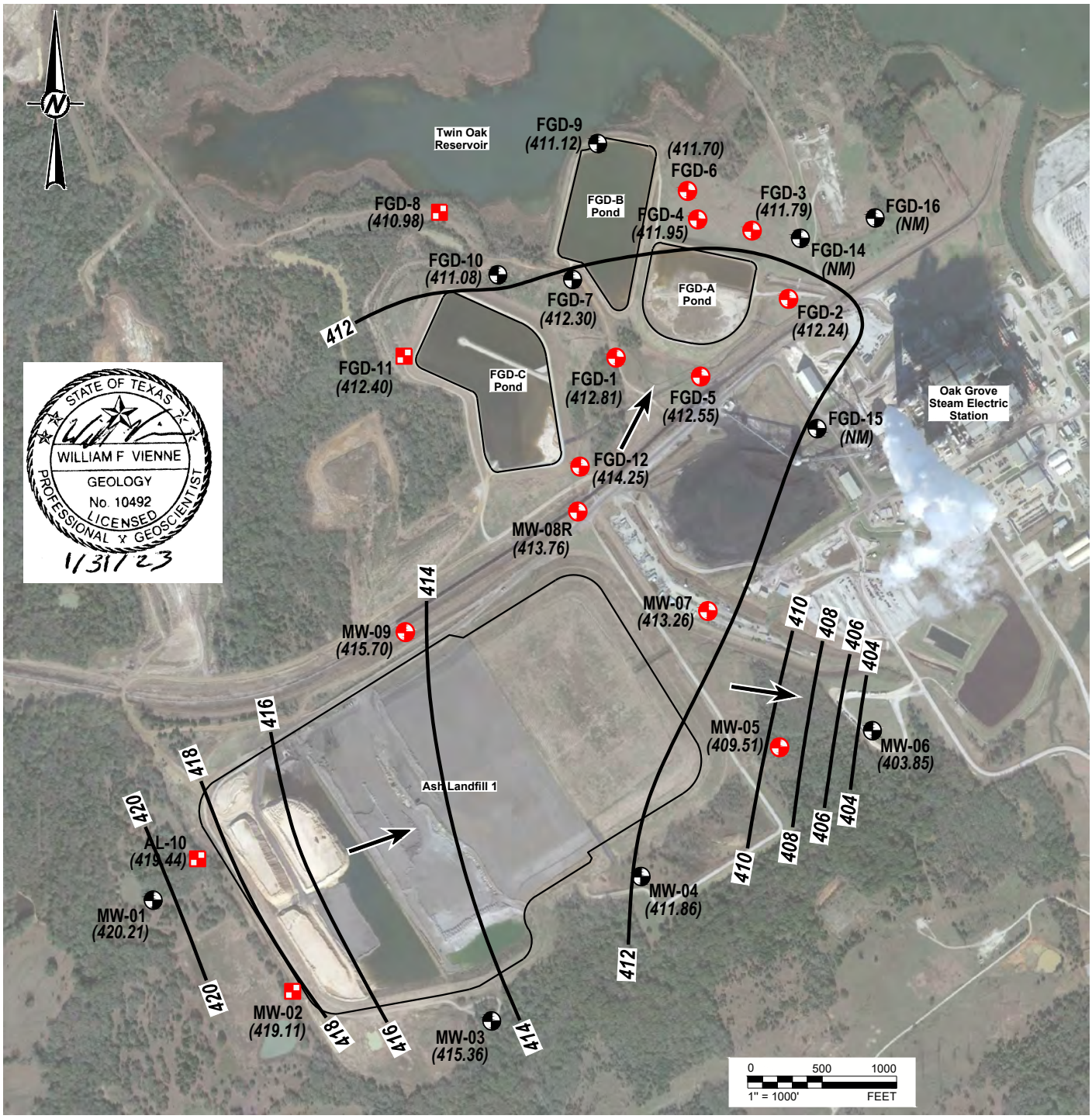
CONSULTANT
wsp

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

PROJECT NO. 31404097.007 | REV. 0 | FIGURE 1

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

Last Edited By: usad701305 Date: 2023-01-10 Time:2:23:22 PM | Printed By: USAD701305 Date: 2023-01-10 Time:2:34:23 PM
Path: \\golder.gds\complexdata\office\Texarkana\Projects - Round Rock_2022\31404097 - Luminant CCR\Oak Grove\PRODUCTION\2023-01\ | File Name: 1 - POT Surface Map (May 2022).dwg



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

LEGEND

- CCR MONITORING WELL
- BACKGROUND CCR MONITORING WELL
- NON-CCR WELL
- (410.06) GROUNDWATER POTENTIOMETRIC SURFACE (FT MSL)
- 400 GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR (C.I. = 2 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 12/9/18.

CLIENT
LUMINANT

PROJECT
OAK GROVE STEAM ELECTRIC STATION
ROBERTSON COUNTY, TEXAS

TITLE
ASH LANDFILL AND FGD PONDS POTENTIOMETRIC SURFACE MAP SEPTEMBER 2022

CONSULTANT
wsp

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

PROJECT NO. 31404097.007 | REV. 0 | FIGURE 2