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

A1 AREA LANDFILL
MARTIN LAKE STEAM ELECTRIC STATION
PANOLA COUNTY, TEXAS

January 31, 2024

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TABLE OF CONTENTS

TABLE OF CONTENTS ii
LIST OF FIGURES ii
LIST OF TABLES ii
LIST OF APPENDICES ii
ACRONYMS AND ABBREVIATIONS iii
EXECUTIVE SUMMARY iv
1.0 INTRODUCTION 1
2.0 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS 3
3.0 KEY ACTIONS COMPLETED IN 2023 6
4.0 PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS 8
5.0 KEY ACTIVITIES PLANNED FOR 2024 9
6.0 REFERENCES 10
SIGNATURE PAGE 11

LIST OF FIGURES

Figure 1 Site Plan

LIST OF TABLES

Table 1 Appendix III Statistical Background Values
Table 2 Groundwater Protection Standards
Table 3 Appendix III Analytical Results
Table 4 Appendix IV Analytical Results
Table 5 Groundwater Elevation Summary

LIST OF APPENDICES

Appendix A Laboratory Analytical Reports
Appendix B Appendix IV Confidence Interval Graphs
Appendix C Groundwater Potentiometric Surface Maps
Appendix D Cobalt Time Series Plots

ACRONYMS AND ABBREVIATIONS

ACM	Assessment of Corrective Measures
CCR	Coal Combustion Residuals
C.F.R.	Code of Federal Regulations
GWPS	Groundwater Protection Standard
MCL	Maximum Concentration Level
mg/L	Milligrams per Liter
MLSES	Martin Lake Steam Electric Station
MNA	Monitored Natural Attenuation
NA	Not Applicable
SSI	Statistically Significant Increase
SSL	Statistically Significant Level
T.A.C.	Texas Administrative Code
USEPA	United States Environmental Protection Agency

EXECUTIVE SUMMARY

Bullock, Bennett & Associates, LLC (BBA) has prepared this report on behalf of Luminant Generation Company LLC (Luminant) to satisfy the 2023 annual groundwater monitoring and corrective action reporting requirements of 40 C.F.R. Part 257 and 30 T.A.C. Chapter 352 for the A1 Area Landfill (the "CCR unit") at the Martin Lake Steam Electric Station (MLSES) in Panola County, Texas. The CCR unit and CCR monitoring well network are shown on Figure 1.

At the beginning and end of the 2023 reporting period, the CCR unit was operating under an Assessment Monitoring Program as described in §257.95. The Assessment Monitoring Program was established on July 16, 2018. Concentrations of Appendix IV constituents at statistically significant levels (SSLs) above groundwater protection standards (GWPSs) were identified in January 2019 for arsenic, barium, cobalt, and lithium at the A1 Area Landfill. An Assessment of Corrective Measures (ACM) was initiated on April 8, 2019 and was completed on September 5, 2019 in accordance with §257.96 to address the Appendix IV SSLs. A public meeting was held on November 13, 2019, pursuant to §257.96(e), to discuss the results of the ACM. A Remedy Selection Report (Golder 2022a) was completed in January 2022 in accordance with the requirements of §257.97. MNA with source control measures was selected as the remedy to address the Appendix IV constituents observed at SSLs. A site-specific feasibility study to evaluate MNA as a potential groundwater remedy for the Appendix IV constituents observed at SSLs was performed in accordance with guidance and best practices promulgated by the USEPA (USEPA 2007a and 2007b) and Interstate Technology and Regulatory Council (ITRC 2010). Summary reports documenting the MNA feasibility study were included as attachments to the Remedy Selection Report.

Cobalt is the only Appendix IV constituent that has been observed at SSLs above the GWPS since 2019. During 2023, SSLs above GWPSs were observed at A-1 Area Landfill for cobalt in wells BMW-20 and BMW-27.

1.0 INTRODUCTION

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

(1) A map, aerial image, or diagram showing the CCR unit and all background (or upgradient) and downgradient monitoring wells, to include the well identification numbers, that are part of the groundwater monitoring program for the CCR unit;

(2) Identification of any monitoring wells that were installed or decommissioned during the preceding year, along with a narrative description of why those actions were taken;

(3) In addition to all the monitoring data obtained under §§ 257.90 through 257.98, a summary including the number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and whether the sample was required by the detection monitoring or assessment monitoring programs;

(4) A narrative discussion of any transition between monitoring programs (*e.g.,* the date and circumstances for transitioning from detection monitoring to assessment monitoring in addition to identifying the constituent(s) detected at a statistically significant increase over background levels); and

(5) Other information required to be included in the annual report as specified in §§ 257.90 through 257.98.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2.0 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

The initial Detection Monitoring Program groundwater samples were collected from the A1 Area Landfill CCR monitoring well network in September 2017. The evaluation of those data was completed in 2018 using procedures described in the Statistical Analysis Plan (Golder 2022b) to identify statistically significant increases (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 Completion Date	Parameters	SSIs	Assessment Monitoring Program Established
September 26, 2017	Appendix III	Yes	July 16, 2018

Alternate source evaluations were inconclusive for one or more of the SSIs. Consequently, an Assessment Monitoring Program was initiated and established for the A1 Area Landfill in July 2018 in accordance with §257.94(e)(2). The initial Assessment Monitoring Program groundwater samples were collected in June 2018. Subsequent Assessment Monitoring Program sampling events have been conducted on a semi-annual basis, as required by the CCR Rule. The Assessment Monitoring Program sampling dates and parameters are summarized in the following table:

Assessment Monitoring Program Summary

Sampling Completion Date	Analytical Data Receipt Date	Parameters	SSL(s)	SSL(s) Determination Date	Corrective Measures Assessment Initiated	Corrective Measures Assessment Completed
June 12, 2018	July 21, 2018	Appendix III Appendix IV	NA	NA	NA	NA
September 14, 2018	October 12, 2018	Appendix III Appendix IV	As, Ba, Co, Li	January 7, 2019	April 8, 2019	September 5, 2019
May 15, 2019	June 18, 2019	Appendix III Appendix IV	Co	September 5, 2019	NA	NA
September 9, 2019	October 14, 2019	Appendix III Appendix IV	Co	January 8, 2020	NA	NA
May 22, 2020	June 24, 2020	Appendix III Appendix IV	Co	August 17, 2020	NA	NA
September 30, 2020	October 27, 2020	Appendix III Appendix IV	Co	December 7, 2020	NA	NA
June 15, 2021	July 19, 2021	Appendix III Appendix IV	Co	July 19, 2021	NA	NA
October 7, 2021	November 15, 2021	Appendix III Appendix IV	Co	January 10, 2022	NA	NA
May 26, 2022	July 13, 2022	Appendix III Appendix IV	Co	August 1, 2022	NA	NA
September 23, 2022	November 9, 2022	Appendix III Appendix IV	Co	December 24, 2022	NA	NA
May 24, 2023	June 30, 2023	Appendix III Appendix IV	Co	July 28, 2023	NA	NA
August 16, 2023	September 26, 2023	Appendix III Appendix IV	Co	December 11, 2023	NA	NA

Notes:

NA: Not Applicable

The statistical background prediction limits used to assess Appendix III data and the GWPSs used to assess Appendix IV data are summarized in Tables 1 and 2, respectively. Appendix III and Appendix IV

analytical data are summarized in Tables 3 and 4, respectively, and the laboratory analytical reports are provided in Attachment 1. Using the Appendix IV data collected during the assessment period through September 2018, SSLs above GWPSs were initially identified for arsenic, barium, cobalt, and lithium in 2019. Notification of these SSLs was placed in the operating record on February 6, 2019, and was subsequently placed on the public website in accordance with §257.107(d). An ACM was initiated on April 8, 2019 pursuant to §257.95(g). A justification letter for a 60-day extension due to site-specific circumstances that delayed work on the ACM was certified on July 3, 2019 in accordance with §257.96(a). A copy of the extension justification letter was provided in the 2019 Annual Groundwater Monitoring and Corrective Action Report. The ACM was completed in September 2019 (Golder 2019) for the parameters detected at SSLs above GWPSs (arsenic, barium, cobalt, and lithium), pursuant to §257.96. A public meeting was held on November 13, 2019, pursuant to §257.96(e), to discuss the results of the ACM.

Statistical analysis of the data through 2023 was performed in accordance with the Statistical Analysis Plan (Golder 2022b) and USEPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities-Unified Guidance (USEPA 2009). The statistical analysis included an evaluation of confidence intervals for each of the Appendix IV parameters to evaluate whether constituent concentrations were present at concentrations above GWPSs. A 95% lower confidence limit of the mean (LCL) is calculated for each Appendix IV constituent at each downgradient well. The data set used to calculate LCLs is based on current and historical constituent concentrations for a compliance well. In accordance with USEPA (2009) guidance, a statistically significant increase over the GWPS has occurred at a CCR unit when the LCL for at least one assessment monitoring constituent at a downgradient well is greater than the appropriate GWPS. The LCLs for each Appendix IV constituent at each well are compared to GWPSs in Appendix B. Cobalt was the only Appendix IV parameter identified at an SSL above GWPSs during the 2023 Assessment Monitoring period.

3.0 KEY ACTIONS COMPLETED IN 2023

Assessment Monitoring Program groundwater monitoring events were completed in May and August 2023. The number of groundwater samples that were collected for analysis for each background and downgradient well, the dates the samples were collected, and the analytical results for the groundwater samples are summarized in Table 3 (Appendix III parameters) and Table 4 (Appendix IV parameters). A map showing the CCR unit and monitoring wells is provided as Figure 1. No CCR wells were installed or decommissioned in 2023.

Water elevations measured in the CCR wells during the 2023 semi-annual groundwater monitoring events are summarized in Table 5 and groundwater potentiometric surface maps are presented in Appendix C. The inferred direction and magnitude of groundwater flow during the semi-annual monitoring events was generally from the northeast to the west, southwest, and southeast at about 9 feet per year, which is similar to previously observed conditions at the site.

As noted in Section 2.0, an ACM for the Appendix IV parameters identified at SSLs above GWPSs in 2018 (arsenic, barium, cobalt, and lithium) was completed in September 2019 to assess potential corrective measures alternatives. A Remedy Selection Report (Golder 2022a) was completed in January 2022 in accordance with the requirements of §257.97. MNA with source control measures (capping) was selected as the remedy to address the Appendix IV constituents observed at SSLs. A site-specific feasibility study to evaluate MNA as a potential groundwater remedy for the Appendix IV constituents observed at SSLs was performed in accordance with guidance and best practices promulgated by the USEPA (USEPA 2007a and 2007b) and Interstate Technology and Regulatory Council (ITRC 2010). Summary reports documenting the MNA feasibility study were included as attachments to the Remedy Selection Report. Based on the results of the MNA feasibility study, the following was concluded regarding the Appendix IV constituents identified at SSLs:

- Physical and chemical attenuation of arsenic, barium, cobalt, and lithium is occurring at the site. Concentrations of these constituents in groundwater are stable or decreasing and the aquifer has adequate capacity to attenuate these constituents in a reasonable timeframe. Geochemical modeling indicates that attenuation will be efficient and stable in the long term. Therefore, MNA with source control measures is considered an effective corrective measure for the site.

The MNA monitoring well network and MNA sampling and analysis procedures are the same as those used in the current Assessment Monitoring Program. As such, groundwater monitoring activities to

satisfy MNA monitoring requirements are ongoing. The MNA groundwater monitoring program and source control measures that constitute the selected remedy have therefore been initiated and the requirement of § 257.98(a) for initiating remedial activities within 90 days of selecting a remedy has been met. The long-term effectiveness of the source control measures and MNA as a remedy will be assessed based on the statistical evaluation of sample concentrations against GWPSs and an evaluation of long-term trends in the sample data.

During 2023, SSLs above GWPSs were observed at the A1 Area Landfill for cobalt in wells BMW-20 and BMW-27. Notifications of the observed SSLs were submitted to the executive director via email as required under 30 TAC § 352.951(d) on August 3, 2023 for the first semi-annual sampling event and December 19, 2023 for the second semi-annual sampling event. SSLs above GWPS were not observed for any of the other Appendix IV constituents in 2023. A time series plot of cobalt concentrations in BMW-20 and BMW-27 is provided in Appendix D. The time series plot shows that cobalt concentrations have been stable or decreasing in BMW-20 and BMW-27 since about 2019. Furthermore, cobalt concentrations in BMW-27 have been below the GWPS in all samples collected from 2019 onward. Cobalt concentrations have also been below the GWPS in all samples collected from well BMW-32, which was installed downgradient of BMW-20 and BMW-27 in 2019 as part of the ACM to delineate the cobalt SSLs in those wells. These data support the findings of the MNA feasibility study; specifically, that the source control and MNA remedy is effective at addressing the SSLs above GWPSs.

Per 40 C.F.R. § 257.98(c), the selected remedy will be considered complete when: (1) The owner or operator of the CCR unit demonstrates compliance with the GWPS established under 40 C.F.R. § 257.95(h) has been achieved at all points within the plume of contamination that lie beyond the groundwater monitoring well system established under 40 C.F.R. § 257.91, (2) Compliance with the GWPS established under 40 C.F.R. § 257.95(h) has been achieved by demonstrating that concentrations of constituents listed in Appendix IV to this part have not exceeded the GWPSs for a period of three consecutive years using the statistical procedures and performance standards in 40 C.F.R. § 257.93(f) and (g), and (3) All actions required to complete the remedy have been satisfied.

The Assessment Monitoring Program will continue based on the SSLs of cobalt identified at the site in 2023.

4.0 PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

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

5.0 KEY ACTIVITIES PLANNED FOR 2024

The following key activities are planned for 2024:

- Continue the Assessment Monitoring Program in accordance with applicable provisions of 40 C.F.R. §257.95 and 30 T.A.C. §352.951.

6.0 REFERENCES

Golder, 2019. CCR Assessment of Corrective Measures, Martin Lake Steam Electric Station – A1 Area Landfill, Panola County, Texas. September.

Golder, 2022a. Remedy Selection Report, Martin Lake Steam Electric Station – A1 Area Landfill, Panola County, Texas. January 18.

Golder, 2022b. Statistical Analysis Plan – Revision No. 1, Martin Lake Steam Electric Station – A1 Area Landfill, Panola County, Texas.

Interstate Technology and Regulatory Council (ITRC), 2010. A Decision Framework for Applying Monitored Natural Attenuation Processes to Metals and Radionuclides in Groundwater. Technical/Regulatory Guidance, December 2010.

Pastor, Behling & Wheeler, LLC (PBW), 2017. Statistical Analysis Plan, Martin Lake Steam Electric Station A1 Area Landfill. October 2017.

USEPA, 2007a. Monitored Natural Attenuation of Inorganic Contaminants in Ground Water. Volume 1. Technical Basis for Assessment. EPA/600/R-07/139.

USEPA, 2007b. Monitored Natural Attenuation of Inorganic Contaminants in Ground Water. Volume 2. Assessment for Non-Radionuclides Including Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Nitrate, Perchlorate, and Selenium. EPA/600/R-07/140.

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

SIGNATURE PAGE

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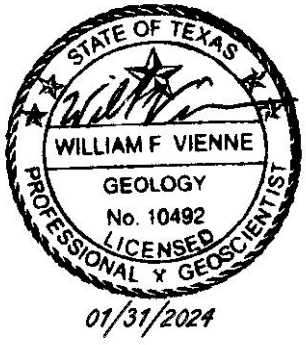
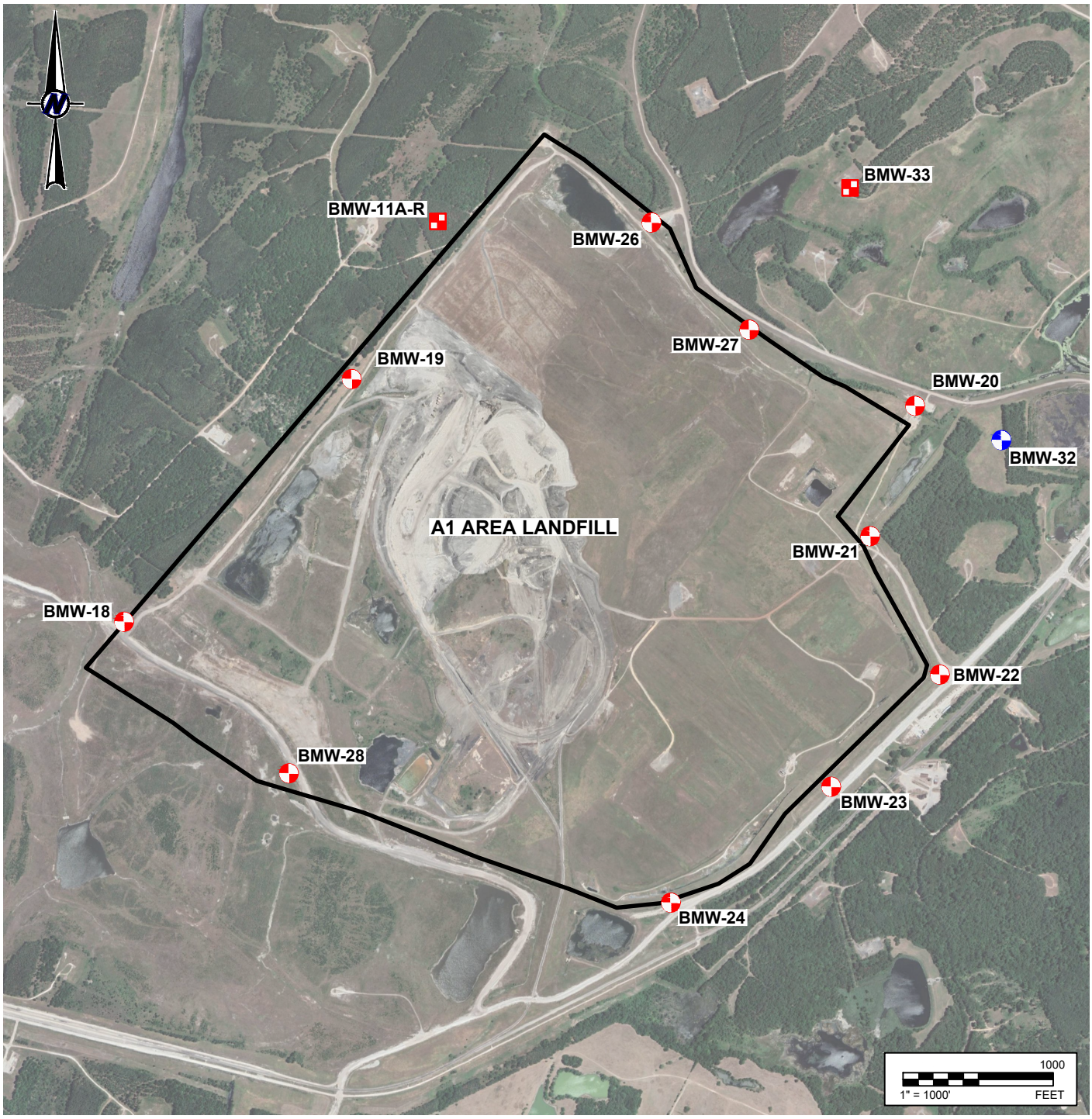


FIGURES



LEGEND

- DOWNGRADIENT CCR MONITORING WELL
- UPGRADIENT CCR MONITORING WELL
- ASSESSMENT OF CORRECTIVE MEASURES DELINEATION MONITORING WELL

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATE JANUARY 2021

LUMINANT

MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

A1 AREA LANDFILL
SITE PLAN

PROJECT: 23643.03	BY: SLB	DATE: 12/19/2023	CHECKED: WV

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

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TABLES

Table 1
Statistical Background Values
MLSES A1 Area Landfill

Parameter	Statistical Background Value
Boron (mg/L)	0.55
Calcium (mg/L)	280
Chloride (mg/L)	36
Fluoride (mg/L)	0.40
field pH (s.u.)	5.8 7.6
Sulfate (mg/L)	1,100
Total Dissolved Solids (mg/L)	2,900

Table 2
Groundwater Protection Standards
MLSES A1 Area Landfill

Parameter	Groundwater Protection Standard
Antimony (mg/L)	0.0060
Arsenic (mg/L)	0.016
Barium (mg/L)	2.0
Beryllium (mg/L)	0.0040
Cadmium (mg/L)	0.0050
Chromium (mg/L)	0.10
Cobalt (mg/L)	0.012
Fluoride (mg/L)	4.0
Lead (mg/L)	0.015
Lithium (mg/L)	0.10
Mercury (mg/L)	0.0020
Molybdenum (mg/L)	0.10
Selenium (mg/L)	0.050
Thallium (mg/L)	0.0020
Radium 226+228 (pCi/L)	11

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

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								
BMW-11-AR	10/29/15	0.332	91.5	11.3	<0.100	6.97	243	923
	12/30/15	0.285	92.3	2.39	0.26 J	6.87	114	642
	02/25/16	0.44	136	18.8	0.123 J	6.52	382	1,450
	04/07/16	0.391	151	17.5	<0.100	6.34	334	1,290
	06/09/16	0.417	182	19.8	<0.100	6.63	603	1,700
	08/11/16	0.389	170	20.8	<0.100	6.68	682	1,790
	10/26/16	0.316	99.7	15.8	<0.100	6.85	495	1,590
	12/14/16	0.409	201	19.8	<0.100	6.65	665	1,970
	09/25/17	0.448	199	15.2	<0.100	6.97	561	1,620
	06/12/18	0.634	173	8.37	0.323 J	6.82	320	1,080
	09/14/18	0.455	175	19.7	0.353 J	5.86	538	1,720
	05/15/19	0.374	138	6.11	0.198 J	6.84	324	970
	09/04/19	0.368	149	6.41	0.170 J	6.82	356	1,090
	05/20/20	0.289	114	4.43	<0.100	6.89	266	907
	09/29/20	0.349	148	6.37	0.408	6.42	275	1,240
	06/14/21	0.32	143	5.36	0.208 J	6.73	330	903
	10/06/21	0.318	158	5.83	<0.100	6.77	334	978
	05/26/22	0.331	119	7.46	0.169 J	6.73	285	1060
	09/23/22	0.383	167	17.2	<0.100	6.43	458	1410
	05/23/23	0.420	103	18.6	<0.100	6.82	258	1010
	08/16/23	0.399	91.8	19.5	<0.100	6.69	234	995
BMW-33	06/13/19	--	97.5	83.8	0.342 J	--	256	1,100
	09/09/19	0.269	95.8	79.5	0.145 J	--	232	1,040
	05/21/20	0.241	112	67.7	<0.100	6.76	202	1,020
	09/30/20	0.228	131	60.9	0.410	6.73	184	1,000
	06/15/21	0.208	118	66.4	0.235 J	6.52	210	980
	10/07/21	0.179	138	67.8	<0.100	6.57	188	1040
	05/26/22	0.183	112	58.1	0.147 J	6.52	168	1060
	09/23/22	0.195	132	73.6	<0.100	6.59	174	945
	05/23/23	0.195	128	61.7	0.149 J	6.96	163	965
	08/16/23	0.201	133	62.4	<0.100	6.72	149	1020

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

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)
Downgradient Wells								
BMW-18	10/30/15	0.41	7.2	26.6	0.148 J	6.65	97	768
	12/30/15	0.322	346	7.14	0.101 J	6.77	1,570	2,470
	02/26/16	0.406	9.49	17.1	0.164 J	6.91	90	508
	04/07/16	0.423	7.08	16.3	0.117 J	6.52	87	489
	06/09/16	0.429	7.32	18.7	0.128 J	6.64	101	498
	08/11/16	0.415	7.02	18.5	<0.100	6.81	100	493
	10/26/16	0.45	6.55	18.1	0.158 J	6.67	94.3	534
	12/14/16	0.411	9.26	17.6	0.134 J	6.77	94.1	493
	09/25/17	0.437	6.49	16.9	0.128 J	6.87	87.2	476
	06/12/18	0.636	14.4	18.2	0.176 J	6.82	87.2	464
	09/14/18	0.423	6.06	18.6	0.201 J	5.70	81.3	476
	05/15/19	0.443	7.91	20	0.229 J	6.65	89.9	473
	09/04/19	0.435	7.72	19.2	0.203 J	6.51	91.8	478
	05/20/20	0.476	9.13	17.8	0.144	6.87	82.3	477
	09/30/20	0.447	6.62	19.0	0.387 J	6.78	81.1	469
	06/15/21	0.463	6.67	19.3	0.231 J	6.58	87.1	467
	10/07/21	0.388	6.26	20	0.477	6.53	86.4	467
	05/26/22	0.401	7.27	19.2	0.209 J	6.65	79.6	469
	09/23/22	0.432	7.23	21	0.205 J	6.72	86.4	469
	05/24/23	0.435	8.34	19	0.237 J	6.83	84.6	474
	08/16/23	0.439	7.99	18.8	0.164	6.63	79.3	464
BMW-19	10/29/18	0.385	417	16.2	<0.100	6.77	2,070	4,060
	12/30/15	0.4	441	11.4	0.127 J	6.49	2,100	3,260
	02/25/16	0.458	504	8.4	<0.100	6.14	2,330	2,960
	04/07/16	0.424	480	8.46	<0.100	6.71	2,270	3,740
	06/09/16	0.444	489	8.04	<0.100	6.32	2,390	4,180
	08/11/16	0.419	458	8.26	<0.100	6.95	2,370	3,780
	10/26/16	0.417	443	8.26	<0.100	6.97	2,210	4,410
	12/14/16	0.427	481	7.2	<0.100	6.75	2220	3,660
	09/25/17	0.481	496	6.11	<0.100	6.95	2,360	3,670
	06/12/18	0.667	539	6.08	<0.100	6.92	2,080	3,660
	09/13/18	0.460	514	6.86	0.40	6.26	2,330	4,010
	05/15/19	0.474	388	4.66	0.189 J	6.88	1,760	3,090
	09/04/19	0.430	434	5.93	<0.1	6.74	2,010	3,320
	05/20/20	0.487	445	5.54	<0.100	6.74	2,020	3,470
	09/29/20	0.460	484	5.39	<0.100	6.63	1790	3,480
	06/15/21	0.45	391	5.72	<0.100	6.86	1770	2980
	06/15/21 DUP	0.496	399	6.03	<0.100	6.86	1600	2980
	10/07/21	0.424	466	4.72	<0.100	6.70	1720	3090
	05/26/22	0.426	432	6.2	<0.100	6.59	1900	3480
	09/23/22	0.466	497	8	<0.100	6.46	2270	3620
	05/23/23	0.482	449	6.84	<0.100	6.83	1570	2930
	08/16/23	0.482	421	6.78	<0.100	6.62	1570	3000

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

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)
BMW-20	10/23/15	0.139 J	71.2	64.8	<0.100	6.28	223	804
	12/30/15	0.144	96	36.4	0.12 J	6.32	443	987
	02/25/16	0.202	157	30.7	<0.100	5.70	131	888
	04/07/16	0.0787	80	30	<0.100	6.22	219	600
	06/09/16	0.129	128	37.5	<0.100	6.24	557	1,220
	08/11/16	0.106	107	39.4	<0.100	6.86	602	1,310
	10/26/16	0.113	93.5	48.2	<0.100	6.93	801	1,610
	12/13/16	0.0687	62.8	42.8	<0.100	6.64	335	757
	09/26/17	0.0973	116	33.5	<0.100	6.73	472	986
	06/11/18	0.0912	149	35.9	0.144 J	6.67	654	1,160
	09/13/18	0.0773	91.1	48.8	<0.100	5.26	831	1,360
	05/15/19	0.979	146	426	0.418	6.71	474	2,030
	09/04/19	0.101	136	50.7	<0.100	6.74	1160	1,830
	05/20/20	0.179	162	35.8	<0.100	6.81	797	1,450
	09/29/20	0.111	143	46.3	<0.100	6.55	966	1,540
	06/14/21	0.13	187	42.7	0.109 J	6.84	1210	1810
	10/06/21	0.0998	151	47.2	<0.100	6.69	1060	1660
	05/26/22	0.0968	125	35.8	<0.100	6.89	455	1080
	09/22/22	0.102	132	46.5	<0.100	6.32	734	1220
	05/23/23	0.14	191	44.2	<0.100	6.88	734	1590
	08/15/23	0.106	155	48.1	<0.100	6.46	1010	1810
BMW-21	10/23/15	0.973	157	496	<0.100	7.28	484	2,510
	12/30/15	0.951	142	365	0.126 J	7.08	444	2,020
	02/25/16	1.01	148	393	<0.100	6.64	462	1,990
	04/07/16	0.99	158	373	<0.100	7.02	454	2,190
	06/09/16	1.17	155	415	<0.100	7.09	477	2,230
	08/11/16	1.04	143	425	<0.100	6.66	484	1,860
	10/26/16	1.14	145	399	<0.100	6.85	434	2,170
	12/13/16	0.993	149	426	<0.100	6.93	483	2,170
	09/26/17	1.02	138	364	<0.100	6.76	417	1,850
	06/11/18	1.01	168	402	0.233 J	6.75	457	1,990
	09/13/18	0.987	151	418	0.136 J	6.64	474	2,100
	05/15/19	0.994	147	428	0.366 J	6.92	474	1,980
	09/04/19	0.0409	152	426	<0.1	6.73	477	2,090
	05/20/20	1.07	166	416	<0.100	6.87	457	1,910
	09/29/20	1.00	161	415	<0.100	6.84	444	2,030
	06/14/21	1.02	156	442	<0.100	6.64	507	2130
	10/06/21	0.938	168	459	<0.100	6.77	503	2080
	05/26/22	1.03	170	407	<0.100	6.71	444	2110
	09/22/22	0.952	173	448	<0.100	6.33	496	2090
	05/23/23	1.03	180	425	<0.100	6.74	456	2140
	08/16/23	1.08	172	422	<0.100	6.63	445	2140

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

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)
BMW-22	10/23/15	2.76	209	377	<0.100	6.86	927	2,720
	12/30/15	2.54	150	215	0.186 J	6.92	670	1,870
	02/25/16	3.18	209	295	<0.100	6.27	949	2,430
	04/07/16	3.34	202	256	<0.100	6.84	839	2,230
	06/08/16	3.53	193	279	<0.100	6.84	890	2,340
	08/11/16	3.18	198	311	<0.100	6.25	946	2,520
	10/26/16	3.38	183	241	<0.100	6.89	803	2,600
	12/13/16	3.45	191	281	<0.100	6.73	896	2,370
	09/26/17	3.53	209	270	<0.100	6.82	860	2,250
	06/11/18	3.49	219	280	0.312 J	6.85	883	2,180
	09/13/18	3.28	188	296	0.205 J	6.34	919	2,310
	05/15/19	3.39	198	311	0.351 J	6.68	967	2,260
	09/09/19	3.65	208	307	<0.100	6.58	960	2,420
	05/20/20	3.67	205	290	<0.100	6.69	906	2,230
	09/29/20	3.49	223	281	<0.100	6.75	855	2,280
	06/14/21	3.29	214	308	<0.100	6.42	998	2250
	10/06/21	3.19	222	316	<0.100	6.67	966	2310
	05/26/22	3.21	218	273	<0.100	6.59	843	2320
	09/22/22	3.25	225	312	<0.100	6.54	932	2280
	05/23/23	3.27	232	291	<0.100	6.86	879	2380
	08/15/23	3.44	223	286	<0.100	6.63	844	2390
BMW-23	10/23/15	1.19	102	287	<0.100	6.84	577	1,980
	12/30/15	1.25	95.2	214	0.122 J	6.76	529	1,500
	02/25/16	1.31	97.7	225	<0.100	6.16	527	1,520
	04/07/16	1.22	95.1	221	<0.100	6.63	503	1,510
	06/08/16	1.31	102	254	<0.100	6.71	558	1,720
	08/11/16	1.28	90.4	242	<0.100	6.15	539	1,430
	10/26/16	1.22	86.8	219	<0.100	6.85	467	1,700
	12/13/16	1.25	91.8	237	<0.100	6.63	510	1,870
	09/26/17	1.46	99.6	223	<0.100	6.65	482	1,550
	06/12/18	1.49	104	236	0.204 J	6.72	490	1,530
	09/13/18	1.34	91.7	236	0.190 J	6.25	482	1,560
	05/15/19	1.31	89.9	240	<0.100	6.84	613	1,640
	09/09/19	1.47	98.9	257	<0.100	6.65	503	1,680
	05/20/20	1.63	105	256	<0.100	6.63	494	1,580
	09/29/20	1.42	102	238	0.302 J	6.93	443	1,590
	06/14/21	1.67	110	283	<0.100	6.75	565	1700
	10/06/21	1.44	100	279	<0.100	6.64	517	1670
	05/26/22	1.67	107	251	<0.100	6.67	482	1700
	09/22/22	1.63	109	282	<0.100	6.39	522	1670
	05/23/23	1.81	118	271	<0.100	6.88	485	1750
	08/15/23	1.82	104	251	<0.100	6.55	459	1660

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

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)
BMW-24	10/23/15	0.144 J	61.6	633	0.247 J	7.14	45	1,510
	12/30/15	0.347	58.8	404	0.391 J	7.07	125	1,210
	02/25/16	0.431	61.6	332	0.236 J	5.80	184	1,210
	04/07/16	0.532	63.4	224	0.109 J	7.07	240	1,100
	06/08/16	0.612	60.1	201	0.147 J	7.06	259	984
	08/11/16	0.248	58.5	481	0.225 J	5.84	97.8	1,150
	10/26/16	0.225	59.2	518	0.305 J	6.78	34.2	1,490
	12/13/16	0.225	62.5	518	0.3 J	6.78	33	1,480
	09/26/17	0.656	66.8	229	<0.100	6.82	242	940
	06/11/18	0.469	70.6	336	0.466	6.76	117	970
	09/13/18	0.197	59.5	488	0.769	6.45	40	1,090
	05/15/19	0.601	57.9	169	0.219 J	6.78	280	881
	09/09/19	0.247	56.4	501	0.534 J	6.65	16.4	985
	05/20/20	0.758	67.8	175	0.129 J	6.72	254	907
	09/29/20	0.205	58.8	482	0.725	6.57	4.48	1,000
	06/14/21	0.661	65.4	165	0.251 J	6.68	276	848
	10/06/21	0.212	57.9	474	0.312 J	6.58	6.72	1020
	05/26/22	0.618	80.3	191	0.160 J	6.68	255	952
	09/22/22	0.198	55.9	521	0.483	6.22	<1.00	1210
	05/23/23	0.68	80.5	179	0.119 J	6.81	257	917
	08/15/23	0.216	68.8	477	0.06	6.47	8.52	1160
BMW-26	09/13/16	0.457	234	97.8	<0.100	6.51	671	2,120
	10/26/16	0.127	44.3	16.2	<0.100	6.87	140	414
	12/14/16	0.251	130	152	0.344 J	6.96	1210	2,050
	01/23/17	0.478	224	126	<0.100	6.33	669	1,950
	02/23/17	0.0683	52	23.9	0.106 J	6.22	20.4	209
	03/24/17	0.44	215	112	<0.100	6.68	610	1,690
	04/24/17	0.495	218	111	<0.100	6.37	576	2,210
	05/25/17	0.613	178	115	<0.100	6.82	613	2,110
	06/29/17	0.507	233	111	<0.100	--[*]	604	1,700
	09/25/17	0.514	71	112	<0.100	6.95	606	1,510
	06/12/18	0.726	96.5	120	<0.100	6.61	633	1,550
	09/13/18	0.474	230	125	<0.100	5.32	671	2,020
	05/15/19	0.449	200	135	<0.100	6.90	706	1,930
	09/04/19	0.473	262	140	<0.100	6.78	753	2,170
	05/20/20	0.547	252	131	<0.100	6.77	701	1,980
	09/29/20	0.522	265	130	<0.100	6.74	703	2,140
	06/14/21	0.488	235	140	<0.100	6.61	780	2040
	10/06/21	0.44	265	142	<0.100	6.78	769	2230
	05/26/22	0.502	187	127	<0.100	6.79	674	1890
	09/22/22	0.508	115	147	<0.100	6.41	726	1680
	05/23/23	0.484	225	132	<0.100	6.85	727	1990
	08/16/23	0.536	63.0	132	<0.100	6.81	669	1700

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

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)
BMW-27	09/13/16	0.486	160	133	0.668	5.87	1,150	2,750
	10/26/16	0.548	196	102	<0.100	6.73	700	2,020
	12/14/16	0.529	211	101	<0.100	6.90	674	1,810
	01/23/17	0.393	152	143	0.573	5.62	1,280	2,260
	02/23/17	0.0832	52.4	24	0.252 J	6.40	20.6	239
	03/24/17	0.304	120	132	0.738	6.35	1,190	2,100
	04/24/17	0.34	132	130	0.663	6.22	1,150	2,290
	05/25/17	0.331	122	124	1.61	6.67	1,150	2,320
	06/29/17	0.39	144	129	0.717	--*	1,180	2,080
	09/25/17	0.336	128	126	0.254 J	6.89	1,160	2,110
	06/12/18	0.478	96.1	98.4	<0.100	6.87	522	1,420
	09/13/18	0.398	143	132	0.750	5.60	1,230	2,380
	05/15/19	0.46	190	129	<0.100	6.72	674	1,840
	09/04/19	0.463	257	141	<0.100	6.95	755	2,130
	05/20/20	0.46	213	108	<0.100	6.56	579	1,670
	09/29/20	0.464	268	134	<0.100	6.79	704	2,130
	06/14/21	0.351	177	107	<0.100	6.76	550	1490
	10/06/21	0.41	231	125	<0.100	6.52	666	1920
	05/26/22	0.343	93.7	66	<0.100	6.79	360	1040
	09/22/22	0.348	79.3	121	<0.100	6.59	578	1340
	05/23/23	0.374	170	108	<0.100	6.86	521	1530
	08/16/23	0.49	39.5	132	<0.100	6.79	673	1520
BMW-28	12/14/16	1.22	234	111	<0.100	6.87	1280	2,360
	01/23/17	1.18	221	122	0.104 J	6.85	1,370	2,810
	02/23/17	0.0776	53.3	24	0.11 J	6.43	20.3	203
	03/24/17	1.14	242	121	<0.100	6.36	1,350	2,580
	04/24/17	1.16	266	121	0.19 J	6.57	1,330	2,980
	05/25/17	1.23	255	130	<0.100	6.70	1,410	3,180
	06/29/17	1.21	269	130	0.137 J	6.98	1,450	2,950
	08/01/17	1.17	260	132	<0.100	--*	1,460	2,780
	09/25/17	1.35 J	262	130	<0.100	6.85	1,430	3,060
	06/12/18	1.41	262	139	0.529	6.92	1,470	3,100
	09/13/18	1.35	243	143	0.445	5.71	1,420	3,180
	05/15/19	1.01	249	133	0.496	6.77	1,820	3,610
	09/04/19	1.22	277	137	<0.1	6.77	1,720	3,470
	05/20/20	1.29	284	137	<0.100	6.86	1520	3,270
	09/30/20	0.612	149	51.1	0.229 J	6.82	1030	2,100
	06/14/21	0.0878	15.5	38.4	<0.100	6.77	443	871
	10/07/21	0.104	19.1	19.2	0.290 J	6.78	185	402
	10/7/21 DUP	0.0993	19.4	12.8	<0.100	6.78	71.1	175
	05/26/22	0.134	25.4	27.5	0.119 J	6.92	833	1730
	09/23/22	0.168	34.8	11.1	<0.100	6.31	54.3	116
	05/23/23	0.560	184	10.1	0.163 J	6.84	1010	1820
	5/23/23 DUP	0.571	184	10.2	0.167 J	6.84	1040	1890
	08/16/23	0.634	182	10.2	<0.100	6.73	928	1700
	8/17/23 DUP	0.588	183	10.1	<0.100	6.73	928	1750

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. --*: value not available due to pH meter malfuncton during sampling.

TABLE 4
APPENDIX IV ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample	Date	Sb	As	Ba	Be	Cd	Cr	Co	F	Pb	Li	Hg	Mo	Se	Tl	Ra 226	Ra 228	Ra 226/228 Comb.^
BMW-11-AR	10/29/15	<0.0008	0.0116	0.0659	<0.0003	<0.0003	<0.002	0.0124	<0.1	0.000391 J	0.0594	<0.00008	0.00496 J	<0.002	<0.0005	1.60	4.75	6.35
	12/30/15	<0.0008	0.00362 J	0.0433	<0.0003	<0.0003	<0.002	<0.003	0.26 J	0.000362 J	0.0589	<0.00008	0.00384 J	<0.002	<0.0005	1.66	3.19	4.85
	02/25/16	<0.0008	0.00608	0.0724	<0.0003	<0.0003	<0.002	0.0049 J	0.123 J	<0.0003	0.0276	<0.00008	0.00597	<0.002	<0.0005	2.43	3.80	6.23
	04/07/16	<0.0008	0.00614	0.0929	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0195	<0.00008	0.00444 J	<0.002	<0.0005	0.885	1.48	2.37
	06/09/16	<0.0008	0.00532	0.0891	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0187	<0.00008	0.00355 J	<0.002	<0.0005	0.47	<0.674	1.14
	08/11/16	<0.0008	0.00271 J	0.0772	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0147	<0.00008	0.00346 J	<0.002	<0.0005	0.810	2.42	3.23
	10/26/16	<0.0008	<0.002	0.0429	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0508	<0.00008	0.00363 J	<0.002	<0.0005	0.631	0.922	1.55
	12/14/16	<0.0008	0.0061	0.074	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.00347	0.0139	<0.00008	0.00303 J	<0.002	<0.0005	<0.821	<1.73	<2.551
	06/12/18	<0.0008	0.00444 J	0.0692	<0.0003	<0.0003	0.00295 J	<0.003	0.323 J	0.0017	0.0686	<0.00008	0.00340 J	<0.002	<0.0005	0.996	1.7	2.696
	09/14/18	--	0.0056	0.0735	--	--	<0.002	<0.003	0.353 J	0.00147	0.0196	--	0.00299 J	--	--	1.52	1.11	2.63
	05/15/19	<0.0008	0.00208 J	0.0399	<0.0003	<0.0003	<0.002	<0.003	0.198 J	<0.0003	0.0404	<0.00008	<0.002	<0.002	<0.0005	0.83	4.89	5.72
	09/04/19	--	<0.2	0.0393	--	--	--	<0.003	0.170 J	--	0.0411	--	<0.002	--	--	0.382	0.317	0.699
	05/20/20	<0.0008	0.00479 J	0.0439	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0348	<0.00008	<0.00200	<0.002	<0.0005	0.289	1.54	1.83
	09/29/20	--	0.0102	0.0517	<0.0003	<0.0003	<0.002	<0.003	0.408	<0.0003	0.0337	--	--	<0.002	--	0.209	1.59	1.8
	06/14/21	<0.0008	0.0029 J	0.0565	<0.0003	<0.0003	<0.002	<0.003	0.208 J	0.00132	0.032	<0.00008	<0.002	<0.002	<0.0005	0.434	0.712	1.15
	10/06/21	<0.0008	<0.002	0.0511	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0331	<0.00008	0.00212 J	<0.002	<0.0005	0.334	1.34	1.68
	05/26/22	<0.0008	0.00278 J	0.048	<0.0003	<0.0003	<0.002	<0.003	0.169 J	<0.0003	0.0205	<0.00008	0.00214 J	<0.002	<0.0005	0.329	1.73	2.06
	09/23/22	<0.0008	0.00715	0.0742	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0238	<0.00008	0.00275 J	<0.002	<0.0005	0.683	1.59	2.27
	05/23/23	<0.000800	0.00293 J	0.0633	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0343	<0.0000800	0.00224 J	<0.00200	<0.000500	0.216 J	1.62	1.84
	08/16/23	<0.000800	<0.00200	0.0607	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0342	<0.0000800	0.00223 J	<0.00200	<0.000500	0.68	1.91	2.59
BMW-33	06/13/19	--	<0.002	--	--	--	--	0.0176	0.342 J	--	0.0206	--	--	--	--	--	--	--
	09/09/19	--	<0.002	0.285	--	--	--	0.0122	0.145 J	--	0.0177	--	0.00325 J	NA	NA	0.738	<0.809	0.738
	05/20/20	0.00102 J	<0.002	0.203	<0.0003	<0.0003	<0.002	0.0065	<0.1	<0.0003	0.0145	<0.00008	0.00207 J	<0.002	<0.0005	0.499	0.394	0.893
	09/30/20	--	<0.002	0.166	<0.0003	<0.0003	<0.002	0.00826	0.410	<0.0003	0.0135	--	--	<0.002	--	0.237	0.419	0.656
	06/15/21	<0.0008	<0.002	0.137	<0.0003	<0.0003	<0.002	0.0113	0.235 J	<0.0003	0.0124	<0.00008	<0.002	<0.002	<0.0005	0.190 J	0.597 J	0.786 J
	10/07/21	<0.0008	0.00247 J	0.130	<0.0003	<0.0003	<0.002	0.0115	<0.1	<0.0003	0.0126	<0.00008	<0.002	<0.002	<0.0005	0.522	1.30	1.82
	05/27/22	<0.0008	<0.002	0.112	<0.0003	<0.0003	<0.002	0.00435 J	0.147 J	<0.0003	0.0121	<0.00008	<0.002	<0.002	<0.0005	0.351	0.836	1.19
	09/23/22	<0.0008	<0.002	0.112	<0.0003	<0.0003	<0.002	0.00702	<0.100	<0.0003	0.0136	<0.00008	<0.002	<0.002	<0.0005	0.263	0.669	0.406
	05/23/23	<0.000800	<0.00200	0.109	<0.000300	<0.000300	<0.00200	0.00504	0.149 J	<0.000300	0.013	<0.0000800	<0.00200	<0.00200	<0.000500	0.231	<1.02	0.515 J
	08/16/23	<0.000800	<0.00200	0.103	<0.000300	<0.000300	<0.00200	0.00394	<0.100	<0.000300	0.0131	<0.0000800	<0.00200	<0.00200	<0.000500	0.299 J	1.19	1.49
Downgradient Wells																		
BMW-18	10/30/15	<0.0008	<0.002	0.0401	<0.0003	<0.0003	0.00944	<0.003	0.148 J	<0.0003	0.14	<0.00008	<0.002	<0.002	<0.0005	0.526	<1.51	2.04
	12/30/15	<0.0008	<0.002	0.0168	<0.0003	<0.0003	<0.002	0.0129	0.101 J	<0.0003	0.0415	<0.00008	<0.002	<0.002	<0.0005	<0.405	<2.04	<2.445
	02/26/16	<0.0008	<0.002	0.0446	<0.0003	<0.0003	0.0021 J	<0.003	0.164 J	<0.0003	0.0156	<0.00008	<0.002	<0.002	<0.0005	<0.406	<1.9	<2.306
	04/07/16	<0.0008	<0.002	0.0306	<0.0003	<0.0003	<0.002	<0.003	0.117 J	<0.0003	0.0171	<0.00008	<0.002	<0.002	<0.0005	<0.109	<1.00	<1.109
	06/09/16	<0.0008	<0.002	0.0283	<0.0003	<0.0003	<0.002	<0.003	0.128 J	<0.0003	0.0152	<0.00008	<0.002	<0.002	<0.0005	<0.143	0.857	1.00
	08/11/16	<0.0008	<0.002	0.0291	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0147	<0.00008	<0.002	<0.002	<0.0005	<0.22	<1.07	<1.29
	10/26/16	<0.0008	<0.002	0.029	<0.0003	<0.0003	<0.002	<0.003	0.158 J	<0.0003	0.0156	<0.00008	<0.002	<0.002	<0.0005	<0.132	<0.534	<0.666
	12/14/16	<0.0008	<0.002	0.0384	<0.0003	<0.0003	<0.002	<0.003	0.134 J	<0.0003	0.0158	<0.00008	<0.002	<0.002	<0.0005	0.140	<1.99	2.13
	06/12/18	<0.0008	<0.002	0.0412	<0.0003	<0.0003	<0.002	<0.003	0.176 J	0.0013	0.0185	<0.00008	<0.002	<0.002	<0.0005	0.232	0.706	0.938
	09/14/18	--	<0.002	0.0277	--	--	<0.002	<0.003	0.201 J	<0.0003	0.0165	--	<0.002	--	--	<0.509	<0.589	<1.098
	05/15/19	<0.0008	<0.002	0.0362	<0.0003	<0.0003	<0.002	<0.003	0.229 J	<0.0003	0.016	<0.00008	<0.002	<0.002	<0.0005	<0.264	3.95	4.214
	09/04/19	--	<0.002	0.0337	--	--	--	<0.003	0.203 J	--	0.0128	--	<0.002	--	--	0.304	1.48	1.79
	05/20/20	<0.0008	<0.002	0.0431	<0.0003	<0.0003	<0.002	<0.003	0.144 J	<0.0003	0.0136	<0.00008	<0.002	<0.002	<0.0005	0.555	1.21	1.76
	09/30/20	--	<0.002	0.0315	<0.0003	<0.0003	<0.002	<0.003	0.387 J	<0.0003	0.0193	--	--	<0.002	--	0.0836	<0.927	0.0836
	06/15/21	<0.0008	<0.002	0.0306	<0.0003	<0.0003	<0.002	<0.003	0.231 J	<0.0003	0.0127	<0.00008	<0.002	<0.002	<0.0005	<0.282	<0.645	0.000
	10/07/21	<0.0008	<0.002	0.0295	<0.0003	<0.0003	<0.002	<0.003	0.477	<0.0003	0.0159	<0.00008	<0.002	<0.002	<0.0005	0.155 J	0.0602	0.215
	05/26/22	<0.0008	<0.002	0.0334	<0.0003	<0.0003	<0.002	<0.003	0.209 J	<0.0003	0.0152	<0.00008	<0.002	<0.002	<0.0005	0.155 J	<0.207	0.430 J
	09/23/22	<0.000800	<0.00200	0.0331	<0.000300	<0.000300	<0.00200	<0.00300	0.205 J	<0.000300	0.0153	<0.0000800	<0.00200	<0.00200	<0.000500	0.212 J	<0.207	0.261 J
	05/24/23	<0.000800	<0.00200	0.0343	<0.000300	<0.000300	<0.00200	<0.00300	0.237 J	<0.000300	0.0128	<0.0000800	<0.00200	<0.00200	<0.000500	0.703	1.02	1.72
	08/16/23	<0.000800	<0.00200	0.0346	<0.000300	<0.000300	<0.00200	<0.00300	0.164 J	<0.000300	0.0122	<0.0000800	<0.00200	<0.00200	<0.000500	0.127 J	0.444 J	0.571 J

TABLE 4
APPENDIX IV ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample	Date	Sb	As	Ba	Be	Cd	Cr	Co	F	Pb	Li	Hg	Mo	Se	Tl	Ra 226	Ra 228	Ra 226/228 Comb.^
BMW-19	10/29/18	<0.0008	<0.002	0.0231	<0.0003	<0.0003	<0.002	0.0161	<0.1	<0.0003	0.0545	<0.00008	<0.002	<0.002	<0.0005	0.395	<1.56	1.96
	12/30/15	<0.0008	<0.002	0.0222	<0.0003	<0.0003	<0.002	0.0166	0.127 J	<0.0003	0.0506	<0.00008	<0.002	<0.002	<0.0005	0.598	<2.89	3.49
	02/25/16	<0.0008	0.00235 J	0.0169	<0.0003	<0.0003	<0.002	0.0149	<0.1	<0.0003	0.0711	<0.00008	<0.002	<0.002	<0.0005	0.571	1.94	2.51
	04/07/16	<0.0008	<0.002	0.0178	<0.0003	<0.0003	<0.002	0.0137	<0.1	<0.0003	0.0591	<0.00008	<0.002	<0.002	<0.0005	<0.185	<0.715	<0.9
	06/09/16	<0.0008	<0.002	0.0158	<0.0003	<0.0003	<0.002	0.0141	<0.1	<0.0003	0.0644	<0.00008	<0.002	<0.002	<0.0005	<0.142	1.98	2.12
	08/11/16	<0.0008	0.00711	0.0158	<0.0003	<0.0003	<0.002	0.0128	<0.1	<0.0003	0.0568	<0.00008	<0.002	<0.002	<0.0005	0.927	<0.812	1.74
	10/26/16	<0.0008	<0.002	0.0144	<0.0003	<0.0003	<0.002	0.0104	<0.1	<0.0003	0.0495	<0.00008	<0.002	<0.002	<0.0005	<0.152	<0.48	<0.632
	12/14/16	<0.0008	0.00369 J	0.0171	<0.0003	<0.0003	<0.002	0.0125	<0.1	<0.0003	0.0584	<0.00008	<0.002	<0.002	<0.0005	0.309	0.827	1.14
	06/12/18	<0.0008	0.0428	0.0243	<0.0003	<0.0003	0.00267	0.0115	<0.1	0.00183	0.0734	<0.00008	<0.002	<0.002	<0.0005	<0.395	1.17	1.565
	09/13/18	--	0.00491 J	0.0132	--	--	<0.002	0.0125	0.404 J	<0.0003	0.0845	--	<0.002	--	--	<0.376	1.46	1.836
	05/15/19	<0.0008	<0.002	0.0104	<0.0003	<0.0003	<0.002	<0.003	0.189 J	<0.0003	0.0647	<0.00008	<0.002	<0.002	<0.0005	0.487	4.66	5.147
	09/04/19	--	<0.002	0.0117	--	--	--	<0.003	<0.1	--	0.0694	--	<0.002	--	--	<0.267	0.563	0.563
	05/20/20	<0.0008	<0.002	0.0109	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0783	<0.00008	0.00231 J	<0.002	<0.0005	0.0651	0.127	0.192
	09/29/20	--	<0.002	0.0137	<0.0003	<0.0003	<0.002	0.0187	<0.1	<0.0003	0.0742	--	--	<0.00200	--	<0.312	1.02	1.020
	06/15/21	<0.0008	<0.002	0.0149	<0.0003	<0.0003	<0.002	0.0083	<0.1	<0.0003	0.0689	<0.00008	<0.002	<0.002	<0.0005	<0.195	0.0156	0.0156
	6/15/21 DUP	<0.0008	0.00288 J	0.015	<0.0003	<0.0003	<0.002	0.00831	<0.1	<0.0003	0.0686	<0.00008	<0.002	<0.002	<0.0005	0.175 J	1.38	1.55
	10/07/21	<0.0008	0.00341 J	0.0151	<0.0003	<0.0003	<0.002	0.0117	<0.1	<0.0003	0.0727	<0.00008	<0.002	<0.002	<0.0005	0.229 J	1.51	1.74
	05/26/22	<0.0008	<0.002	0.0122	<0.0003	<0.0003	<0.002	0.00355 J	<0.1	<0.0003	0.0663	<0.00008	<0.002	<0.002	<0.0005	0.326	0.557 J	0.882
	09/23/22	<0.000800	0.00312 J	0.0122	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.085	<0.0000800	<0.00200	<0.00200	<0.000500	0.104 J	0.555	0.659
	05/23/23	<0.000800	<0.00200	0.0118	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0776	<0.0000800	<0.00200	<0.00200	<0.000500	0.888	<0.626	1.05 J
	08/16/23	<0.000800	0.00217 J	0.0115	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.08	<0.0000800	<0.00200	<0.00200	<0.000500	<0.238	0.502 J	0.518 J
BMW-20	10/23/15	<0.0008	0.00236 J	0.0778	<0.0003	<0.0003	<0.002	0.0256	<0.1	0.0005 J	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.463	<1.89	2.35
	12/30/15	<0.0008	0.00344 J	0.0777	<0.0003	<0.0003	<0.002	0.051	0.12 J	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.816	<2.41	3.23
	02/25/16	<0.0008	0.00474 J	0.0989	<0.0003	<0.0003	<0.002	0.022	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	<0.61	2.85	3.46
	04/07/16	<0.0008	0.00411 J	0.0912	<0.0003	<0.0003	<0.002	0.0276	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.221	<1.08	1.30
	06/09/16	<0.0008	0.0103	0.0776	<0.0003	<0.0003	<0.002	0.054	<0.1	0.0007 J	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.51	<0.716	1.23
	08/11/16	<0.0008	<0.002	0.0637	<0.0003	<0.0003	<0.002	0.0513	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.322	1.40	1.72
	10/26/16	<0.0008	0.00444 J	0.0421	<0.0003	<0.0003	<0.002	0.0786	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.347	0.848	1.20
	12/13/16	<0.0008	0.00483 J	0.0377	<0.0003	<0.0003	<0.002	0.0451	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.246	1.15	1.40
	06/11/18	<0.0008	0.00473 J	0.0515	<0.0003	<0.0003	<0.002	0.0681	0.144 J	0.000476	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.74	0.865	1.605
	09/13/18	--	0.00473 J	0.0258	--	--	<0.002	0.0645	<0.100	0.000368 J	<0.005	--	<0.002	--	--	0.519	0.711	1.23
	05/15/19	<0.0008	0.00541	0.0412	<0.0003	<0.0003	<0.002	0.003	0.418	<0.0003	0.0615	<0.00008	<0.002	<0.002	<0.0005	1.18	0.657	1.837
	09/04/19	--	0.00768	0.0261	--	--	--	0.108	<0.1	--	<0.005	--	<0.002	--	--	0.0996	1.62	1.72
	05/20/20	<0.0008	0.0126	0.0494	<0.0003	<0.0003	<0.002	0.0912	<0.1	0.000956 J	<0.005	<0.00008	<0.002	0.0044 J	<0.0005	0.5	2.15	2.65
	09/29/20	--	0.00837	0.0292	<0.0003	<0.0003	<0.002	0.101	<0.1	0.00159	0.0742	--	--	0.00204 J	--	0.152	0.548	0.7
	06/14/21	<0.0008	0.00234 J	0.0431	<0.0003	<0.0003	<0.002	0.0788	0.109 J	0.000323 J	0.00778 J	<0.00008	<0.002	<0.002	<0.0005	0.500	2.81	3.31
	10/06/21	<0.0008	0.00439 J	0.0273	<0.0003	<0.0003	<0.002	0.0963	<0.1	0.000947 J	0.00549 J	<0.00008	<0.002	<0.002	<0.0005	0.401	2.18	2.58
	05/26/22	<0.0008	0.00413 J	0.0523	<0.0003	<0.0003	<0.002	0.0487	<0.1	0.000304 J	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.379	1.05	1.41
	09/22/22	<0.000800	0.00662	0.0364	<0.000300	<0.000300	<0.00200	0.0746	<0.100	0.000940 J	<0.00500	<0.0000800	<0.00200	<0.00200	<0.000500	0.258 J	0.400 J	0.658
	05/23/23	<0.000800	0.0073	0.0507	<0.000300	<0.000300	<0.00200	0.0756	<0.100	0.000611	<0.00500	<0.0000800	<0.00200	<0.00200	<0.000500	0.346	2.2	2.54
	08/15/23	<0.000800	0.00888	0.0304	<0.000300	<0.000300	<0.00200	0.108	<0.100	0.000961 J	<0.00500	<0.0000800	<0.00200	<0.00200	<0.000500	0.455	1.05	1.5
BMW-21	10/23/15	<0.0008	0.00324 J	0.0703	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0623	<0.00008	<0.002	<0.002	<0.0005	<0.436	<0.948	<1.384
	12/30/15	<0.0008	0.00247 J	0.0478	<0.0003	<0.0003	<0.002	<0.003	0.126 J	<0.0003	0.0602	<0.00008	<0.002	<0.002	<0.0005	0.584	<2.00	2.58
	02/25/16	<0.0008	0.00327 J	0.0471	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0602	<0.00008	<0.002	<0.002	<0.0005	0.735	2.13	2.87
	04/07/16	<0.0008	0.00337 J	0.0472	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0653	<0.00008	<0.002	<0.002	<0.0005	0.470	<2.78	3.25
	06/09/16	<0.0008	0.0034 J	0.0457	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0675	<0.00008	<0.002	<0.002	<0.0005	0.32	<0.917	1.24
	08/11/16	<0.0008	0.00373 J	0.0445	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0527	<0.00008	<0.002	<0.002	<0.0005	0.655	<0.728	1.38
	10/26/16	<0.0008	0.0037 J	0.0443	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0611	<0.00008	<0.002	<0.002	<0.0005	0.383	1.61	1.99
	12/13/16	<0.0008	0.00217 J	0.0438	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0631	<0.00008	<0.002	<0.002	<0.0005	0.213	1.00	1.21
	06/11/18	<0.0008	0.00373 J	0.0438	<0.0003	<0.0003	<0.002	<0.003	0.233 J	<0.0003	0.07	<0.00008	<0.002	<0.002	<0.0005	<0.239	<0.939	<1.178
	09/13/18	--	0.00353 J	0.0412	--	--	<0.002	<0.003	0.136 J	<0.0003	0.0646	--	<0.002	--	--	0.562	1.49	2.052
	05/15/19	<0.0008	0.00399 J	0.0412	<0.0003	<0.0003	<0.002	<0.003	0.366 J	<0.0003	0.0613	<0.00008	<0.002	<0.002	<0.0005	<0.322	1.07	1.392
	09/04/19	--	0.00378	0.0409	--	--	--	<0.003	<0.1	--	0.0683	--	<0.002	--	--	0.506	1.51	2.06
	05/20/20	<0.0008	0.00434 J	0.0421	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0632	<0.00008	<0.002	<0.002	<0.0005	0.562	1.76	2.32
	09/29/20	--	0.00814	0.0420	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0663	--	--	<0.00200	--	0.699	1.48	2.18
	06/14/21	<0.0008	0.004 J	0.0398	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0617	<0.0000800	<0.00200	<0.00200	<0.000500	0.555	1.62	2.18
	10/06/21	<0.0008	0.00790	0.0394	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0653	<0.0000800	<0.00200	<0.00200	<0.000500	0.609	1.77	2.38
	05/26/22	<0.0008	0.00413 J	0.0398	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0659	<0.0000800	<0.00200	<0.00200	<0.000500	0.662	1.47	2.13
	09/22/22	<0.000800	0.00589	0.042	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0739	<0.0000800	<0.00200	<0.00200	<0.000500	0.449	0.903	1.35
	05/23/23	<0.000800	0.00358 J	0.0382	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.068	<0.0000800	<0.00200	<0.00200	<0.000500	0.567	1.05	1.62
	08/16/23	<0.000800	0.00485 J	0.0385	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0726	<0.0000800	<0.00200	<0.00200	<0.000500	0.348 J	1.65	2.00

TABLE 4
APPENDIX IV ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample	Date	Sb	As	Ba	Be	Cd	Cr	Co	F	Pb	Li	Hg	Mo	Se	Tl	Ra 226	Ra 228	Ra 226/228 Comb.^
BMW-22	10/23/15	<0.0008	<0.002	0.106	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0675	<0.00008	<0.002	<0.002	<0.0005	1.59	2.11	3.70
	12/30/15	<0.0008	<0.002	0.084	<0.0003	<0.0003	<0.002	<0.003	0.186 J	<0.0003	0.0594	<0.00008	<0.002	<0.002	<0.0005	0.973	<1.55	2.52
	02/25/16	<0.0008	<0.002	0.0761	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0801	<0.00008	<0.002	<0.002	<0.0005	0.594	<1.93	2.52
	04/07/16	<0.0008	<0.002	0.072	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0773	<0.00008	<0.002	<0.002	<0.0005	0.480	1.46	1.94
	06/08/16	<0.0008	0.00206 J	0.0667	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0847	<0.00008	<0.002	<0.002	<0.0005	0.888	1.88	2.77
	08/11/16	<0.0008	<0.002	0.0679	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0675	<0.00008	<0.002	<0.002	<0.0005	0.607	1.93	2.54
	10/26/16	<0.0008	0.00216 J	0.0645	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0753	<0.00008	<0.002	<0.002	<0.0005	0.633	1.02	1.65
	12/13/16	<0.0008	0.00232 J	0.0655	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0689	<0.00008	<0.002	<0.002	<0.0005	<0.209	1.05	1.26
	06/11/18	<0.0008	<0.002	0.0638	<0.0003	<0.0003	<0.002	<0.003	0.312 J	<0.0003	0.089	<0.00008	<0.002	<0.002	<0.0005	0.522	<1.020	1.54
	09/13/18	--	<0.002	0.063	--	--	<0.002	<0.003	0.205 J	<0.0003	0.0882	--	<0.002	--	--	1.29	2.89	4.18
	05/15/19	<0.0008	<0.002	0.0618	<0.0003	<0.0003	<0.002	<0.003	0.351 J	<0.0003	0.0779	<0.00008	<0.002	<0.002	<0.0005	3.36	1.64	5.00
	09/09/19	--	<0.002	0.0599	--	--	--	<0.003	<0.100	--	0.0829	--	<0.002	--	--	0.954	1.85	2.81
	05/20/20	<0.0008	<0.002	0.0621	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0855	<0.00008	<0.002	<0.002	<0.0005	0.909	2.67	3.58
	09/29/20	--	<0.002	0.0598	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0837	--	--	<0.002	--	0.621	3.13	3.75
	06/14/21	<0.0008	<0.002	0.0609	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0776	<0.00008	<0.002	<0.002	<0.0005	0.415	1.64	2.05
	10/06/21	<0.0008	<0.002	0.0576	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0779	<0.00008	<0.002	<0.002	<0.0005	0.695	1.43	2.12
	05/26/22	<0.0008	<0.002	0.0626	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0830	<0.00008	<0.002	<0.002	<0.0005	1.22	2.21	3.43
	09/22/22	<0.000800	0.00206 J	0.0643	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0887	<0.0000800	<0.00200	<0.00200	<0.000500	0.900	2.14	3.04
	05/23/23	<0.000800	<0.00200	0.0613	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0832	<0.0000800	<0.00200	<0.00200	<0.000500	0.878	3.13	4.00
	08/15/23	<0.000800	<0.00200	0.0734	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0875	<0.0000800	<0.00200	<0.00200	<0.000500	1.55	1.76	3.31
BMW-23	10/23/15	<0.0008	<0.002	0.0519	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0802	<0.00008	<0.002	<0.002	<0.0005	1.19	<1.91	3.10
	12/30/15	<0.0008	<0.002	0.0462	<0.0003	<0.0003	<0.002	<0.003	0.122 J	<0.0003	0.0897	<0.00008	<0.002	<0.002	<0.0005	0.711	<2.62	3.33
	02/25/16	<0.0008	<0.002	0.0488	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0959	<0.00008	<0.002	<0.002	<0.0005	0.604	<1.78	2.38
	04/07/16	<0.0008	<0.002	0.0472	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.095	<0.00008	<0.002	<0.002	<0.0005	0.723	1.98	2.70
	06/08/16	<0.0008	<0.002	0.0497	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.103	<0.00008	<0.002	<0.002	<0.0005	0.654	1.29	1.94
	08/11/16	<0.0008	<0.002	0.0458	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.077	<0.00008	<0.002	<0.002	<0.0005	0.936	1.94	2.88
	10/26/16	<0.0008	<0.002	0.0437	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0856	<0.00008	<0.002	<0.002	<0.0005	0.472	1.76	2.23
	12/13/16	<0.0008	<0.002	0.0407	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0817	<0.00008	<0.002	<0.002	<0.0005	<0.225	0.704	0.93
	06/11/18	<0.0008	<0.002	0.0381	<0.0003	<0.0003	<0.002	<0.003	0.204 J	<0.0003	0.106	<0.00008	<0.002	<0.002	<0.0005	0.442	1.79	2.23
	09/13/18	--	<0.002	0.0414	--	--	<0.002	<0.003	0.190 J	<0.0003	0.0915	--	<0.002	--	--	0.774	1.23	2.00
	05/15/19	<0.0008	0.0024	0.0381	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0951	<0.00008	<0.002	<0.002	<0.0005	2.54	1	3.54
	09/09/19	--	<0.002	0.0382	--	--	--	<0.003	<0.100	--	0.0896	--	<0.002	--	--	0.583	2.4	2.98
	05/20/20	<0.0008	<0.002	0.039	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0927	<0.00008	<0.002	<0.002	<0.0005	0.669	2.27	2.93
	09/29/20	--	<0.002	0.0383	<0.000300	<0.000300	<0.00200	<0.00300	0.302 J	<0.000300	0.0861	--	--	<0.00200	--	0.687	0	0.687
	06/14/21	<0.0008	<0.002	0.0433	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0837	<0.00008	<0.002	<0.002	<0.0005	0.742	1.75	2.49
	10/06/21	<0.0008	<0.002	0.0367	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0827	<0.00008	<0.002	<0.002	<0.0005	0.59	1.77	2.36
	05/26/22	<0.0008	<0.002	0.0426	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0820	--	--	--	--	0.542	1.43	1.97
	09/22/22	<0.000800	<0.00200	0.042	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.087	<0.0000800	<0.00200	<0.00200	<0.000500	0.651	1.97	2.62
	05/23/23	<0.000800	<0.00200	0.0398	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.093	<0.0000800	<0.00200	<0.00200	<0.000500	0.524	0.807	1.33
	08/15/23	<0.000800	<0.00200	0.0404	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0855	<0.0000800	<0.00200	<0.00200	<0.000500	1.18	2.16	3.33
BMW-24	10/23/15	<0.0008	0.00494 J	1.87	<0.0003	<0.0003	<0.002	0.00802	0.247 J	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	1.83	3.32	5.15
	12/30/15	<0.0008	0.00579	0.801	<0.0003	<0.0003	<0.002	0.0146	0.391 J	<0.0003	0.0161	<0.00008	<0.002	<0.002	<0.0005	0.485	<1.66	2.15
	02/25/16	<0.0008	0.00442 J	0.645	<0.0003	<0.0003	<0.002	0.0137	0.236 J	<0.0003	0.0267	<0.00008	<0.002	<0.002	<0.0005	1.20	<1.93	3.13
	04/07/16	<0.0008	0.00376 J	0.202	<0.0003	<0.0003	<0.002	0.0238	0.109 J	<0.0003	0.0415	<0.00008	<0.002	<0.002	<0.0005	<0.349	<1.58	<1.929
	06/08/16	<0.0008	0.00481 J	0.181	<0.0003	<0.0003	<0.002	0.0227	0.147 J	<0.0003	0.0475	<0.00008	<0.002	<0.002	<0.0005	0.360	1.26	1.62
	08/11/16	<0.0008	0.00414 J	1.26	<0.0003	<0.0003	<0.002	0.00707	0.225 J	<0.0003	0.00938 J	<0.00008	<0.002	<0.002	<0.0005	0.564	<0.942	1.51
	10/26/16	<0.0008	0.00364 J	1.88	<0.0003	<0.0003	<0.002	<0.003	0.305 J	<0.0003	0.00767 J	<0.00008	<0.002	<0.002	<0.0005	1.37	1.31	2.68
	12/13/16	<0.0008	0.00498 J	1.96	<0.0003	<0.0003	<0.002	0.0033 J	0.3 J	<0.0003	0.00914 J	<0.00008	<0.002	<0.002	<0.0005	0.270	1.16	1.43
	06/11/18	<0.0008	0.00266 J	0.487	<0.0003	<0.0003	<0.002	0.00633	0.466	<0.0003	0.0198	<0.00008	<0.002	<0.002	<0.0005	0.668	0.975	1.643
	09/13/18	--	<0.002	2.19	--	--	<0.002	0.00304 J	0.769	<0.0003	0.00764 J	--	<0.002	--	--	1.82	1.45	3.27
	05/15/19	<0.0008	0.00272 J	0.221	<0.0003	<0.0003	<0.002	0.000643	0.219 J	<0.0003	0.0512	<0.00008	<0.002	<0.002	<0.0005	1.45	<1.21	2.66
	09/09/19	--	<0.002	1.48	--	--	--	<0.003	0.534	--	0.00826 J	--	<0.002	--	--	0.584	1.41	2
	05/20/20	<0.0008	0.00207 J	0.244	<0.0003	<0.0003	<0.002	0.0109	0.129 J	<0.0003	0.046	<0.00008	<0.002	<0.002	<0.0005	0.532	<2.45	2.99
	09/29/20	--	<0.00200	1.85	<0.000300	<0.000300	<0.00200	<0.00300	0.725	<0.000300	0.00563 J	--	--	<0.00200	--	1.24	0.892	2.14
	06/14/21	<0.0008	<0.002	0.212	<0.0003	<0.0003	<0.002	0.00512	0.251 J	<0.0003	0.0497	<0.00008	<0.002	<0.002	<0.0005	0.486	1.77	2.26
	10/06/21	<0.000800	<0.00200	1.60	<0.000300	<0.000300	<0.00200	<0.00300	0.312 J	<0.000300	0.00545 J	<0.000400	<0.00200	<0.00200	<0.000500	1.04	2.85	3.89
	05/26/22	<0.0008	<0.0002	0.176	<0.0003	<0.0003	<0.002	0.00834	0.160 J	<0.0003	0.0499	<0.00008	<0.002	<0.002	<0.0005	0.401	0.678	1.08
	09/22/22	<0.000800	<0.00200	1.88	<0.000300	<0.000300	<0.00200	<0.00300	0.483	<0.000300	<0.00500	<0.0000800	<0.00200	<0.00200	<0.000500	0.894	1.05	1.95
	05/23/23	<0.000800	<0.00200	0.2	<0.000300	<0.000300	0.0108	0.00683	0.119 J	<0.000300	0.054	<0.0000800	<0.00200	<0.00200	<0.000500	0.64	0.386 J	1.03
	08/15/23	<0.000800	<0.00200	1.54	<0.000300	<0.000300	<0.00200	<0.00300	0.553	<0.000300	0.00983 J	<0.0000800	<0.00200	<0.00200	<0.000500	1.92	1.83	3.74

TABLE 4
APPENDIX IV ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample	Date	Sb	As	Ba	Be	Cd	Cr	Co	F	Pb	Li	Hg	Mo	Se	Tl	Ra 226	Ra 228	Ra 226/228 Comb.^
BMW-26	09/13/16	<0.0008	0.017	0.0425	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0944	<0.00008	0.00215 J	<0.002	<0.0005	0.154	<1.02	1.17
	10/26/16	<0.0008	0.00318 J	0.0731	<0.0003	<0.0003	<0.002	0.004 J	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.175	<0.695	0.87
	12/14/16	<0.0008	<0.002	0.0424	<0.0003	0.00082 J	<0.002	0.236	0.344 J	<0.0003	0.0527	<0.00008	<0.002	<0.002	<0.0005	0.177	<1.29	1.47
	01/23/17	<0.0008	0.0325	0.0446	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.00059 J	0.0977	<0.00008	0.0035 J	<0.002	<0.0005	0.351	0.936	1.29
	02/23/17	<0.0008	<0.002	0.0705	<0.0003	<0.0003	<0.002	<0.003	0.106 J	0.00073 J	0.0052 J	<0.00008	<0.002	<0.002	<0.0005	0.306	0.951	1.26
	03/24/17	<0.0008	0.0107	0.0371	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.00074 J	0.0964	<0.00008	0.00461 J	<0.002	<0.0005	0.335	<0.627	0.96
	04/24/17	<0.0008	0.00732	0.0322	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.099	<0.00008	0.00303 J	<0.002	<0.0005	<0.363	1.60	1.96
	05/25/17	<0.0008	0.00347 J	0.0243	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0951	<0.0008	0.00302 J	<0.002	<0.0005	<0.477	0.818	1.30
	06/29/17	<0.0008	0.0328	0.0352	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0985	<0.0008	0.00257 J	<0.002	<0.0005	0.198	0.677	0.88
	06/12/18	<0.0008	0.00316 J	0.0222	<0.0003	<0.0003	0.00231 J	<0.003	<0.100	0.00152	0.111	<0.00008	0.0029 J	<0.002	<0.0005	<0.251	<0.508	<0.759
	09/13/18	--	0.0165	0.0360	--	--	<0.002	<0.003	<0.100	<0.0003	0.11	--	<0.002	--	--	<0.426	0.826	1.252
	05/15/19	<0.0008	<0.002	0.0253	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.101	<0.00008	0.00218 J	<0.002	<0.0005	0.457	<1.13	1.587
	09/04/19	--	0.00725	0.0317	--	--	--	<0.003	<0.1	--	0.109	--	<0.002	--	--	0.126	1.53	1.66
	05/20/20	<0.0008	<0.002	0.0293	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0999	<0.00008	<0.002	<0.002	<0.0005	0.158	0.696	0.853
	09/29/20	--	0.00466 J	0.0314	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.107	--	--	<0.00200	--	0.234	0.161	0.395
	06/14/21	<0.0008	<0.002	0.0273	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.099	<0.00008	<0.002	<0.002	<0.0005	0.149	1.05	1.20
	10/06/21	<0.0008	0.00436 J	0.0297	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.105	<0.00008	<0.002	<0.002	<0.0005	0.145 J	0.97	1.12
	05/26/22	<0.0008	<0.002	0.0209	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.104	<0.00008	<0.002	<0.002	<0.0005	0.184J	<0.573	<0.306
	09/22/22	<0.000800	<0.00200	0.0138	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.119	<0.0000800	<0.00200	<0.00200	<0.000500	0.0569 U	0.318 J	0.375 J
	05/23/23	<0.000800	<0.00200	0.0217	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.104	<0.0000800	<0.00200	<0.00200	<0.000500	0.172 J	<0.684	<0.169
	08/16/23	<0.000800	<0.00200	0.00892	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.107	<0.0000800	<0.00200	<0.00200	<0.000500	0.455	0.99	1.45
BMW-27	09/13/16	<0.0008	0.00536	0.0434	<0.0003	0.00062 J	<0.002	0.15	0.668	0.00043 J	0.0541	<0.00008	<0.002	<0.002	<0.0005	0.308	<1.14	1.45
	10/26/16	<0.0008	0.00625	0.0339	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0933	<0.00008	<0.002	<0.002	<0.0005	0.156	1.94	2.10
	12/14/16	<0.0008	0.0051	0.0342	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0932	<0.00008	<0.002	<0.002	<0.0005	<0.12	<1.05	<1.17
	01/23/17	<0.0008	0.00845	0.0333	<0.0003	0.00071 J	0.0028 J	0.195	0.573	0.00032 J	0.0484	<0.00008	<0.002	<0.002	<0.0005	0.369	0.934	1.30
	02/23/17	<0.0008	<0.002	0.0704	<0.0003	<0.0003	<0.002	<0.003	0.252 J	0.00074 J	<0.005	<0.00008	<0.002	<0.002	<0.0005	<0.209	0.660	0.87
	03/24/17	<0.0008	0.00319 J	0.0296	<0.0003	0.00078 J	<0.002	0.222	0.738	<0.0003	0.0474	<0.00008	<0.002	<0.002	<0.0005	0.414	<0.725	1.14
	04/24/17	<0.0008	<0.002	0.0269	<0.0003	0.00066 J	<0.002	0.21	0.663	<0.0003	0.0497	<0.00008	<0.002	<0.002	<0.0005	<0.452	1.53	1.98
	05/25/17	<0.0008	<0.002	0.0266	<0.0003	0.000521 J	<0.002	0.2	1.61	0.000439 J	0.0471	<0.00008	<0.002	<0.002	<0.0005	<0.443	1.38	1.82
	06/29/17	<0.0008	0.00593	0.0307	<0.0003	0.00851 J	0.00266 J	0.255	0.717	<0.0003	0.048	<0.0008	<0.002	<0.002	<0.0005	0.303	0.628	0.93
	06/12/18	<0.0008	0.00223 J	0.0182	<0.0003	<0.0003	<0.002	<0.003	<0.100	0.00097 J	0.0721	<0.00008	<0.002	<0.002	<0.0005	0.305	<0.5860	0.891
	09/13/18	--	0.00467 J	0.0250	--	--	0.002 J	0.190	0.750	<0.0003	0.0531	--	<0.002	--	--	0.691	1.04	1.731
	05/15/19	<0.0008	<0.002	0.0238	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0943	<0.00008	<0.002	<0.002	<0.0005	<0.195	0.962	1.157
	09/04/19	--	0.00759	0.32	--	--	--	<0.003	<0.1	--	0.107	--	<0.002	--	--	0.0726	1.68	1.75
	05/20/20	<0.0008	<0.002	0.025	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.084	<0.00008	<0.002	<0.002	<0.0005	0.265	0.255	0.52
	09/29/20	--	0.00494 J	0.0313	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	0.0003	0.110	--	--	<0.00200	--	0.147	<1.09	0.147
	06/14/21	<0.0008	<0.002	0.021	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.075	<0.00008	<0.002	<0.002	<0.0005	0.0262	0.558	0.584 J
	10/06/21	<0.0008	0.00384 J	0.0375	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0883	<0.00008	<0.002	<0.002	<0.0005	0.358	0.585 J	0.943 J
	05/26/22	<0.0008	<0.002	0.0121	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0538	<0.00008	<0.002	<0.002	<0.0005	<0.510	0.556	0.607
	09/22/22	<0.000800	<0.00200	0.00890 J	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0814	<0.0000800	<0.00200	<0.00200	<0.000500	0.164 J	0.367 J	0.531
	05/23/23	<0.000800	<0.00200	0.0355	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0793	<0.0000800	<0.00200	<0.00200	<0.000500	0.308	1.44	1.75
	08/16/23	<0.000800	<0.00200	0.00644 J	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.113	<0.0000800	<0.00200	<0.00200	<0.000500	<0.37	<0.574	<0.683

TABLE 4
APPENDIX IV ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample	Date	Sb	As	Ba	Be	Cd	Cr	Co	F	Pb	Li	Hg	Mo	Se	Tl	Ra 226	Ra 228	Ra 226/228 Comb.^
BMW-28	12/14/16	0.00117 J	<0.002	0.0509	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.11	<0.00008	0.0103	0.0045 J	<0.0005	<0.566	<2.22	2.79
	01/23/17	0.00101 J	<0.002	0.0518	<0.0003	<0.0003	<0.002	<0.003	0.104 J	<0.0003	0.116	<0.00008	0.00881	<0.002	<0.0005	0.626	1.12	1.75
	02/23/17	<0.0008	<0.002	0.0734	<0.0003	<0.0003	<0.002	<0.003	0.11 J	0.00097 J	0.00514 J	<0.00008	<0.002	<0.002	<0.0005	0.168	0.835	1.00
	03/24/17	0.00121 J	<0.002	0.046	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.1	<0.00008	0.00773	0.0021 J	<0.0005	1.04	1.17	2.21
	04/24/17	0.00113 J	<0.002	0.047	<0.0003	<0.0003	<0.002	<0.003	0.19 J	<0.0003	0.109	<0.00008	0.00766	<0.002	<0.0005	0.356	1.880	2.24
	05/25/17	0.00119 J	<0.002	0.0468	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.000427 J	0.102	<0.00008	0.00764	<0.002	<0.0005	<0.739	1.170	1.91
	06/29/17	<0.0008	0.00253 J	0.0549	<0.0003	<0.0003	<0.002	0.0084	0.137 J	<0.0003	0.104	<0.00008	0.00754	<0.002	<0.0005	0.489	2.310	2.80
	08/01/17	<0.0008	0.0057	0.0524	<0.0003	<0.0003	<0.002	0.0115	<0.1	<0.0003	0.114	<0.00008	0.00707	<0.002	<0.0005	0.536	2.43	2.97
	06/12/18	<0.0008	<0.002	0.0505	<0.0003	<0.0003	<0.002	<0.003	0.529	0.00122	0.116	<0.00008	0.00764	<0.002	<0.0005	0.197	1.12	1.32
	09/14/18	--	<0.002	0.0419	--	--	<0.002	<0.003	0.445	<0.0003	0.114	--	0.00782	--	--	0.35	1.15	1.50
	05/15/19	<0.0008	<0.002	0.0285	<0.0003	<0.0003	<0.002	<0.003	0.496	<0.0003	0.119	<0.00008	0.0124	<0.002	<0.0005	0.289	0.924	1.21
	09/04/19	--	<0.002	0.027	--	--	--	<0.003	<0.1	--	0.131	--	0.00961	--	--	0.0173	3.20	3.21
	05/20/20	<0.0008	<0.002	0.0297	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.133	<0.00008	0.00617	<0.002	<0.0005	0.157	2.38	2.54
	09/30/20	--	<0.002	0.0150	<0.0003	<0.0003	<0.002	<0.003	0.229 J	<0.0003	0.0953	--	--	<0.002	--	0.229	2.53	2.76
	06/15/21	<0.0008	<0.002	0.00547 J	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.000393 J	<0.00500	<0.00008	<0.002	<0.002	<0.0005	0.101	0.972	1.07
	10/07/21	<0.0008	<0.002	0.00461 J	<0.0003	<0.0003	<0.002	<0.003	0.290 J	<0.0003	0.00749 J	<0.00008	<0.002	<0.002	<0.0005	0.795	0.832	1.63
	10/7/21 DUP	<0.0008	<0.002	0.00487 J	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.00637 J	<0.00008	<0.002	<0.002	<0.0005	0.462	0.516 J	0.978
	05/26/22	<0.0008	<0.002	0.00766 J	<0.0003	<0.0003	<0.002	<0.003	0.119 J	<0.0003	0.0150	<0.00008	<0.002	<0.002	<0.0005	0.289	1.06	1.34
	09/23/22	<0.000800	<0.00200	0.00499 J	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0233	<0.0000800	0.00302 J	<0.00200	<0.000500	0.0750 U	0.312 J	0.387 J
	05/23/23	<0.000800	<0.00200	0.0107	<0.000300	<0.000300	<0.00200	<0.00300	0.163 J	<0.000300	0.121	<0.0000800	0.00643	<0.00200	<0.000500	0.753	<0.534	0.887 J
	5/23/2023 DUP	<0.000800	<0.00200	0.0101	<0.000300	<0.000300	<0.00200	<0.00300	0.167 J	<0.000300	0.121	<0.0000800	0.00631	<0.00200	<0.000500	0.528	<0.732	0.53
	08/16/23	<0.000800	<0.00200	0.0101	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.112	<0.0000800	0.00687	<0.00200	<0.000500	0.208 J	<0.547	0.430 J
	8/16/23 DUP	<0.000800	<0.00200	0.0108	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.111	<0.0000800	0.00693	<0.00200	<0.000500	0.298 J	0.712	1.01
Assessment of Corrective Measures Delineation Well																		
BMW-32	06/13/19	NA	NA	NA	NA	NA	NA	0.00705	0.822	NA	0.115	NA	NA	NA	NA	NA	NA	NA
	07/08/19	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.116	NA	NA	NA	NA	NA	NA	NA
	09/09/19	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.115	NA	NA	NA	NA	NA	NA	NA
	09/30/20	NA	NA	NA	NA	NA	NA	0.00408 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	06/15/21	NA	NA	NA	NA	NA	NA	0.00370 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	10/07/21	NA	NA	NA	NA	NA	NA	0.00347 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	05/26/22	NA	NA	NA	NA	NA	NA	0.00307 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	09/23/22	NA	NA	NA	NA	NA	NA	0.00350 J	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	05/24/23	NA	NA	NA	NA	NA	NA	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
	08/16/23	NA	NA	NA	NA	NA	NA	<0.003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Notes:
1. All concentrations in mg/L except Ra, which is in pCi/L.
2. ^ - Sum of Ra 226 and Ra 228 concentrations.
3. J - Concentration is below method quantitation limit; result is an estimate.
4. "--" - not analyzed. Groundwater sample analyses for the second semi-annual sampling events were in some instances limited to Appendix IV parameters detected during the preceding first semi-annual sampling event in accordance with 40 CFR § 257.95(d)(1). Well BMW-33 was not formerly a CCR monitoring well; therefore, not all Appendix IV constituents were analyzed in samples from this well during every sampling event.

TABLE 5
GROUNDWATER ELEVATION SUMMARY
MLSES A1 AREA LANDFILL

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
BMW-11AR	426.05	10/30/15	43.79	382.26
		12/30/15	43.11	382.94
		02/24/16	41.77	384.28
		04/07/16	40.49	385.56
		06/08/16	39.26	386.79
		08/11/16	39.24	386.81
		10/25/16	39.07	386.98
		12/13/16	40.57	385.48
		09/25/17	39.08	386.97
		06/11/18	38.17	387.88
		09/12/18	38.24	387.81
		05/15/19	31.87	394.18
		09/04/19	31.09	394.96
		05/20/20	29.09	396.96
		09/29/20	30.09	395.96
		06/14/21	29.51	396.54
		10/06/21	30.96	395.09
		05/26/22	33.31	392.74
		09/22/22	34.71	391.34
		05/23/23	34.73	391.32
		08/15/23	35.56	390.49
BMW-18	357.83	10/30/15	33.40	324.43
		12/30/15	32.16	325.67
		02/24/16	29.49	328.34
		04/07/16	28.98	328.85
		06/08/16	28.04	329.79
		08/11/16	28.19	329.64
		10/25/16	28.31	329.52
		12/13/16	29.88	327.95
		09/25/17	27.29	330.54
		06/11/18	25.44	332.39
		09/12/18	25.90	331.93
		05/15/19	21.97	335.86
		09/04/19	21.54	336.29
		05/20/20	19.45	338.38
		09/29/20	19.12	338.71
		06/15/21	16.58	341.25
		10/06/21	16.04	341.79
		05/26/22	15.41	342.42
		09/22/22	15.74	342.09
		05/23/23	13.87	343.96
		08/15/23	14.43	343.40

TABLE 5
GROUNDWATER ELEVATION SUMMARY
MLSES A1 AREA LANDFILL

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
BMW-19	400.69	10/30/15	21.42	379.27
		12/30/15	20.14	380.55
		02/24/16	20.41	380.28
		04/07/16	19.56	381.13
		06/08/16	19.22	381.47
		08/11/16	20.84	379.85
		10/25/16	20.33	380.36
		12/13/16	24.11	376.58
		09/25/17	23.12	377.57
		06/11/18	19.02	381.67
		09/12/18	21.29	379.40
		05/15/19	12.49	388.20
		09/04/19	17.22	383.47
		05/20/20	13.48	387.21
		09/29/20	18.31	382.38
		06/15/21	10.91	389.78
		10/06/21	18.02	382.67
		05/26/22	18.09	382.60
		09/22/22	20.78	379.91
		05/23/23	16.42	384.27
		08/15/23	19.27	381.42
BMW-20	357.51	10/30/15	8.56	348.95
		12/30/15	8.81	348.70
		02/24/16	8.96	348.55
		04/07/16	9.24	348.27
		06/08/16	8.81	348.70
		08/11/16	8.52	348.99
		10/25/16	8.36	349.15
		12/13/16	10.21	347.30
		09/25/17	8.19	349.32
		06/11/18	9.27	348.24
		09/12/18	9.13	348.38
		05/15/19	7.16	350.35
		09/04/19	8.86	348.65
		05/20/20	8.86	348.65
		09/29/20	8.70	348.81
		06/14/21	8.16	349.35
		10/06/21	8.68	348.83
		05/26/22	9.86	347.65
		09/22/22	7.26	350.25
		05/23/23	9.62	347.89
		08/15/23	9.34	348.17

TABLE 5
GROUNDWATER ELEVATION SUMMARY
MLSES A1 AREA LANDFILL

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
BMW-21	350.98	10/30/15	5.23	345.75
		12/30/15	4.09	346.89
		02/24/16	3.83	347.15
		04/07/16	3.93	347.05
		06/08/16	3.34	347.64
		08/11/16	4.56	346.42
		10/25/16	3.84	347.14
		12/13/16	6.89	344.09
		09/25/17	4.81	346.17
		06/11/18	5.27	345.71
		09/12/18	6.02	344.96
		05/15/19	4.23	346.75
		09/04/19	5.49	345.49
		05/20/20	4.42	346.56
		09/29/20	5.37	345.61
		06/14/21	4.11	346.87
		10/06/21	5.46	345.52
		05/26/22	5.09	345.89
		09/22/22	5.72	345.26
		05/23/23	4.98	346.00
		08/15/23	6.46	344.52
BMW-22	332.30	10/30/15	7.11	325.19
		12/30/15	6.17	326.13
		02/24/16	5.74	326.56
		04/07/16	7.33	324.97
		06/08/16	6.91	325.39
		08/11/16	5.96	326.34
		10/25/16	6.07	326.23
		12/13/16	7.86	324.44
		09/25/17	6.09	326.21
		06/11/18	6.07	326.23
		09/12/18	6.97	325.33
		05/15/19	4.47	327.83
		09/04/19	6.12	326.18
		05/20/20	4.62	327.68
		09/29/20	6.11	326.19
		06/14/21	10.24	322.06
		10/06/21	5.96	326.34
		05/26/22	6.74	325.56
		09/22/22	7.26	325.04
		05/23/23	5.71	326.59
		08/15/23	7.03	325.27

TABLE 5
GROUNDWATER ELEVATION SUMMARY
MLSES A1 AREA LANDFILL

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
BMW-23	341.90	10/30/15	16.47	325.43
		12/30/15	15.34	326.56
		02/24/16	14.78	327.12
		04/07/16	13.98	327.92
		06/08/16	11.72	330.18
		08/11/16	15.21	326.69
		10/25/16	15.51	326.39
		12/13/16	17.56	324.34
		09/25/17	15.97	325.93
		06/11/18	15.19	326.71
		09/12/18	16.74	325.16
		05/15/19	9.98	331.92
		09/04/19	15.22	326.68
		05/20/20	11.79	330.11
		09/29/20	15.78	326.12
		06/14/21	10.34	331.56
		10/06/21	15.27	326.63
		05/26/22	25.96	315.94
		09/22/22	16.49	325.41
		05/23/23	13.97	327.93
		08/15/23	15.93	325.97
BMW-24	347.07	10/30/15	14.26	332.81
		12/30/15	12.09	334.98
		02/24/16	12.11	334.96
		04/07/16	12.03	335.04
		06/08/16	11.22	335.85
		08/11/16	12.73	334.34
		10/25/16	12.72	334.35
		12/13/16	14.27	332.80
		09/25/17	12.33	334.74
		06/11/18	12.11	334.96
		09/12/18	13.79	333.28
		05/15/19	9.83	337.24
		09/04/19	12.09	334.98
		05/20/20	10.34	336.73
		09/29/20	12.11	334.96
		06/14/21	9.04	338.03
		10/06/21	11.67	335.40
		05/26/22	10.82	336.25
		09/22/22	12.56	334.51
		05/23/23	10.17	336.90
		08/15/23	12.24	334.83

TABLE 5
GROUNDWATER ELEVATION SUMMARY
MLSES A1 AREA LANDFILL

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
BMW-25*	339.95	10/30/15	13.79	326.16
		12/30/15	12.91	327.04
		02/24/16	11.96	327.99
		04/07/16	11.92	328.03
		06/08/16	10.62	329.33
		08/11/16	12.61	327.34
		10/25/16	12.46	327.49
		12/13/16	13.92	326.03
		09/25/17	15.97	323.98
		06/11/18	NM	NM
		09/12/18	NM	NM
		05/15/19	NM	NM
		09/04/19	13.12	326.83
		05/20/20	22.67	317.28
		09/29/20	12.59	327.36
		06/14/21	NM	NM
		10/06/21	NM	NM
		05/26/22	17.63	322.32
		09/22/22	19.12	320.83
		05/23/23	17.41	322.54
		08/15/23	18.71	321.24
BMW-26	369.44	9/13/16	1.77	367.67
		10/25/16	2.39	367.05
		12/13/16	4.02	365.42
		1/23/17	2.21	367.23
		2/23/17	2.67	366.77
		3/24/17	2.46	366.98
		4/24/17	2.24	367.20
		5/25/17	2.13	367.31
		06/29/17	2.12	367.32
		09/25/17	2.12	367.32
		06/11/18	2.72	366.72
		09/12/18	2.56	366.88
		05/15/19	1.62	367.82
		09/04/19	2.29	367.15
		05/20/20	1.39	368.05
		09/29/20	2.17	367.27
		06/14/21	1.73	367.71
		10/06/21	2.09	367.35
		05/26/22	2.27	367.17
		09/22/22	2.79	366.65
		05/23/23	1.17	368.27
		08/15/23	2.81	366.63

TABLE 5
GROUNDWATER ELEVATION SUMMARY
MLSES A1 AREA LANDFILL

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
BMW-27	376.25	9/13/16	2.12	374.13
		10/25/16	2.46	373.79
		12/13/16	4.11	372.14
		1/23/17	2.51	373.74
		2/23/17	2.84	373.41
		3/24/17	2.67	373.58
		4/24/17	3.07	373.18
		5/25/17	2.67	373.58
		06/29/17	2.24	374.01
		09/25/17	2.47	373.78
		06/11/18	3.59	372.66
		09/12/18	3.26	372.99
		05/15/19	2.79	373.46
		09/04/19	1.89	374.36
		05/20/20	2.31	373.94
		09/29/20	2.91	373.34
		06/14/21	2.39	373.86
		10/06/21	3.12	373.13
		05/26/22	3.07	373.18
		09/22/22	3.07	373.18
		05/23/23	2.34	373.91
		08/15/23	3.26	372.99
BMW-28	373.21	12/13/16	55.02	318.19
		1/23/17	45.94	327.27
		2/23/17	39.97	333.24
		3/24/17	39.82	333.39
		4/24/17	36.81	336.40
		5/25/17	34.91	338.30
		6/29/17	33.85	339.36
		8/1/2017	39.05	334.16
		09/25/17	32.52	340.69
		06/11/18	28.91	344.30
		09/12/18	27.69	345.52
		05/15/19	18.22	354.99
		09/04/19	16.31	356.90
		05/20/20	13.38	359.83
		09/29/20	13.67	359.54
		06/15/21	8.78	364.43
		10/06/21	9.96	363.25
		05/26/22	8.06	365.15
		09/22/22	8.54	364.67
		05/23/23	6.18	367.03
		08/15/23	8.12	365.09
BMW-32^	344.09	06/15/21	10.67	333.42
		10/07/21	13.61	330.48
		05/26/22	17.64	326.45
		09/22/22	13.86	330.23
		05/23/23	11.31	332.78
		08/15/23	13.86	330.23

TABLE 5
GROUNDWATER ELEVATION SUMMARY
MLSES A1 AREA LANDFILL

Well ID	TOC Elevation (ft amsl)	Date	Depth to Water (ft bgs)	Water Elevation (ft amsl)
BMW-33	427.7	06/15/21	25.46	402.24
		10/06/21	26.91	400.79
		05/26/22	27.64	400.06
		09/22/22	27.74	399.96
		05/23/23	26.21	401.49
		08/15/23	26.48	401.22

Notes:
1. Abbreviations: ft - feet; amsl - above mean sea level; bgs - below ground surface
2. * - Non-CCR well used only to evaluate groundwater water elevations.
3. ^ - Assessment of Corrective Measures delineation well.

APPENDIX A

LABORATORY ANALYTICAL REPORTS

June 30, 2023

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

Order No.: 2305350

RE: Luminant - A1 Landfill CCR

Dear Jacob Jarvis:

DHL Analytical, Inc. received 14 sample(s) on 5/24/2023 for the analyses presented in the following report.

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

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

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-23-29

Table of Contents

Miscellaneous Documents 3

CaseNarrative 2305350 8

WorkOrderSampleSummary 2305350 9

PrepDatesReport 2305350 10

AnalyticalDatesReport 2305350 13

Analytical Report 2305350 17

AnalyticalQCSummaryReport 2305350 31

MQLSummaryReport 2305350 63

Subcontract Report 2305350 64

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

DATE: 5-24-23
PO#: 3140409?,019
PROJECT LOCATION OR NAME: LUMINANT - AI LANDFILL CCR
CLIENT PROJECT # 3140409?,019
COLLECTOR: JOHN BRAYTON

LAB USE ONLY
DHL WORKORDER #: 2305350

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

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

Field Sample I.D.	Lab Use Only DHL Lab #	Collection Date	Collection Time	Matrix	Container Type	# of Containers	PRESERVATION: HCL ☐ H_3PO_4 ☐	HNO_3	H_2SO_4	NaOH ☐ Zn Acetate ☐	ICE ☒ UNPRESERVED ☐	ANALYSES	APPENDIX III	APPENDIX IV	COBALT ONLY	FIELD NOTES
BMW-24	01	5-23-23	0920	W	P	4		X			X		X	X		
BMW-23	02		1010	W	P	4		X			X		X	X		
BMW-22	03		1100	W	P	4		X			X		X	X		
BMW-21	04		1200	W	P	4		X			X		X	X		
BMW-20	05		1305	W	P	4		X			X		X	X		
BMW-27	06		1410	W	P	4		X			X		X	X		
BMW-26	07		1515	W	P	4		X			X		X	X		
BMW-HAR	08		1620	W	P	4		X			X		X	X		
BMW-19	09		1715	W	P	4		X			X		X	X		
BMW-18	10	5-24-23	0800	W	P	4		X			X		X	X		
BMW-28	11		0900	W	P	4		X			X		X	X		
DUP-1	12		0900	W	P	4		X			X		X	X		
BMW-33	13		1020	W	P	4		X			X		X	X		
BMW-32	14		1120	W	P	1		X							X	

Relinquished By: (Sign) DATE/TIME 5-24-23 04:38pm 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 _____ ☐

LAB USE ONLY THERMO #: 78
RECEIVING TEMP (°C): 1.2°C, 1.6°C, 1.1°C
IF >6°C, ARE SAMPLES ON ICE AND JUST COLLECTED? YES / NO
CUSTODY SEALS ON ICE CHEST: ☐ BROKEN ☐ INTACT ☑ NOT USED
CARRIER: ☐ LSO ☐ FEDEX ☐ UPS ☐ COURIER ☑ HAND DELIVERED

☐ DHL DISPOSAL @ $10.00 each

DHL COC REV 4 | MAR 2023

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name: **WSP-Golder**

Date Received: **5/24/2023**

Work Order Number: **2305350**

Received by: **KAO**

Checklist completed by: _____ 5/25/2023
Signature | Date

Reviewed by: DL 5/25/2023
Initials | 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 ☐	
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? N		Checked by GK
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Cooler #	1	2	3
Temp °C	1.2	1.6	1.1
Seal Intact	NP	NP	NP

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 – A1 Landfill CCR	**LRC Date:** 6/30/23
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2305350
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

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

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: Luminant – A1 Landfill CCR	**LRC Date:** 6/30/23
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2305350
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

Name: Dr. Derhsing Luu
Official Title: Technical Director

Signature

7/7/2023
Date

DHL Analytical, Inc. **Date:** *30-Jun-23*

CLIENT: WSP-Golder
Project: Luminant - A1 Landfill CCR
Lab Order: 2305350

CASE NARRATIVE

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

Method SW6020B - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M2540C - TDS Analysis
Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM 7500 Ra B M. Analyzed at Pace Analytical.

Exception Report R1-01

The samples were received and log-in performed on 5/24/23. A total of 14 samples were received. The samples arrived in good condition and were properly packaged.

Exception Report R7-03

For Anions analysis performed on 5/26/23 (batches 110375 & 110385) the matrix spikes and matrix spike duplicate recoveries (2305350-06 MS/MSD, 2305350-12 MS/MSD & 2305350-07 MS/MSD) were below control limits for Sulfate. This was due to matrix effect. These are flagged accordingly in the QC summary report. The samples selected for the matrix spikes and matrix spike duplicates were from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 5/26/23 the matrix spike and matrix spike duplicate recoveries were below control limits for Calcium. These are flagged accordingly. 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 5/26/23 and 5/31/23 (batches 110363 & 110391) the PDS recoveries were out of control limits for Calcium. These are flagged accordingly in the QC summary report. The serial dilutions were within control limits for this analyte. No further corrective actions were taken.

For Metals analysis performed on 5/26/23 and 6/1/23 (batches 110363 & 110391) the RPDs for the serial dilutions were slightly above control limits for Lithium or Boron. These are flagged accordingly. The PDSs were within control limits for these analytes. No further corrective actions were taken.

DHL Analytical, Inc.

Date: *30-Jun-23*

CLIENT: WSP-Golder
Project: Luminant - A1 Landfill CCR
Lab Order: 2305350

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2305350-01	BMW-24		05/23/23 09:20 AM	05/24/2023
2305350-02	BMW-23		05/23/23 10:10 AM	05/24/2023
2305350-03	BMW-22		05/23/23 11:00 AM	05/24/2023
2305350-04	BMW-21		05/23/23 12:00 PM	05/24/2023
2305350-05	BMW-20		05/23/23 01:05 PM	05/24/2023
2305350-06	BMW-27		05/23/23 02:10 PM	05/24/2023
2305350-07	BMW-26		05/23/23 03:15 PM	05/24/2023
2305350-08	BMW-11AR		05/23/23 04:20 PM	05/24/2023
2305350-09	BMW-19		05/23/23 05:15 PM	05/24/2023
2305350-10	BMW-18		05/24/23 08:00 AM	05/24/2023
2305350-11	BMW-28		05/24/23 09:00 AM	05/24/2023
2305350-12	DUP-1		05/24/23 09:00 AM	05/24/2023
2305350-13	BMW-33		05/24/23 10:20 AM	05/24/2023
2305350-14	BMW-32		05/24/23 11:20 AM	05/24/2023

Lab Order: 2305350
Client: WSP-Golder
Project: Luminant - A1 Landfill CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2305350-01A	BMW-24	05/23/23 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-24	05/23/23 09:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-24	05/23/23 09:20 AM	Aqueous	SW7470A	Mercury Aq Prep	06/02/23 02:46 PM	110469
2305350-01B	BMW-24	05/23/23 09:20 AM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-24	05/23/23 09:20 AM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-24	05/23/23 09:20 AM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-02A	BMW-23	05/23/23 10:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-23	05/23/23 10:10 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-23	05/23/23 10:10 AM	Aqueous	SW7470A	Mercury Aq Prep	06/02/23 02:46 PM	110469
2305350-02B	BMW-23	05/23/23 10:10 AM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-23	05/23/23 10:10 AM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-23	05/23/23 10:10 AM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-03A	BMW-22	05/23/23 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-22	05/23/23 11:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-22	05/23/23 11:00 AM	Aqueous	SW7470A	Mercury Aq Prep	06/02/23 02:46 PM	110469
2305350-03B	BMW-22	05/23/23 11:00 AM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-22	05/23/23 11:00 AM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-22	05/23/23 11:00 AM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-04A	BMW-21	05/23/23 12:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-21	05/23/23 12:00 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-21	05/23/23 12:00 PM	Aqueous	SW7470A	Mercury Aq Prep	06/02/23 02:46 PM	110469
2305350-04B	BMW-21	05/23/23 12:00 PM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-21	05/23/23 12:00 PM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-21	05/23/23 12:00 PM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-05A	BMW-20	05/23/23 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-20	05/23/23 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-20	05/23/23 01:05 PM	Aqueous	SW7470A	Mercury Aq Prep	06/02/23 02:46 PM	110469
2305350-05B	BMW-20	05/23/23 01:05 PM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375

Lab Order: 2305350
Client: WSP-Golder
Project: Luminant - A1 Landfill CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2305350-05B	BMW-20	05/23/23 01:05 PM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-20	05/23/23 01:05 PM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-06A	BMW-27	05/23/23 02:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-27	05/23/23 02:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-27	05/23/23 02:10 PM	Aqueous	SW7470A	Mercury Aq Prep	06/02/23 02:46 PM	110469
2305350-06B	BMW-27	05/23/23 02:10 PM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-27	05/23/23 02:10 PM	Aqueous	E300	Anion Preparation	05/26/23 10:13 AM	110375
	BMW-27	05/23/23 02:10 PM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-07A	BMW-26	05/23/23 03:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-26	05/23/23 03:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-26	05/23/23 03:15 PM	Aqueous	SW7470A	Mercury Aq Prep	06/05/23 10:17 AM	110492
	BMW-26	05/23/23 03:15 PM	Aqueous	SW7470A	Mercury Aq Prep	06/05/23 10:17 AM	110492
2305350-07B	BMW-26	05/23/23 03:15 PM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-26	05/23/23 03:15 PM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-26	05/23/23 03:15 PM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-08A	BMW-11AR	05/23/23 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-11AR	05/23/23 04:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-11AR	05/23/23 04:20 PM	Aqueous	SW7470A	Mercury Aq Prep	06/05/23 10:17 AM	110492
2305350-08B	BMW-11AR	05/23/23 04:20 PM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-11AR	05/23/23 04:20 PM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-11AR	05/23/23 04:20 PM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-09A	BMW-19	05/23/23 05:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-19	05/23/23 05:15 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-19	05/23/23 05:15 PM	Aqueous	SW7470A	Mercury Aq Prep	06/05/23 10:17 AM	110492
2305350-09B	BMW-19	05/23/23 05:15 PM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-19	05/23/23 05:15 PM	Aqueous	E300	Anion Preparation	05/31/23 09:59 AM	110429
	BMW-19	05/23/23 05:15 PM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-19	05/23/23 05:15 PM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388

Lab Order: 2305350
Client: WSP-Golder
Project: Luminant - A1 Landfill CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2305350-10A	BMW-18	05/24/23 08:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/26/23 07:42 AM	110363
	BMW-18	05/24/23 08:00 AM	Aqueous	SW7470A	Mercury Aq Prep	06/05/23 10:17 AM	110492
2305350-10B	BMW-18	05/24/23 08:00 AM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-18	05/24/23 08:00 AM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-18	05/24/23 08:00 AM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-11A	BMW-28	05/24/23 09:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/30/23 07:38 AM	110391
	BMW-28	05/24/23 09:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/30/23 07:38 AM	110391
	BMW-28	05/24/23 09:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/30/23 07:38 AM	110391
	BMW-28	05/24/23 09:00 AM	Aqueous	SW7470A	Mercury Aq Prep	06/05/23 10:17 AM	110492
2305350-11B	BMW-28	05/24/23 09:00 AM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-28	05/24/23 09:00 AM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-28	05/24/23 09:00 AM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-12A	DUP-1	05/24/23 09:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/30/23 07:38 AM	110391
	DUP-1	05/24/23 09:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/30/23 07:38 AM	110391
	DUP-1	05/24/23 09:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/30/23 07:38 AM	110391
	DUP-1	05/24/23 09:00 AM	Aqueous	SW7470A	Mercury Aq Prep	06/05/23 10:17 AM	110492
2305350-12B	DUP-1	05/24/23 09:00 AM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	DUP-1	05/24/23 09:00 AM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	DUP-1	05/24/23 09:00 AM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-13A	BMW-33	05/24/23 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/30/23 07:38 AM	110391
	BMW-33	05/24/23 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/30/23 07:38 AM	110391
	BMW-33	05/24/23 10:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/30/23 07:38 AM	110391
	BMW-33	05/24/23 10:20 AM	Aqueous	SW7470A	Mercury Aq Prep	06/05/23 10:17 AM	110492
2305350-13B	BMW-33	05/24/23 10:20 AM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-33	05/24/23 10:20 AM	Aqueous	E300	Anion Preparation	05/26/23 01:01 PM	110385
	BMW-33	05/24/23 10:20 AM	Aqueous	M2540C	TDS Preparation	05/26/23 02:41 PM	110388
2305350-14A	BMW-32	05/24/23 11:20 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	05/30/23 07:38 AM	110391

Lab Order: 2305350
Client: WSP-Golder
Project: Luminant - A1 Landfill CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2305350-01A	BMW-24	Aqueous	SW7470A	Mercury Total: Aqueous	110469	1	06/05/23 02:29 PM	CETAC2_HG_230605B
	BMW-24	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	1	05/26/23 02:55 PM	ICP-MS4_230526A
	BMW-24	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	10	05/26/23 03:58 PM	ICP-MS4_230526A
2305350-01B	BMW-24	Aqueous	E300	Anions by IC method - Water	110375	10	05/26/23 06:26 PM	IC2_230526B
	BMW-24	Aqueous	E300	Anions by IC method - Water	110375	1	05/27/23 12:23 AM	IC2_230526B
	BMW-24	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-02A	BMW-23	Aqueous	SW7470A	Mercury Total: Aqueous	110469	1	06/05/23 02:31 PM	CETAC2_HG_230605B
	BMW-23	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	1	05/26/23 02:56 PM	ICP-MS4_230526A
	BMW-23	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	10	05/26/23 04:00 PM	ICP-MS4_230526A
2305350-02B	BMW-23	Aqueous	E300	Anions by IC method - Water	110375	10	05/26/23 06:43 PM	IC2_230526B
	BMW-23	Aqueous	E300	Anions by IC method - Water	110375	1	05/27/23 01:48 AM	IC2_230526B
	BMW-23	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-03A	BMW-22	Aqueous	SW7470A	Mercury Total: Aqueous	110469	1	06/05/23 02:34 PM	CETAC2_HG_230605B
	BMW-22	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	1	05/26/23 02:58 PM	ICP-MS4_230526A
	BMW-22	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	20	05/26/23 04:02 PM	ICP-MS4_230526A
2305350-03B	BMW-22	Aqueous	E300	Anions by IC method - Water	110375	10	05/26/23 07:00 PM	IC2_230526B
	BMW-22	Aqueous	E300	Anions by IC method - Water	110375	1	05/27/23 02:05 AM	IC2_230526B
	BMW-22	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-04A	BMW-21	Aqueous	SW7470A	Mercury Total: Aqueous	110469	1	06/05/23 02:44 PM	CETAC2_HG_230605B
	BMW-21	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	10	05/26/23 04:04 PM	ICP-MS4_230526A
	BMW-21	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	1	05/26/23 03:00 PM	ICP-MS4_230526A
2305350-04B	BMW-21	Aqueous	E300	Anions by IC method - Water	110375	1	05/27/23 02:22 AM	IC2_230526B
	BMW-21	Aqueous	E300	Anions by IC method - Water	110375	10	05/26/23 07:17 PM	IC2_230526B
	BMW-21	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-05A	BMW-20	Aqueous	SW7470A	Mercury Total: Aqueous	110469	1	06/05/23 02:46 PM	CETAC2_HG_230605B
	BMW-20	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	1	05/26/23 03:02 PM	ICP-MS4_230526A

Lab Order: 2305350
Client: WSP-Golder
Project: Luminant - A1 Landfill CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2305350-05A	BMW-20	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	10	05/26/23 04:06 PM	ICP-MS4_230526A
2305350-05B	BMW-20	Aqueous	E300	Anions by IC method - Water	110375	10	05/26/23 07:34 PM	IC2_230526B
	BMW-20	Aqueous	E300	Anions by IC method - Water	110375	1	05/27/23 02:39 AM	IC2_230526B
	BMW-20	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-06A	BMW-27	Aqueous	SW7470A	Mercury Total: Aqueous	110469	1	06/05/23 02:49 PM	CETAC2_HG_230605 B
	BMW-27	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	1	05/26/23 03:04 PM	ICP-MS4_230526A
	BMW-27	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	10	05/26/23 04:08 PM	ICP-MS4_230526A
2305350-06B	BMW-27	Aqueous	E300	Anions by IC method - Water	110375	10	05/26/23 07:51 PM	IC2_230526B
	BMW-27	Aqueous	E300	Anions by IC method - Water	110375	1	05/27/23 02:56 AM	IC2_230526B
	BMW-27	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-07A	BMW-26	Aqueous	SW7470A	Mercury Total: Aqueous	110492	1	06/05/23 03:08 PM	CETAC2_HG_230605 B
	BMW-26	Aqueous	SW7470A	Mercury Total: Aqueous	110492	1	06/06/23 11:02 AM	CETAC2_HG_230606 A
	BMW-26	Aqueous	SW1311/7470A	TCLP Mercury	110492	1	06/05/23 03:08 PM	CETAC2_HG_230605 A
	BMW-26	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	1	05/26/23 03:06 PM	ICP-MS4_230526A
	BMW-26	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	20	05/26/23 04:10 PM	ICP-MS4_230526A
2305350-07B	BMW-26	Aqueous	E300	Anions by IC method - Water	110385	1	05/26/23 10:31 PM	IC4_230526B
	BMW-26	Aqueous	E300	Anions by IC method - Water	110385	10	05/26/23 07:02 PM	IC4_230526B
	BMW-26	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-08A	BMW-11AR	Aqueous	SW7470A	Mercury Total: Aqueous	110492	1	06/05/23 03:21 PM	CETAC2_HG_230605 B
	BMW-11AR	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	1	05/26/23 03:08 PM	ICP-MS4_230526A
	BMW-11AR	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	10	05/26/23 04:12 PM	ICP-MS4_230526A
2305350-08B	BMW-11AR	Aqueous	E300	Anions by IC method - Water	110385	10	05/26/23 07:59 PM	IC4_230526B
	BMW-11AR	Aqueous	E300	Anions by IC method - Water	110385	1	05/26/23 10:50 PM	IC4_230526B
	BMW-11AR	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-09A	BMW-19	Aqueous	SW7470A	Mercury Total: Aqueous	110492	1	06/05/23 03:23 PM	CETAC2_HG_230605 B

Lab Order: 2305350
Client: WSP-Golder
Project: Luminant - A1 Landfill CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2305350-09A	BMW-19	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	50	05/26/23 04:14 PM	ICP-MS4_230526A
	BMW-19	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	1	05/26/23 03:10 PM	ICP-MS4_230526A
2305350-09B	BMW-19	Aqueous	E300	Anions by IC method - Water	110385	1	05/26/23 11:09 PM	IC4_230526B
	BMW-19	Aqueous	E300	Anions by IC method - Water	110429	100	05/31/23 02:57 PM	IC2_230531A
	BMW-19	Aqueous	E300	Anions by IC method - Water	110385	10	05/26/23 08:18 PM	IC4_230526B
	BMW-19	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-10A	BMW-18	Aqueous	SW7470A	Mercury Total: Aqueous	110492	1	06/05/23 03:25 PM	CETAC2_HG_230605B
	BMW-18	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110363	1	05/26/23 03:31 PM	ICP-MS4_230526A
2305350-10B	BMW-18	Aqueous	E300	Anions by IC method - Water	110385	10	05/26/23 08:37 PM	IC4_230526B
	BMW-18	Aqueous	E300	Anions by IC method - Water	110385	1	05/27/23 12:44 AM	IC4_230526B
	BMW-18	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-11A	BMW-28	Aqueous	SW7470A	Mercury Total: Aqueous	110492	1	06/05/23 03:28 PM	CETAC2_HG_230605B
	BMW-28	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110391	10	05/31/23 11:46 AM	ICP-MS5_230531A
	BMW-28	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110391	1	05/31/23 10:39 AM	ICP-MS5_230531A
	BMW-28	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110391	1	06/01/23 12:54 PM	ICP-MS4_230601B
2305350-11B	BMW-28	Aqueous	E300	Anions by IC method - Water	110385	10	05/26/23 08:56 PM	IC4_230526B
	BMW-28	Aqueous	E300	Anions by IC method - Water	110385	1	05/27/23 01:03 AM	IC4_230526B
	BMW-28	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-12A	DUP-1	Aqueous	SW7470A	Mercury Total: Aqueous	110492	1	06/05/23 03:30 PM	CETAC2_HG_230605B
	DUP-1	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110391	1	06/01/23 12:56 PM	ICP-MS4_230601B
	DUP-1	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110391	1	05/31/23 10:41 AM	ICP-MS5_230531A
	DUP-1	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110391	10	05/31/23 11:49 AM	ICP-MS5_230531A
2305350-12B	DUP-1	Aqueous	E300	Anions by IC method - Water	110385	10	05/26/23 09:15 PM	IC4_230526B
	DUP-1	Aqueous	E300	Anions by IC method - Water	110385	1	05/27/23 01:22 AM	IC4_230526B
	DUP-1	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-13A	BMW-33	Aqueous	SW7470A	Mercury Total: Aqueous	110492	1	06/05/23 03:32 PM	CETAC2_HG_230605B

Lab Order: 2305350
Client: WSP-Golder
Project: Luminant - A1 Landfill CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2305350-13A	BMW-33	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110391	1	06/01/23 12:58 PM	ICP-MS4_230601B
	BMW-33	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110391	1	05/31/23 10:44 AM	ICP-MS5_230531A
	BMW-33	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110391	10	05/31/23 11:51 AM	ICP-MS5_230531A
2305350-13B	BMW-33	Aqueous	E300	Anions by IC method - Water	110385	10	05/26/23 10:12 PM	IC4_230526B
	BMW-33	Aqueous	E300	Anions by IC method - Water	110385	1	05/27/23 01:41 AM	IC4_230526B
	BMW-33	Aqueous	M2540C	Total Dissolved Solids	110388	1	05/26/23 04:15 PM	WC_230526B
2305350-14A	BMW-32	Aqueous	SW6020B	Total Metals: ICP-MS - Water	110391	1	05/31/23 10:46 AM	ICP-MS5_230531A

DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-24
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-01
Project No:	331404097.019	**Collection Date:**	05/23/23 09:20 AM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/26/23 02:55 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:55 PM
Barium	0.200	0.00300	0.0100		mg/L	1	05/26/23 02:55 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 02:55 PM
Boron	0.680	0.0100	0.0300		mg/L	1	05/26/23 02:55 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 02:55 PM
Calcium	80.5	1.00	3.00		mg/L	10	05/26/23 03:58 PM
Chromium	0.0108	0.00200	0.00500		mg/L	1	05/26/23 02:55 PM
Cobalt	0.00683	0.00300	0.00500		mg/L	1	05/26/23 02:55 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 02:55 PM
Lithium	0.0540	0.00500	0.0100		mg/L	1	05/26/23 02:55 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:55 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:55 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/26/23 02:55 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 02:29 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	179	3.00	10.0		mg/L	10	05/26/23 06:26 PM
Fluoride	0.119	0.100	0.400	J	mg/L	1	05/27/23 12:23 AM
Sulfate	257	10.0	30.0		mg/L	10	05/26/23 06:26 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	917	10.0	10.0		mg/L	1	05/26/23 04:15 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-23
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-02
Project No:	331404097.019	**Collection Date:**	05/23/23 10:10 AM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/26/23 02:56 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:56 PM
Barium	0.0398	0.00300	0.0100		mg/L	1	05/26/23 02:56 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 02:56 PM
Boron	1.81	0.0100	0.0300		mg/L	1	05/26/23 02:56 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 02:56 PM
Calcium	118	1.00	3.00		mg/L	10	05/26/23 04:00 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:56 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/26/23 02:56 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 02:56 PM
Lithium	0.0930	0.00500	0.0100		mg/L	1	05/26/23 02:56 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:56 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:56 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/26/23 02:56 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 02:31 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	271	3.00	10.0		mg/L	10	05/26/23 06:43 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/27/23 01:48 AM
Sulfate	485	10.0	30.0		mg/L	10	05/26/23 06:43 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1750	50.0	50.0		mg/L	1	05/26/23 04:15 PM

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SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-22
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-03
Project No:	331404097.019	**Collection Date:**	05/23/23 11:00 AM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/26/23 02:58 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:58 PM
Barium	0.0613	0.00300	0.0100		mg/L	1	05/26/23 02:58 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 02:58 PM
Boron	3.27	0.200	0.600		mg/L	20	05/26/23 04:02 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 02:58 PM
Calcium	232	2.00	6.00		mg/L	20	05/26/23 04:02 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:58 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/26/23 02:58 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 02:58 PM
Lithium	0.0832	0.00500	0.0100		mg/L	1	05/26/23 02:58 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:58 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 02:58 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/26/23 02:58 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 02:34 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	291	3.00	10.0		mg/L	10	05/26/23 07:00 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/27/23 02:05 AM
Sulfate	879	10.0	30.0		mg/L	10	05/26/23 07:00 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	2380	50.0	50.0		mg/L	1	05/26/23 04:15 PM

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SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-21
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-04
Project No:	331404097.019	**Collection Date:**	05/23/23 12:00 PM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/26/23 03:00 PM
Arsenic	0.00358	0.00200	0.00500	J	mg/L	1	05/26/23 03:00 PM
Barium	0.0382	0.00300	0.0100		mg/L	1	05/26/23 03:00 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:00 PM
Boron	1.03	0.0100	0.0300		mg/L	1	05/26/23 03:00 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:00 PM
Calcium	180	1.00	3.00		mg/L	10	05/26/23 04:04 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:00 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/26/23 03:00 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:00 PM
Lithium	0.0680	0.00500	0.0100		mg/L	1	05/26/23 03:00 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:00 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:00 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/26/23 03:00 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 02:44 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	425	3.00	10.0		mg/L	10	05/26/23 07:17 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/27/23 02:22 AM
Sulfate	456	10.0	30.0		mg/L	10	05/26/23 07:17 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	2140	50.0	50.0		mg/L	1	05/26/23 04:15 PM

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DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-20
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-05
Project No:	331404097.019	**Collection Date:**	05/23/23 01:05 PM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/26/23 03:02 PM
Arsenic	0.00730	0.00200	0.00500		mg/L	1	05/26/23 03:02 PM
Barium	0.0507	0.00300	0.0100		mg/L	1	05/26/23 03:02 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:02 PM
Boron	0.140	0.0100	0.0300		mg/L	1	05/26/23 03:02 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:02 PM
Calcium	191	1.00	3.00		mg/L	10	05/26/23 04:06 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:02 PM
Cobalt	0.0756	0.00300	0.00500		mg/L	1	05/26/23 03:02 PM
Lead	0.000611	0.000300	0.00100	J	mg/L	1	05/26/23 03:02 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	05/26/23 03:02 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:02 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:02 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/26/23 03:02 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 02:46 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	44.2	3.00	10.0		mg/L	10	05/26/23 07:34 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/27/23 02:39 AM
Sulfate	734	10.0	30.0		mg/L	10	05/26/23 07:34 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1590	50.0	50.0		mg/L	1	05/26/23 04:15 PM

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DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-27
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-06
Project No:	331404097.019	**Collection Date:**	05/23/23 02:10 PM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/26/23 03:04 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:04 PM
Barium	0.0355	0.00300	0.0100		mg/L	1	05/26/23 03:04 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:04 PM
Boron	0.374	0.0100	0.0300		mg/L	1	05/26/23 03:04 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:04 PM
Calcium	170	1.00	3.00		mg/L	10	05/26/23 04:08 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:04 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/26/23 03:04 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:04 PM
Lithium	0.0793	0.00500	0.0100		mg/L	1	05/26/23 03:04 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:04 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:04 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/26/23 03:04 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 02:49 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	108	3.00	10.0		mg/L	10	05/26/23 07:51 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/27/23 02:56 AM
Sulfate	521	10.0	30.0		mg/L	10	05/26/23 07:51 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1530	50.0	50.0		mg/L	1	05/26/23 04:15 PM

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SDL - Sample Detection Limit
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DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-26
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-07
Project No:	331404097.019	**Collection Date:**	05/23/23 03:15 PM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/26/23 03:06 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:06 PM
Barium	0.0217	0.00300	0.0100		mg/L	1	05/26/23 03:06 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:06 PM
Boron	0.484	0.0100	0.0300		mg/L	1	05/26/23 03:06 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:06 PM
Calcium	225	2.00	6.00		mg/L	20	05/26/23 04:10 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:06 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/26/23 03:06 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:06 PM
Lithium	0.104	0.00500	0.0100		mg/L	1	05/26/23 03:06 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:06 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:06 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/26/23 03:06 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 03:08 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	132	3.00	10.0		mg/L	10	05/26/23 07:02 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/26/23 10:31 PM
Sulfate	727	10.0	30.0		mg/L	10	05/26/23 07:02 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1990	50.0	50.0		mg/L	1	05/26/23 04:15 PM

Qualifiers:

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B - Analyte detected in the associated Method Blank
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DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-11AR
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-08
Project No:	331404097.019	**Collection Date:**	05/23/23 04:20 PM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/26/23 03:08 PM
Arsenic	0.00293	0.00200	0.00500	J	mg/L	1	05/26/23 03:08 PM
Barium	0.0633	0.00300	0.0100		mg/L	1	05/26/23 03:08 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:08 PM
Boron	0.420	0.0100	0.0300		mg/L	1	05/26/23 03:08 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:08 PM
Calcium	103	1.00	3.00		mg/L	10	05/26/23 04:12 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:08 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/26/23 03:08 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:08 PM
Lithium	0.0343	0.00500	0.0100		mg/L	1	05/26/23 03:08 PM
Molybdenum	0.00224	0.00200	0.00500	J	mg/L	1	05/26/23 03:08 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:08 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/26/23 03:08 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 03:21 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	18.6	0.300	1.00		mg/L	1	05/26/23 10:50 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/26/23 10:50 PM
Sulfate	258	10.0	30.0		mg/L	10	05/26/23 07:59 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1010	50.0	50.0		mg/L	1	05/26/23 04:15 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-19
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-09
Project No:	331404097.019	**Collection Date:**	05/23/23 05:15 PM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/26/23 03:10 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:10 PM
Barium	0.0118	0.00300	0.0100		mg/L	1	05/26/23 03:10 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:10 PM
Boron	0.482	0.0100	0.0300		mg/L	1	05/26/23 03:10 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:10 PM
Calcium	449	5.00	15.0		mg/L	50	05/26/23 04:14 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:10 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/26/23 03:10 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:10 PM
Lithium	0.0776	0.00500	0.0100		mg/L	1	05/26/23 03:10 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:10 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:10 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/26/23 03:10 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 03:23 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	6.84	0.300	1.00		mg/L	1	05/26/23 11:09 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	05/26/23 11:09 PM
Sulfate	1570	100	300		mg/L	100	05/31/23 02:57 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	2930	50.0	50.0		mg/L	1	05/26/23 04:15 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-18
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-10
Project No:	331404097.019	**Collection Date:**	05/24/23 08:00 AM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/26/23 03:31 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:31 PM
Barium	0.0343	0.00300	0.0100		mg/L	1	05/26/23 03:31 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:31 PM
Boron	0.435	0.0100	0.0300		mg/L	1	05/26/23 03:31 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:31 PM
Calcium	8.34	0.100	0.300		mg/L	1	05/26/23 03:31 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:31 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/26/23 03:31 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/26/23 03:31 PM
Lithium	0.0128	0.00500	0.0100		mg/L	1	05/26/23 03:31 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:31 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/26/23 03:31 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/26/23 03:31 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 03:25 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	19.0	0.300	1.00		mg/L	1	05/27/23 12:44 AM
Fluoride	0.237	0.100	0.400	J	mg/L	1	05/27/23 12:44 AM
Sulfate	84.6	1.00	3.00		mg/L	1	05/27/23 12:44 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	474	10.0	10.0		mg/L	1	05/26/23 04:15 PM

Qualifiers:

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S - Spike Recovery outside control limits
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RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-28
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-11
Project No:	331404097.019	**Collection Date:**	05/24/23 09:00 AM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/31/23 10:39 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	05/31/23 10:39 AM
Barium	0.0107	0.00300	0.0100		mg/L	1	05/31/23 10:39 AM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/31/23 10:39 AM
Boron	0.560	0.0100	0.0300		mg/L	1	06/01/23 12:54 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/31/23 10:39 AM
Calcium	184	1.00	3.00		mg/L	10	05/31/23 11:46 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/31/23 10:39 AM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/31/23 10:39 AM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/31/23 10:39 AM
Lithium	0.121	0.00500	0.0100		mg/L	1	05/31/23 10:39 AM
Molybdenum	0.00643	0.00200	0.00500		mg/L	1	05/31/23 10:39 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/31/23 10:39 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/31/23 10:39 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 03:28 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	10.1	0.300	1.00		mg/L	1	05/27/23 01:03 AM
Fluoride	0.163	0.100	0.400	J	mg/L	1	05/27/23 01:03 AM
Sulfate	1010	10.0	30.0		mg/L	10	05/26/23 08:56 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1820	50.0	50.0		mg/L	1	05/26/23 04:15 PM

Qualifiers:

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DF- Dilution Factor
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See Final Page of Report for MQLs and MDLs
S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	DUP-1
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-12
Project No:	331404097.019	**Collection Date:**	05/24/23 09:00 AM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/31/23 10:41 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	05/31/23 10:41 AM
Barium	0.0101	0.00300	0.0100		mg/L	1	05/31/23 10:41 AM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/31/23 10:41 AM
Boron	0.571	0.0100	0.0300		mg/L	1	06/01/23 12:56 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/31/23 10:41 AM
Calcium	184	1.00	3.00		mg/L	10	05/31/23 11:49 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/31/23 10:41 AM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/31/23 10:41 AM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/31/23 10:41 AM
Lithium	0.121	0.00500	0.0100		mg/L	1	05/31/23 10:41 AM
Molybdenum	0.00631	0.00200	0.00500		mg/L	1	05/31/23 10:41 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/31/23 10:41 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/31/23 10:41 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 03:30 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	10.2	0.300	1.00		mg/L	1	05/27/23 01:22 AM
Fluoride	0.167	0.100	0.400	J	mg/L	1	05/27/23 01:22 AM
Sulfate	1040	10.0	30.0		mg/L	10	05/26/23 09:15 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1890	50.0	50.0		mg/L	1	05/26/23 04:15 PM

Qualifiers:

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J - Analyte detected between SDL and RL
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S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-33
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-13
Project No:	331404097.019	**Collection Date:**	05/24/23 10:20 AM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	05/31/23 10:44 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	05/31/23 10:44 AM
Barium	0.109	0.00300	0.0100		mg/L	1	05/31/23 10:44 AM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	05/31/23 10:44 AM
Boron	0.195	0.0100	0.0300		mg/L	1	06/01/23 12:58 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	05/31/23 10:44 AM
Calcium	128	1.00	3.00		mg/L	10	05/31/23 11:51 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	05/31/23 10:44 AM
Cobalt	0.00504	0.00300	0.00500		mg/L	1	05/31/23 10:44 AM
Lead	<0.000300	0.000300	0.00100		mg/L	1	05/31/23 10:44 AM
Lithium	0.0130	0.00500	0.0100		mg/L	1	05/31/23 10:44 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	05/31/23 10:44 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	05/31/23 10:44 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	05/31/23 10:44 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/05/23 03:32 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	61.7	3.00	10.0		mg/L	10	05/26/23 10:12 PM
Fluoride	0.149	0.100	0.400	J	mg/L	1	05/27/23 01:41 AM
Sulfate	163	10.0	30.0		mg/L	10	05/26/23 10:12 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	965	50.0	50.0		mg/L	1	05/26/23 04:15 PM

Qualifiers:

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S - Spike Recovery outside control limits
C - Sample Result or QC discussed in Case Narrative
RL - Reporting Limit (MQL adjusted for moisture and sample size)
SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *07-Jul-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-32
Project:	Luminant - A1 Landfill CCR	**Lab ID:**	2305350-14
Project No:	331404097.019	**Collection Date:**	05/24/23 11:20 AM
Lab Order:	2305350	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	05/31/23 10:46 AM

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_230424B

Sample ID: **DCS-109838**	Batch ID: **109838**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **DCS**	Run ID: **CETAC2_HG_230424B**	Analysis Date: **4/24/2023 1:40:40 PM**	Prep Date: **4/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000189	0.000200	0.000200	0	94.5	82	119	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_230605B

The QC data in batch 110469 applies to the following samples: 2305350-01A, 2305350-02A, 2305350-03A, 2305350-04A, 2305350-05A, 2305350-06A

Sample ID: **MB-110469** Batch ID: **110469** TestNo: **SW7470A** Units: **mg/L**
SampType: **MBLK** Run ID: **CETAC2_HG_230605B** Analysis Date: **6/5/2023 1:21:59 PM** Prep Date: **6/2/2023**

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

Sample ID: **LCS-110469** Batch ID: **110469** TestNo: **SW7470A** Units: **mg/L**
SampType: **LCS** Run ID: **CETAC2_HG_230605B** Analysis Date: **6/5/2023 1:24:15 PM** Prep Date: **6/2/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00196	0.000200	0.00200	0	98.0	85	115			

Sample ID: **LCSD-110469** Batch ID: **110469** TestNo: **SW7470A** Units: **mg/L**
SampType: **LCSD** Run ID: **CETAC2_HG_230605B** Analysis Date: **6/5/2023 1:26:31 PM** Prep Date: **6/2/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00205	0.000200	0.00200	0	103	85	115	4.49	15	

Sample ID: **2305312-10EMS** Batch ID: **110469** TestNo: **SW7470A** Units: **mg/L**
SampType: **MS** Run ID: **CETAC2_HG_230605B** Analysis Date: **6/5/2023 1:46:54 PM** Prep Date: **6/2/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00193	0.000200	0.00200	0	96.5	80	120			

Sample ID: **2305312-10EMSD** Batch ID: **110469** TestNo: **SW7470A** Units: **mg/L**
SampType: **MSD** Run ID: **CETAC2_HG_230605B** Analysis Date: **6/5/2023 1:49:10 PM** Prep Date: **6/2/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00192	0.000200	0.00200	0	96.0	80	120	0.519	15	

Sample ID: **2305312-10EPDS** Batch ID: **110469** TestNo: **SW7470A** Units: **mg/L**
SampType: **PDS** Run ID: **CETAC2_HG_230605B** Analysis Date: **6/5/2023 1:53:42 PM** Prep Date: **6/2/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00247	0.000200	0.00250	0	98.8	85	115			

Sample ID: **2305312-11EMS** Batch ID: **110469** TestNo: **SW7470A** Units: **mg/L**
SampType: **MS** Run ID: **CETAC2_HG_230605B** Analysis Date: **6/5/2023 1:58:14 PM** Prep Date: **6/2/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00196	0.000200	0.00200	0	98.0	80	120			

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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_230605B

Sample ID: **2305312-10ESD**	Batch ID: **110469**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **SD**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 2:04:33 PM**	Prep Date: **6/2/2023**

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

Sample ID: **2305312-11EMSD**	Batch ID: **110469**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MSD**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 2:09:06 PM**	Prep Date: **6/2/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00209	0.000200	0.00200	0	104	80	120	6.42	15	

Sample ID: **2305312-13EMS**	Batch ID: **110469**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MS**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 2:20:30 PM**	Prep Date: **6/2/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00192	0.000200	0.00200	0	96.0	80	120			

Sample ID: **2305312-13EMSD**	Batch ID: **110469**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MSD**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 2:22:47 PM**	Prep Date: **6/2/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00194	0.000200	0.00200	0	97.0	80	120	1.04	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_230605B

The QC data in batch 110492 applies to the following samples: 2305350-07A, 2305350-08A, 2305350-09A, 2305350-10A, 2305350-11A, 2305350-12A, 2305350-13A

Sample ID: **MB-110492**	Batch ID: **110492**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MBLK**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 2:59:04 PM**	Prep Date: **6/5/2023**

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

Sample ID: **LCS-110492**	Batch ID: **110492**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **LCS**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 3:03:38 PM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00199	0.000200	0.00200	0	99.5	85	115			

Sample ID: **LCSD-110492**	Batch ID: **110492**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **LCSD**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 3:05:55 PM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00211	0.000200	0.00200	0	106	85	115	5.85	15	

Sample ID: **2305350-07AMS**	Batch ID: **110492**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MS**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 3:11:58 PM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00169	0.000200	0.00200	0	84.5	80	120			

Sample ID: **2305350-07AMSD**	Batch ID: **110492**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MSD**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 3:14:15 PM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00166	0.000200	0.00200	0	83.0	80	120	1.79	15	

Sample ID: **2305350-07ASD**	Batch ID: **110492**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **SD**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 3:16:33 PM**	Prep Date: **6/5/2023**

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

Sample ID: **2305350-07APDS**	Batch ID: **110492**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **PDS**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 3:18:50 PM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00213	0.000200	0.00250	0	85.2	85	115			

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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_230605B

Sample ID: **ICV-230605**	Batch ID: **R127188**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **ICV**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 10:13:17 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00412	0.000200	0.00400	0	103	90	110			

Sample ID: **CCV2-230605**	Batch ID: **R127188**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 1:04:35 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00211	0.000200	0.00200	0	106	90	110			

Sample ID: **CCV3-230605**	Batch ID: **R127188**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 2:13:40 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00207	0.000200	0.00200	0	104	90	110			

Sample ID: **CCV4-230605**	Batch ID: **R127188**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 2:54:29 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00200	0	102	90	110			

Sample ID: **CCV5-230605**	Batch ID: **R127188**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_230605B**	Analysis Date: **6/5/2023 3:48:41 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00208	0.000200	0.00200	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230228A

Sample ID: **DCS1-109023**	Batch ID: **109023**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS**	Run ID: **ICP-MS4_230228A**	Analysis Date: **2/28/2023 10:45:00 AM**	Prep Date: **2/27/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.000934	0.00250	0.00100	0	93.4	70	130	0	0	
Beryllium	0.000597	0.00100	0.000500	0	119	70	130	0	0	
Cadmium	0.000447	0.00100	0.000500	0	89.4	70	130	0	0	
Lead	0.000492	0.00100	0.000500	0	98.4	70	130	0	0	
Thallium	0.000478	0.00150	0.000500	0	95.6	70	130	0	0	

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

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

Sample ID: **DCS3-109023**	Batch ID: **109023**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS3**	Run ID: **ICP-MS4_230228A**	Analysis Date: **2/28/2023 10:49:00 AM**	Prep Date: **2/27/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00502	0.00500	0.00500	0	100	70	130	0	0	
Barium	0.00489	0.0100	0.00500	0	97.7	70	130	0	0	
Chromium	0.00495	0.00500	0.00500	0	99.0	70	130	0	0	
Cobalt	0.00483	0.00500	0.00500	0	96.5	70	130	0	0	
Lithium	0.00576	0.0100	0.00500	0	115	70	130	0	0	
Molybdenum	0.00534	0.00500	0.00500	0	107	70	130	0	0	
Selenium	0.00472	0.00500	0.00500	0	94.3	70	130	0	0	

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

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

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_230526A**

The QC data in batch 110363 applies to the following samples: 2305350-01A, 2305350-02A, 2305350-03A, 2305350-04A, 2305350-05A, 2305350-06A, 2305350-07A, 2305350-08A, 2305350-09A, 2305350-10A

Sample ID: **MB-110363** Batch ID: **110363** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 2:40:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Boron	<0.0100	0.0300								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID: **LCS-110363** Batch ID: **110363** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 2:42:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.197	0.00250	0.200	0	98.6	80	120			
Arsenic	0.201	0.00500	0.200	0	100	80	120			
Barium	0.200	0.0100	0.200	0	100	80	120			
Beryllium	0.197	0.00100	0.200	0	98.6	80	120			
Boron	0.200	0.0300	0.200	0	100	80	120			
Cadmium	0.201	0.00100	0.200	0	100	80	120			
Calcium	5.07	0.300	5.00	0	101	80	120			
Chromium	0.201	0.00500	0.200	0	101	80	120			
Cobalt	0.204	0.00500	0.200	0	102	80	120			
Lead	0.189	0.00100	0.200	0	94.5	80	120			
Lithium	0.196	0.0100	0.200	0	98.2	80	120			
Molybdenum	0.205	0.00500	0.200	0	103	80	120			
Selenium	0.204	0.00500	0.200	0	102	80	120			
Thallium	0.185	0.00150	0.200	0	92.4	80	120			

Sample ID: **LCSD-110363** Batch ID: **110363** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 2:47:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.4	80	120	1.20	15	

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230526A

Sample ID: **LCSD-110363** Batch ID: **110363** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 2:47:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.200	0.00500	0.200	0	99.8	80	120	0.665	15	
Barium	0.200	0.0100	0.200	0	99.9	80	120	0.201	15	
Beryllium	0.200	0.00100	0.200	0	99.9	80	120	1.27	15	
Boron	0.189	0.0300	0.200	0	94.6	80	120	5.53	15	
Cadmium	0.199	0.00100	0.200	0	99.3	80	120	1.07	15	
Calcium	5.00	0.300	5.00	0	100	80	120	1.39	15	
Chromium	0.199	0.00500	0.200	0	99.5	80	120	1.05	15	
Cobalt	0.200	0.00500	0.200	0	100	80	120	1.91	15	
Lead	0.193	0.00100	0.200	0	96.4	80	120	2.07	15	
Lithium	0.190	0.0100	0.200	0	94.9	80	120	3.42	15	
Molybdenum	0.201	0.00500	0.200	0	101	80	120	2.13	15	
Selenium	0.200	0.00500	0.200	0	99.8	80	120	2.02	15	
Thallium	0.185	0.00150	0.200	0	92.7	80	120	0.366	15	

Sample ID: **2305312-10E SD** Batch ID: **110363** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 2:53:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	20	
Arsenic	<0.0100	0.0250	0	0				0	20	
Barium	0.118	0.0500	0	0.115				1.93	20	
Beryllium	<0.00150	0.00500	0	0				0	20	
Boron	<0.0500	0.150	0	0.0313				0	20	
Cadmium	<0.00150	0.00500	0	0				0	20	
Calcium	251	1.50	0	248				1.30	20	
Chromium	<0.0100	0.0250	0	0				0	20	
Cobalt	<0.0150	0.0250	0	0				0	20	
Lead	<0.00150	0.00500	0	0				0	20	
Lithium	0.0694	0.0500	0	0.0561				21.2	20	R
Molybdenum	<0.0100	0.0250	0	0				0	20	
Selenium	<0.0100	0.0250	0	0				0	20	
Thallium	<0.00250	0.00750	0	0				0	20	

Sample ID: **2305312-10E PDS** Batch ID: **110363** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 3:12:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.187	0.00250	0.200	0	93.4	75	125			
Arsenic	0.199	0.00500	0.200	0	99.6	75	125			
Barium	0.307	0.0100	0.200	0.115	95.8	75	125			
Beryllium	0.190	0.00100	0.200	0	94.9	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230526A

Sample ID: **2305312-10E PDS** Batch ID: **110363** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 3:12:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.253	0.0300	0.200	0.0313	111	75	125			
Cadmium	0.197	0.00100	0.200	0	98.4	75	125			
Calcium	237	0.300	5.00	248	-218	75	125			S
Chromium	0.199	0.00500	0.200	0	99.5	75	125			
Cobalt	0.196	0.00500	0.200	0	98.2	75	125			
Lead	0.189	0.00100	0.200	0	94.3	75	125			
Lithium	0.247	0.0100	0.200	0.0561	95.3	75	125			
Molybdenum	0.203	0.00500	0.200	0	102	75	125			
Selenium	0.201	0.00500	0.200	0	101	75	125			
Thallium	0.196	0.00150	0.200	0	98.2	75	125			

Sample ID: **2305312-10E MS** Batch ID: **110363** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 3:15:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.197	0.00250	0.200	0	98.4	75	125			
Arsenic	0.205	0.00500	0.200	0	103	75	125			
Barium	0.314	0.0100	0.200	0.115	99.3	75	125			
Beryllium	0.197	0.00100	0.200	0	98.6	75	125			
Boron	0.245	0.0300	0.200	0.0313	107	75	125			
Cadmium	0.197	0.00100	0.200	0	98.4	75	125			
Calcium	249	0.300	5.00	248	16.0	75	125			S
Chromium	0.197	0.00500	0.200	0	98.3	75	125			
Cobalt	0.200	0.00500	0.200	0	99.8	75	125			
Lead	0.193	0.00100	0.200	0	96.3	75	125			
Lithium	0.249	0.0100	0.200	0.0561	96.4	75	125			
Molybdenum	0.209	0.00500	0.200	0	104	75	125			
Selenium	0.204	0.00500	0.200	0	102	75	125			
Thallium	0.189	0.00150	0.200	0	94.6	75	125			

Sample ID: **2305312-10E MSD** Batch ID: **110363** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 3:17:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.197	0.00250	0.200	0	98.4	75	125	0.013	15	
Arsenic	0.204	0.00500	0.200	0	102	75	125	0.428	15	
Barium	0.312	0.0100	0.200	0.115	98.3	75	125	0.690	15	
Beryllium	0.199	0.00100	0.200	0	99.4	75	125	0.762	15	
Boron	0.252	0.0300	0.200	0.0313	110	75	125	2.85	15	
Cadmium	0.198	0.00100	0.200	0	98.9	75	125	0.530	15	
Calcium	248	0.300	5.00	248	1.74	75	125	0.287	15	S

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230526A

Sample ID: **2305312-10E MSD** Batch ID: **110363** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 3:17:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.201	0.00500	0.200	0	100	75	125	2.06	15	
Cobalt	0.198	0.00500	0.200	0	99.1	75	125	0.671	15	
Lead	0.197	0.00100	0.200	0	98.4	75	125	2.14	15	
Lithium	0.252	0.0100	0.200	0.0561	97.9	75	125	1.25	15	
Molybdenum	0.212	0.00500	0.200	0	106	75	125	1.44	15	
Selenium	0.196	0.00500	0.200	0	97.8	75	125	4.09	15	
Thallium	0.196	0.00150	0.200	0	97.8	75	125	3.27	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230526A

Sample ID: **ICV-230526** Batch ID: **R127050** TestNo: **SW6020B** Units: **mg/L**
SampType: **ICV** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 10:59:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0977	0.00250	0.100	0	97.7	90	110			
Arsenic	0.0992	0.00500	0.100	0	99.2	90	110			
Barium	0.0998	0.0100	0.100	0	99.8	90	110			
Beryllium	0.0981	0.00100	0.100	0	98.1	90	110			
Boron	0.102	0.0300	0.100	0	102	90	110			
Cadmium	0.100	0.00100	0.100	0	100	90	110			
Calcium	2.68	0.300	2.50	0	107	90	110			
Chromium	0.103	0.00500	0.100	0	103	90	110			
Cobalt	0.0997	0.00500	0.100	0	99.7	90	110			
Lead	0.0968	0.00100	0.100	0	96.8	90	110			
Lithium	0.0992	0.0100	0.100	0	99.2	90	110			
Molybdenum	0.104	0.00500	0.100	0	104	90	110			
Selenium	0.0961	0.00500	0.100	0	96.1	90	110			
Thallium	0.0942	0.00150	0.100	0	94.2	90	110			

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

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00174	0.00250	0.00200	0	86.8	80	120			
Arsenic	0.00487	0.00500	0.00500	0	97.4	80	120			
Barium	0.00500	0.0100	0.00500	0	100	80	120			
Beryllium	0.00113	0.00100	0.00100	0	112	80	120			
Boron	0.0210	0.0300	0.0200	0	105	80	120			
Cadmium	0.000952	0.00100	0.00100	0	95.2	80	120			
Calcium	0.107	0.300	0.100	0	107	80	120			
Chromium	0.00512	0.00500	0.00500	0	102	80	120			
Cobalt	0.00507	0.00500	0.00500	0	101	80	120			
Lead	0.000987	0.00100	0.00100	0	98.7	80	120			
Lithium	0.00955	0.0100	0.0100	0	95.5	80	120			
Molybdenum	0.00532	0.00500	0.00500	0	106	80	120			
Selenium	0.00475	0.00500	0.00500	0	95.1	80	120			
Thallium	0.00100	0.00150	0.00100	0	100	80	120			

Sample ID: **CCV2-230526** Batch ID: **R127050** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 12:04:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.193	0.00250	0.200	0	96.3	90	110			
Arsenic	0.200	0.00500	0.200	0	100	90	110			
Barium	0.196	0.0100	0.200	0	97.9	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230526A

Sample ID: **CCV2-230526** Batch ID: **R127050** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 12:04:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.192	0.00100	0.200	0	95.9	90	110			
Boron	0.186	0.0300	0.200	0	93.0	90	110			
Cadmium	0.197	0.00100	0.200	0	98.7	90	110			
Calcium	5.07	0.300	5.00	0	101	90	110			
Chromium	0.198	0.00500	0.200	0	99.2	90	110			
Cobalt	0.201	0.00500	0.200	0	101	90	110			
Lead	0.191	0.00100	0.200	0	95.3	90	110			
Lithium	0.193	0.0100	0.200	0	96.6	90	110			
Molybdenum	0.202	0.00500	0.200	0	101	90	110			
Selenium	0.197	0.00500	0.200	0	98.6	90	110			
Thallium	0.185	0.00150	0.200	0	92.4	90	110			

Sample ID: **CCV3-230526** Batch ID: **R127050** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 3:25:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.7	90	110			
Arsenic	0.202	0.00500	0.200	0	101	90	110			
Barium	0.200	0.0100	0.200	0	100	90	110			
Beryllium	0.196	0.00100	0.200	0	98.0	90	110			
Boron	0.212	0.0300	0.200	0	106	90	110			
Cadmium	0.199	0.00100	0.200	0	99.6	90	110			
Calcium	5.13	0.300	5.00	0	103	90	110			
Chromium	0.202	0.00500	0.200	0	101	90	110			
Cobalt	0.205	0.00500	0.200	0	102	90	110			
Lead	0.196	0.00100	0.200	0	97.9	90	110			
Lithium	0.190	0.0100	0.200	0	95.0	90	110			
Molybdenum	0.204	0.00500	0.200	0	102	90	110			
Selenium	0.204	0.00500	0.200	0	102	90	110			
Thallium	0.190	0.00150	0.200	0	95.1	90	110			

Sample ID: **CCV4-230526** Batch ID: **R127050** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 3:52:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.196	0.00250	0.200	0	97.9	90	110			
Arsenic	0.201	0.00500	0.200	0	101	90	110			
Barium	0.202	0.0100	0.200	0	101	90	110			
Beryllium	0.193	0.00100	0.200	0	96.7	90	110			
Boron	0.200	0.0300	0.200	0	99.9	90	110			
Cadmium	0.198	0.00100	0.200	0	99.2	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230526A

Sample ID: **CCV4-230526** Batch ID: **R127050** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 3:52:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.01	0.300	5.00	0	100	90	110			
Chromium	0.200	0.00500	0.200	0	100	90	110			
Cobalt	0.203	0.00500	0.200	0	101	90	110			
Lead	0.192	0.00100	0.200	0	96.0	90	110			
Lithium	0.192	0.0100	0.200	0	96.0	90	110			
Molybdenum	0.202	0.00500	0.200	0	101	90	110			
Selenium	0.202	0.00500	0.200	0	101	90	110			
Thallium	0.186	0.00150	0.200	0	93.1	90	110			

Sample ID: **CCV5-230526** Batch ID: **R127050** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS4_230526A** Analysis Date: **5/26/2023 4:22:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.193	0.0300	0.200	0	96.7	90	110			
Calcium	5.09	0.300	5.00	0	102	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230601B

The QC data in batch 110391 applies to the following samples: 2305350-11A, 2305350-12A, 2305350-13A, 2305350-14A

Sample ID: **MB-110391** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS4_230601B** Analysis Date: **6/1/2023 12:42:00 PM** Prep Date: **5/30/2023**

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

Sample ID: **LCS-110391** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS4_230601B** Analysis Date: **6/1/2023 12:44:00 PM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.188	0.0300	0.200	0	94.1	80	120			

Sample ID: **LCSD-110391** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS4_230601B** Analysis Date: **6/1/2023 12:46:00 PM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.204	0.0300	0.200	0	102	80	120	8.02	15	

Sample ID: **2305351-01E SD** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS4_230601B** Analysis Date: **6/1/2023 12:52:00 PM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0809	0.150	0	0.0615				27.2	20	R

Sample ID: **2305351-01E PDS** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS4_230601B** Analysis Date: **6/1/2023 1:01:00 PM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.251	0.0300	0.200	0.0615	94.7	75	125			

Sample ID: **2305351-01E MS** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS4_230601B** Analysis Date: **6/1/2023 1:03:00 PM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.248	0.0300	0.200	0.0615	93.2	75	125			

Sample ID: **2305351-01E MSD** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS4_230601B** Analysis Date: **6/1/2023 1:05:00 PM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.247	0.0300	0.200	0.0615	92.9	75	125	0.201	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230601B

Sample ID: **ICV-230601**	Batch ID: **R127130**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_230601B**	Analysis Date: **6/1/2023 9:51:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.108	0.0300	0.100	0	108	90	110			

Sample ID: **LCVL-230601**	Batch ID: **R127130**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_230601B**	Analysis Date: **6/1/2023 9:59:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0218	0.0300	0.0200	0	109	80	120			

Sample ID: **CCV4-230601**	Batch ID: **R127130**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_230601B**	Analysis Date: **6/1/2023 12:37:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.200	0.0300	0.200	0	99.8	90	110			

Sample ID: **CCV5-230601**	Batch ID: **R127130**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_230601B**	Analysis Date: **6/1/2023 1:07:00 PM**	Prep Date:

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

Sample ID: **CCV7-230601**	Batch ID: **R127130**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_230601B**	Analysis Date: **6/1/2023 2:12:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.186	0.0300	0.200	0	92.8	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230228B

Sample ID: **DCS1-109023**	Batch ID: **109023**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS**	Run ID: **ICP-MS5_230228B**	Analysis Date: **2/28/2023 10:47:00 AM**	Prep Date: **2/27/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.000950	0.00250	0.00100	0	95.0	70	130	0	0	
Beryllium	0.000563	0.00100	0.000500	0	113	70	130	0	0	
Cadmium	0.000453	0.00100	0.000500	0	90.6	70	130	0	0	
Lead	0.000454	0.00100	0.000500	0	90.8	70	130	0	0	
Thallium	0.000483	0.00150	0.000500	0	96.6	70	130	0	0	

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

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

Sample ID: **DCS3-109023**	Batch ID: **109023**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS3**	Run ID: **ICP-MS5_230228B**	Analysis Date: **2/28/2023 10:53:00 AM**	Prep Date: **2/27/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00504	0.00500	0.00500	0	101	70	130	0	0	
Barium	0.00484	0.0100	0.00500	0	96.7	70	130	0	0	
Chromium	0.00492	0.00500	0.00500	0	98.5	70	130	0	0	
Cobalt	0.00509	0.00500	0.00500	0	102	70	130	0	0	
Lithium	0.00514	0.0100	0.00500	0	103	70	130	0	0	
Molybdenum	0.00484	0.00500	0.00500	0	96.8	70	130	0	0	
Selenium	0.00491	0.00500	0.00500	0	98.3	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230531A

The QC data in batch 110391 applies to the following samples: 2305350-11A, 2305350-12A, 2305350-13A, 2305350-14A

Sample ID: **MB-110391** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 10:23:00 AM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Calcium	<0.100	0.300								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID: **LCS-110391** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 10:26:00 AM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	99.8	80	120			
Arsenic	0.205	0.00500	0.200	0	102	80	120			
Barium	0.206	0.0100	0.200	0	103	80	120			
Beryllium	0.198	0.00100	0.200	0	99.0	80	120			
Cadmium	0.204	0.00100	0.200	0	102	80	120			
Calcium	4.71	0.300	5.00	0	94.2	80	120			
Chromium	0.203	0.00500	0.200	0	102	80	120			
Cobalt	0.207	0.00500	0.200	0	104	80	120			
Lead	0.200	0.00100	0.200	0	100	80	120			
Lithium	0.203	0.0100	0.200	0	102	80	120			
Molybdenum	0.198	0.00500	0.200	0	98.9	80	120			
Selenium	0.207	0.00500	0.200	0	103	80	120			
Thallium	0.200	0.00150	0.200	0	100	80	120			

Sample ID: **LCSD-110391** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 10:29:00 AM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	99.0	80	120	0.760	15	
Arsenic	0.204	0.00500	0.200	0	102	80	120	0.135	15	
Barium	0.204	0.0100	0.200	0	102	80	120	1.22	15	
Beryllium	0.202	0.00100	0.200	0	101	80	120	1.97	15	

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230531A

Sample ID: **LCSD-110391** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 10:29:00 AM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	0.203	0.00100	0.200	0	101	80	120	0.788	15	
Calcium	4.75	0.300	5.00	0	94.9	80	120	0.796	15	
Chromium	0.202	0.00500	0.200	0	101	80	120	0.698	15	
Cobalt	0.207	0.00500	0.200	0	103	80	120	0.313	15	
Lead	0.199	0.00100	0.200	0	99.3	80	120	0.813	15	
Lithium	0.205	0.0100	0.200	0	103	80	120	1.02	15	
Molybdenum	0.197	0.00500	0.200	0	98.5	80	120	0.344	15	
Selenium	0.205	0.00500	0.200	0	102	80	120	0.775	15	
Thallium	0.199	0.00150	0.200	0	99.5	80	120	0.501	15	

Sample ID: **2305351-01E SD** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 10:36:00 AM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	20	
Arsenic	<0.0100	0.0250	0	0.00376				0	20	
Barium	0.254	0.0500	0	0.255				0.548	20	
Beryllium	<0.00150	0.00500	0	0				0	20	
Cadmium	<0.00150	0.00500	0	0				0	20	
Calcium	105	1.50	0	105				0.284	20	
Chromium	<0.0100	0.0250	0	0				0	20	
Cobalt	0.0372	0.0250	0	0.0358				3.73	20	
Lead	0.00226	0.00500	0	0.00223				1.43	20	
Lithium	<0.0250	0.0500	0	0.00733				0	20	
Molybdenum	<0.0100	0.0250	0	0				0	20	
Selenium	<0.0100	0.0250	0	0.00264				0	20	
Thallium	<0.00250	0.00750	0	0				0	20	

Sample ID: **2305351-01E PDS** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 11:02:00 AM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.203	0.00250	0.200	0	101	75	125			
Arsenic	0.199	0.00500	0.200	0.00376	97.5	75	125			
Barium	0.446	0.0100	0.200	0.255	95.3	75	125			
Beryllium	0.198	0.00100	0.200	0	98.9	75	125			
Cadmium	0.200	0.00100	0.200	0	100	75	125			
Calcium	103	0.300	5.00	105	-27.7	75	125			S
Chromium	0.203	0.00500	0.200	0	101	75	125			
Cobalt	0.232	0.00500	0.200	0.0358	98.0	75	125			
Lead	0.198	0.00100	0.200	0.00223	97.8	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230531A

Sample ID: **2305351-01E PDS** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 11:02:00 AM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lithium	0.212	0.0100	0.200	0.00733	102	75	125			
Molybdenum	0.195	0.00500	0.200	0	97.5	75	125			
Selenium	0.201	0.00500	0.200	0.00264	99.0	75	125			
Thallium	0.198	0.00150	0.200	0	99.0	75	125			

Sample ID: **2305351-01E MS** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 11:04:00 AM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	100	75	125			
Arsenic	0.202	0.00500	0.200	0.00376	99.3	75	125			
Barium	0.459	0.0100	0.200	0.255	102	75	125			
Beryllium	0.201	0.00100	0.200	0	100	75	125			
Cadmium	0.201	0.00100	0.200	0	101	75	125			
Calcium	109	0.300	5.00	105	87.8	75	125			
Chromium	0.203	0.00500	0.200	0	101	75	125			
Cobalt	0.237	0.00500	0.200	0.0358	101	75	125			
Lead	0.201	0.00100	0.200	0.00223	99.4	75	125			
Lithium	0.212	0.0100	0.200	0.00733	102	75	125			
Molybdenum	0.200	0.00500	0.200	0	100	75	125			
Selenium	0.207	0.00500	0.200	0.00264	102	75	125			
Thallium	0.200	0.00150	0.200	0	100	75	125			

Sample ID: **2305351-01E MSD** Batch ID: **110391** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 11:07:00 AM** Prep Date: **5/30/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.202	0.00250	0.200	0	101	75	125	0.921	15	
Arsenic	0.207	0.00500	0.200	0.00376	101	75	125	2.04	15	
Barium	0.469	0.0100	0.200	0.255	107	75	125	2.22	15	
Beryllium	0.204	0.00100	0.200	0	102	75	125	1.72	15	
Cadmium	0.204	0.00100	0.200	0	102	75	125	1.25	15	
Calcium	110	0.300	5.00	105	107	75	125	0.887	15	
Chromium	0.206	0.00500	0.200	0	103	75	125	1.56	15	
Cobalt	0.243	0.00500	0.200	0.0358	103	75	125	2.09	15	
Lead	0.204	0.00100	0.200	0.00223	101	75	125	1.42	15	
Lithium	0.216	0.0100	0.200	0.00733	104	75	125	1.81	15	
Molybdenum	0.202	0.00500	0.200	0	101	75	125	1.09	15	
Selenium	0.208	0.00500	0.200	0.00264	103	75	125	0.587	15	
Thallium	0.204	0.00150	0.200	0	102	75	125	1.87	15	

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230531A

Sample ID: **ICV-230531** Batch ID: **R127103** TestNo: **SW6020B** Units: **mg/L**
SampType: **ICV** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 10:10:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0983	0.00250	0.100	0	98.3	90	110			
Arsenic	0.0975	0.00500	0.100	0	97.5	90	110			
Barium	0.0990	0.0100	0.100	0	99.0	90	110			
Beryllium	0.0975	0.00100	0.100	0	97.5	90	110			
Cadmium	0.0990	0.00100	0.100	0	99.0	90	110			
Calcium	2.50	0.300	2.50	0	100	90	110			
Chromium	0.100	0.00500	0.100	0	100	90	110			
Cobalt	0.100	0.00500	0.100	0	100	90	110			
Lead	0.0957	0.00100	0.100	0	95.7	90	110			
Lithium	0.102	0.0100	0.100	0	102	90	110			
Molybdenum	0.0952	0.00500	0.100	0	95.2	90	110			
Selenium	0.0980	0.00500	0.100	0	98.0	90	110			
Thallium	0.0950	0.00150	0.100	0	95.0	90	110			

Sample ID: **LCVL-230531** Batch ID: **R127103** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCVL** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 10:15:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00194	0.00250	0.00200	0	97.2	80	120			
Arsenic	0.00498	0.00500	0.00500	0	99.6	80	120			
Barium	0.00499	0.0100	0.00500	0	99.7	80	120			
Beryllium	0.00102	0.00100	0.00100	0	102	80	120			
Cadmium	0.000926	0.00100	0.00100	0	92.6	80	120			
Calcium	0.103	0.300	0.100	0	103	80	120			
Chromium	0.00496	0.00500	0.00500	0	99.2	80	120			
Cobalt	0.00507	0.00500	0.00500	0	101	80	120			
Lead	0.000995	0.00100	0.00100	0	99.5	80	120			
Lithium	0.0102	0.0100	0.0100	0	102	80	120			
Molybdenum	0.00478	0.00500	0.00500	0	95.5	80	120			
Selenium	0.00507	0.00500	0.00500	0	101	80	120			
Thallium	0.000997	0.00150	0.00100	0	99.7	80	120			

Sample ID: **CCV1-230531** Batch ID: **R127103** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS5_230531A** Analysis Date: **5/31/2023 11:09:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	99.2	90	110			
Arsenic	0.203	0.00500	0.200	0	102	90	110			
Barium	0.201	0.0100	0.200	0	101	90	110			
Beryllium	0.200	0.00100	0.200	0	99.8	90	110			
Cadmium	0.201	0.00100	0.200	0	101	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230531A

Sample ID: **CCV1-230531**	Batch ID: **R127103**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_230531A**	Analysis Date: **5/31/2023 11:09:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.80	0.300	5.00	0	96.0	90	110			
Chromium	0.202	0.00500	0.200	0	101	90	110			
Cobalt	0.209	0.00500	0.200	0	105	90	110			
Lead	0.197	0.00100	0.200	0	98.5	90	110			
Lithium	0.206	0.0100	0.200	0	103	90	110			
Molybdenum	0.197	0.00500	0.200	0	98.3	90	110			
Selenium	0.205	0.00500	0.200	0	102	90	110			
Thallium	0.197	0.00150	0.200	0	98.7	90	110			

Sample ID: **CCV2-230531**	Batch ID: **R127103**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_230531A**	Analysis Date: **5/31/2023 11:41:00 AM**	Prep Date:

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

Sample ID: **CCV3-230531**	Batch ID: **R127103**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_230531A**	Analysis Date: **5/31/2023 11:54:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.76	0.300	5.00	0	95.1	90	110			

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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230518A

Sample ID: **DCS3-110218** Batch ID: **110218** TestNo: **E300** Units: **mg/L**
SampType: **DCS3** Run ID: **IC2_230518A** Analysis Date: **5/18/2023 2:30:46 PM** Prep Date: **5/18/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	0.996	1.00	1.000	0	99.6	70	130	0	0	
Fluoride	0.396	0.400	0.4000	0	98.9	70	130	0	0	
Sulfate	2.90	3.00	3.000	0	96.7	70	130	0	0	

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230526B

The QC data in batch 110375 applies to the following samples: 2305350-01B, 2305350-02B, 2305350-03B, 2305350-04B, 2305350-05B, 2305350-06B

Sample ID: **MB-110375** Batch ID: **110375** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_230526B** Analysis Date: **5/26/2023 11:45:43 AM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID: **LCS-110375** Batch ID: **110375** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_230526B** Analysis Date: **5/26/2023 12:02:43 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.79	1.00	10.00	0	97.9	90	110			
Fluoride	3.97	0.400	4.000	0	99.2	90	110			
Sulfate	29.0	3.00	30.00	0	96.6	90	110			

Sample ID: **LCSD-110375** Batch ID: **110375** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_230526B** Analysis Date: **5/26/2023 12:19:43 PM** Prep Date: **5/26/2023**

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	0.353	20	
Fluoride	3.96	0.400	4.000	0	99.1	90	110	0.175	20	
Sulfate	29.0	3.00	30.00	0	96.7	90	110	0.096	20	

Sample ID: **2305350-06BMS** Batch ID: **110375** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_230526B** Analysis Date: **5/26/2023 8:08:23 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	295	10.0	200.0	108.1	93.4	90	110			
Fluoride	202	4.00	200.0	0	101	90	110			
Sulfate	688	30.0	200.0	520.7	83.6	90	110			S

Sample ID: **2305350-06BMSD** Batch ID: **110375** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_230526B** Analysis Date: **5/26/2023 8:25:23 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	295	10.0	200.0	108.1	93.7	90	110	0.170	20	
Fluoride	202	4.00	200.0	0	101	90	110	0.205	20	
Sulfate	689	30.0	200.0	520.7	84.3	90	110	0.198	20	S

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230526B

Sample ID: **2305349-08BMS** Batch ID: **110375** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_230526B** Analysis Date: **5/26/2023 3:36:23 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	218	10.0	200.0	12.84	103	90	110			
Fluoride	204	4.00	200.0	0	102	90	110			
Sulfate	258	30.0	200.0	60.61	98.6	90	110			

Sample ID: **2305349-08BMSD** Batch ID: **110375** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_230526B** Analysis Date: **5/26/2023 3:53:23 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	209	10.0	200.0	12.84	98.2	90	110	4.01	20	
Fluoride	197	4.00	200.0	0	98.3	90	110	3.60	20	
Sulfate	248	30.0	200.0	60.61	93.7	90	110	3.84	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230526B

Sample ID: **ICV-230526**	Batch ID: **R127052**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_230526B**	Analysis Date: **5/26/2023 11:11:43 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.8	1.00	25.00	0	99.0	90	110			
Fluoride	9.95	0.400	10.00	0	99.5	90	110			
Sulfate	74.7	3.00	75.00	0	99.7	90	110			

Sample ID: **CCV1-230526**	Batch ID: **R127052**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230526B**	Analysis Date: **5/26/2023 4:44:23 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.79	1.00	10.00	0	97.9	90	110			
Fluoride	4.01	0.400	4.000	0	100	90	110			
Sulfate	29.2	3.00	30.00	0	97.2	90	110			

Sample ID: **CCV2-230526**	Batch ID: **R127052**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230526B**	Analysis Date: **5/26/2023 9:16:23 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.77	1.00	10.00	0	97.7	90	110			
Fluoride	4.01	0.400	4.000	0	100	90	110			
Sulfate	29.2	3.00	30.00	0	97.4	90	110			

Sample ID: **CCV3-230526**	Batch ID: **R127052**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230526B**	Analysis Date: **5/27/2023 1:14:23 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.03	0.400	4.000	0	101	90	110			

Sample ID: **CCV4-230526**	Batch ID: **R127052**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230526B**	Analysis Date: **5/27/2023 3:47:23 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	3.99	0.400	4.000	0	99.8	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230531A

The QC data in batch 110429 applies to the following samples: 2305350-09B

Sample ID: **MB-110429**	Batch ID: **110429**	TestNo: **E300**	Units: **mg/L**
SampType: **MBLK**	Run ID: **IC2_230531A**	Analysis Date: **5/31/2023 11:35:42 AM**	Prep Date: **5/31/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	<1.00	3.00								

Sample ID: **LCS-110429**	Batch ID: **110429**	TestNo: **E300**	Units: **mg/L**
SampType: **LCS**	Run ID: **IC2_230531A**	Analysis Date: **5/31/2023 11:52:42 AM**	Prep Date: **5/31/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	28.8	3.00	30.00	0	95.9	90	110			

Sample ID: **LCSD-110429**	Batch ID: **110429**	TestNo: **E300**	Units: **mg/L**
SampType: **LCSD**	Run ID: **IC2_230531A**	Analysis Date: **5/31/2023 12:09:42 PM**	Prep Date: **5/31/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	29.3	3.00	30.00	0	97.5	90	110	1.68	20	

Sample ID: **2305350-09BMS**	Batch ID: **110429**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_230531A**	Analysis Date: **5/31/2023 3:14:13 PM**	Prep Date: **5/31/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	3410	300	2000	1572	92.1	90	110			

Sample ID: **2305350-09BMSD**	Batch ID: **110429**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_230531A**	Analysis Date: **5/31/2023 3:31:13 PM**	Prep Date: **5/31/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	3370	300	2000	1572	90.0	90	110	1.25	20	

Sample ID: **2305382-04BMS**	Batch ID: **110429**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_230531A**	Analysis Date: **5/31/2023 8:37:13 PM**	Prep Date: **5/31/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	284	30.0	200.0	95.58	94.3	90	110			

Sample ID: **2305382-04BMSD**	Batch ID: **110429**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_230531A**	Analysis Date: **5/31/2023 8:54:13 PM**	Prep Date: **5/31/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	283	30.0	200.0	95.58	93.8	90	110	0.353	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230531A

Sample ID: **ICV-230531**	Batch ID: **R127108**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_230531A**	Analysis Date: **5/31/2023 11:01:42 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	75.5	3.00	75.00	0	101	90	110			

Sample ID: **CCV1-230531**	Batch ID: **R127108**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230531A**	Analysis Date: **5/31/2023 6:55:13 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	29.0	3.00	30.00	0	96.6	90	110			

Sample ID: **CCV2-230531**	Batch ID: **R127108**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230531A**	Analysis Date: **5/31/2023 11:27:13 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	29.0	3.00	30.00	0	96.7	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_230519A

Sample ID: **DCS3-110237** Batch ID: **110237** TestNo: **E300** Units: **mg/L**
SampType: **DCS3** Run ID: **IC4_230519A** Analysis Date: **5/19/2023 4:06:25 PM** Prep Date: **5/19/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	0.899	1.00	1.000	0	89.9	70	130	0	0	
Fluoride	0.432	0.400	0.4000	0	108	70	130	0	0	
Sulfate	2.76	3.00	3.000	0	92.1	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_230526B

The QC data in batch 110385 applies to the following samples: 2305350-07B, 2305350-08B, 2305350-09B, 2305350-10B, 2305350-11B, 2305350-12B, 2305350-13B

Sample ID: **MB-110385** Batch ID: **110385** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC4_230526B** Analysis Date: **5/26/2023 5:27:21 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID: **LCS-110385** Batch ID: **110385** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC4_230526B** Analysis Date: **5/26/2023 5:46:21 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.62	1.00	10.00	0	96.2	90	110			
Fluoride	4.05	0.400	4.000	0	101	90	110			
Sulfate	31.0	3.00	30.00	0	103	90	110			

Sample ID: **LCSD-110385** Batch ID: **110385** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC4_230526B** Analysis Date: **5/26/2023 6:05:21 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.65	1.00	10.00	0	96.5	90	110	0.270	20	
Fluoride	4.09	0.400	4.000	0	102	90	110	0.801	20	
Sulfate	31.1	3.00	30.00	0	104	90	110	0.580	20	

Sample ID: **2305350-07BMS** Batch ID: **110385** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC4_230526B** Analysis Date: **5/26/2023 7:21:21 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	316	10.0	200.0	131.6	92.2	90	110			
Fluoride	218	4.00	200.0	0	109	90	110			
Sulfate	890	30.0	200.0	726.5	81.8	90	110			S

Sample ID: **2305350-07BMSD** Batch ID: **110385** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC4_230526B** Analysis Date: **5/26/2023 7:40:21 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	317	10.0	200.0	131.6	92.5	90	110	0.178	20	
Fluoride	218	4.00	200.0	0	109	90	110	0.196	20	
Sulfate	891	30.0	200.0	726.5	82.2	90	110	0.103	20	S

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_230526B

Sample ID: **2305350-12BMS**	Batch ID: **110385**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC4_230526B**	Analysis Date: **5/26/2023 9:34:21 PM**	Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	209	10.0	200.0	10.43	99.3	90	110			
Fluoride	220	4.00	200.0	0	110	90	110			
Sulfate	1180	30.0	200.0	1040	70.0	90	110			S

Sample ID: **2305350-12BMSD**	Batch ID: **110385**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC4_230526B**	Analysis Date: **5/26/2023 9:53:21 PM**	Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	209	10.0	200.0	10.43	99.3	90	110	0.081	20	
Fluoride	221	4.00	200.0	0	110	90	110	0.193	20	
Sulfate	1180	30.0	200.0	1040	70.7	90	110	0.113	20	S

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_230526B

Sample ID: **ICV-230526**	Batch ID: **R127076**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC4_230526B**	Analysis Date: **5/26/2023 4:49:21 PM**	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	10.5	0.400	10.00	0	105	90	110			
Sulfate	79.4	3.00	75.00	0	106	90	110			

Sample ID: **CCV1-230526**	Batch ID: **R127076**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC4_230526B**	Analysis Date: **5/27/2023 12:06:20 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.73	1.00	10.00	0	97.3	90	110			
Fluoride	4.14	0.400	4.000	0	103	90	110			
Sulfate	31.3	3.00	30.00	0	104	90	110			

Sample ID: **CCV2-230526**	Batch ID: **R127076**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC4_230526B**	Analysis Date: **5/27/2023 4:32:20 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.76	1.00	10.00	0	97.6	90	110			
Fluoride	4.17	0.400	4.000	0	104	90	110			
Sulfate	31.5	3.00	30.00	0	105	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: 2305350
Project: Luminant - A1 Landfill CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_230526B

The QC data in batch 110388 applies to the following samples: 2305350-01B, 2305350-02B, 2305350-03B, 2305350-04B, 2305350-05B, 2305350-06B, 2305350-07B, 2305350-08B, 2305350-09B, 2305350-10B, 2305350-11B, 2305350-12B, 2305350-13B

Sample ID: **MB-110388** Batch ID: **110388** TestNo: **M2540C** Units: **mg/L**
SampType: **MBLK** Run ID: **WC_230526B** Analysis Date: **5/26/2023 4:15:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	<10.0	10.0								

Sample ID: **LCS-110388** Batch ID: **110388** TestNo: **M2540C** Units: **mg/L**
SampType: **LCS** Run ID: **WC_230526B** Analysis Date: **5/26/2023 4:15:00 PM** Prep Date: **5/26/2023**

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

Sample ID: **2305350-03B-DUP** Batch ID: **110388** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_230526B** Analysis Date: **5/26/2023 4:15:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	2340	50.0	0	2380				1.91	5	

Sample ID: **2305350-04B-DUP** Batch ID: **110388** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_230526B** Analysis Date: **5/26/2023 4:15:00 PM** Prep Date: **5/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	2110	50.0	0	2140				1.65	5	

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2305350
Project: Luminant - A1 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**
Antimony	0.000800	0.00250
Arsenic	0.00200	0.00500
Barium	0.00300	0.0100
Beryllium	0.000300	0.00100
Boron	0.0100	0.0300
Cadmium	0.000300	0.00100
Calcium	0.100	0.300
Chromium	0.00200	0.00500
Cobalt	0.00300	0.00500
Lead	0.000300	0.00100
Lithium	0.00500	0.0100
Molybdenum	0.00200	0.00500
Selenium	0.00200	0.00500
Thallium	0.000500	0.00150

TestNo: SW7470A	**MDL**	**MQL**
Analyte	**mg/L**	**mg/L**
Mercury	0.0000800	0.000200

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

ANALYTICAL REPORT

July 07, 2023

DHL Analytical, Inc.

Sample Delivery Group:	L1621139
Samples Received:	05/30/2023
Project Number:	2305350
Description:	

Report To: John DuPont
2300 Double Creek Drive
Round Rock, TX 78664

Entire Report Reviewed By:

Donna Eidson
Project Manager

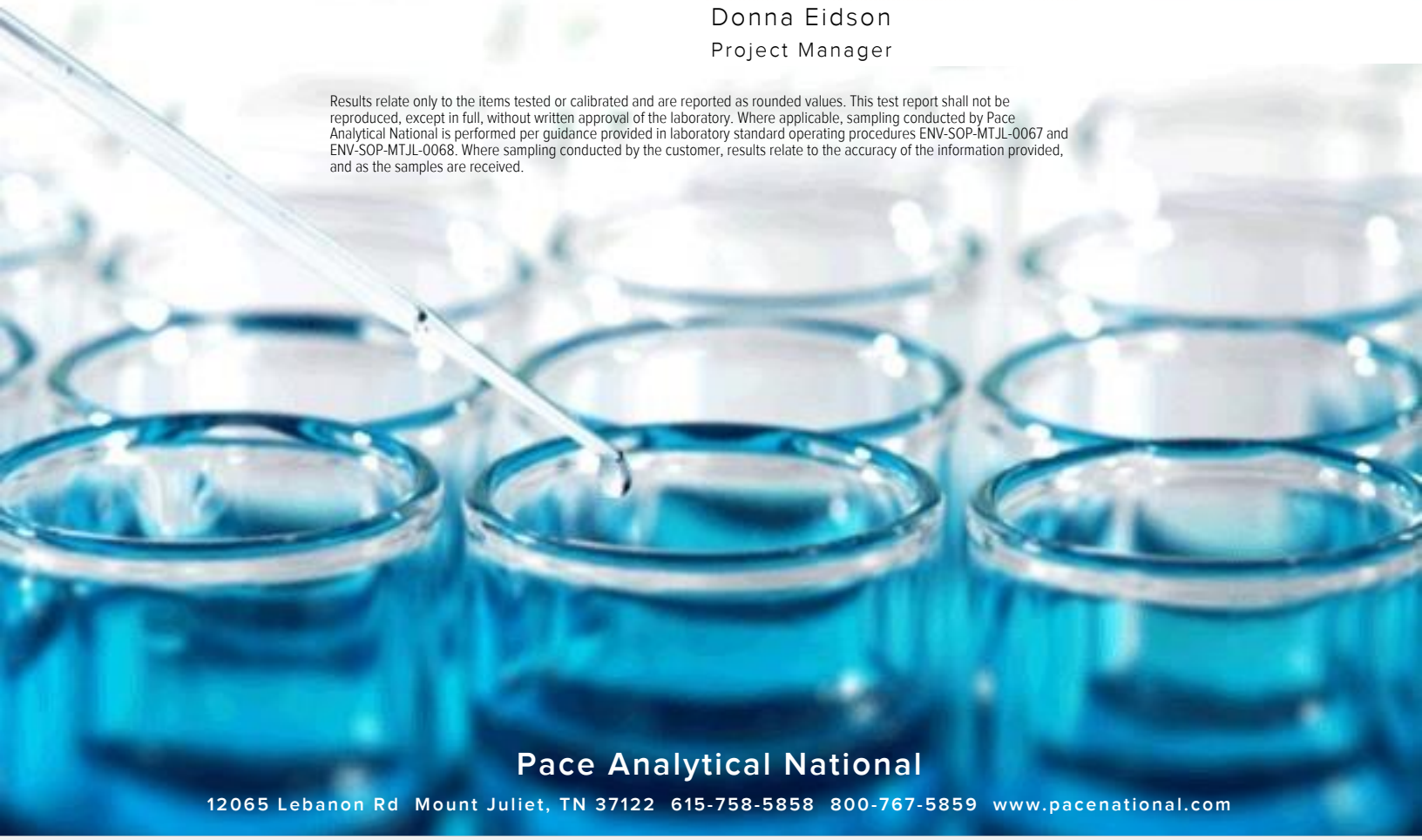

TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 6

Sr: Sample Results 7

BMW-24 L1621139-01 7

BMW-23 L1621139-02 8

BMW-22 L1621139-03 9

BMW-21 L1621139-04 10

BMW-20 L1621139-05 11

BMW-27 L1621139-06 12

BMW-26 L1621139-07 13

BMW-11AR L1621139-08 14

BMW-19 L1621139-09 15

BMW-18 L1621139-10 16

BMW-28 L1621139-11 17

DUP-1 L1621139-12 18

BMW-33 L1621139-13 19

Qc: Quality Control Summary 20

Radiochemistry by Method 904/9320 20

Radiochemistry by Method SM7500Ra B M 22

Gl: Glossary of Terms 24

Al: Accreditations & Locations 25

Sc: Sample Chain of Custody 26

BMW-24 L1621139-01 Non-Potable Water

Collected by | Collected date/time 05/23/23 09:20 | Received date/time 05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080396	1	06/19/23 18:04	06/29/23 16:25	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2082917	1	06/28/23 12:32	06/30/23 00:24	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2082917	1	06/28/23 12:32	06/30/23 00:24	RGT	Mt. Juliet, TN

BMW-23 L1621139-02 Non-Potable Water

Collected by | Collected date/time 05/23/23 10:10 | Received date/time 05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080396	1	06/19/23 18:04	06/29/23 16:25	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2082917	1	06/28/23 12:32	06/30/23 00:24	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2082917	1	06/28/23 12:32	06/30/23 00:24	RGT	Mt. Juliet, TN

BMW-22 L1621139-03 Non-Potable Water

Collected by | Collected date/time 05/23/23 11:00 | Received date/time 05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080396	1	06/19/23 18:04	06/29/23 16:25	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2082917	1	06/28/23 12:32	06/30/23 00:24	RGT	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2082917	1	06/28/23 12:32	06/30/23 00:24	RGT	Mt. Juliet, TN

BMW-21 L1621139-04 Non-Potable Water

Collected by | Collected date/time 05/23/23 12:00 | Received date/time 05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080715	1	06/20/23 12:20	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2082917	1	06/28/23 12:32	06/30/23 00:24	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2082917	1	06/28/23 12:32	06/30/23 00:24	RGT	Mt. Juliet, TN

BMW-20 L1621139-05 Non-Potable Water

Collected by | Collected date/time 05/23/23 13:05 | Received date/time 05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080715	1	06/20/23 12:20	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2082917	1	06/28/23 12:32	06/30/23 00:24	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2082917	1	06/28/23 12:32	06/30/23 00:24	RGT	Mt. Juliet, TN

BMW-27 L1621139-06 Non-Potable Water

Collected by | Collected date/time 05/23/23 14:10 | Received date/time 05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080715	1	06/20/23 12:20	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2082917	1	06/28/23 12:32	06/30/23 00:24	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2082917	1	06/28/23 12:32	06/30/23 00:24	RGT	Mt. Juliet, TN

BMW-26 L1621139-07 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/23/23 15:15	05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080715	1	06/20/23 12:20	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2082917	1	06/28/23 12:32	06/30/23 00:24	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2082917	1	06/28/23 12:32	06/30/23 00:24	RGT	Mt. Juliet, TN

BMW-11AR L1621139-08 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/23/23 16:20	05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080715	1	06/20/23 12:20	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2084678	1	06/28/23 14:08	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2084678	1	06/28/23 14:08	06/29/23 18:47	RGT	Mt. Juliet, TN

BMW-19 L1621139-09 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/23/23 17:15	05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080715	1	06/20/23 12:20	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2084678	1	06/28/23 14:08	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2084678	1	06/28/23 14:08	06/29/23 18:47	RGT	Mt. Juliet, TN

BMW-18 L1621139-10 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/24/23 08:00	05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080715	1	06/20/23 12:20	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2084678	1	06/28/23 14:08	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2084678	1	06/28/23 14:08	06/29/23 18:47	RGT	Mt. Juliet, TN

BMW-28 L1621139-11 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/24/23 09:00	05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080715	1	06/20/23 12:20	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2084678	1	06/28/23 14:08	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2084678	1	06/28/23 14:08	06/29/23 18:47	RGT	Mt. Juliet, TN

DUP-1 L1621139-12 Non-Potable Water

Collected by	Collected date/time	Received date/time
	05/24/23 09:00	05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080715	1	06/20/23 12:20	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2084678	1	06/28/23 14:08	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2084678	1	06/28/23 14:08	06/29/23 18:47	RGT	Mt. Juliet, TN

	Collected by	Collected date/time	Received date/time
BMW-33 L1621139-13 Non-Potable Water		05/24/23 10:20	05/30/23 10:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2080715	1	06/20/23 12:20	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2084678	1	06/28/23 14:08	06/29/23 20:50	SNR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2084678	1	06/28/23 14:08	06/29/23 18:47	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Donna Eidson
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.386	J	0.299	0.543	06/29/2023 16:25	WG2080396
(T) Barium	*82.6*			*30.0-143*	*06/29/2023 16:25*	WG2080396
(T) Yttrium	*101*			*30.0-136*	*06/29/2023 16:25*	WG2080396

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.03		0.466	0.629	06/30/2023 00:24	WG2082917

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.640		0.358	0.318	06/30/2023 00:24	WG2082917
(T) Barium-133	*85.2*			*30.0-143*	*06/30/2023 00:24*	WG2082917

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.807		0.341	0.608	06/29/2023 16:25	WG2080396
(T) Barium	*80.3*			*30.0-143*	*06/29/2023 16:25*	WG2080396
(T) Yttrium	*98.5*			*30.0-136*	*06/29/2023 16:25*	WG2080396

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.33		0.458	0.664	06/30/2023 00:24	WG2082917

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.524		0.306	0.266	06/30/2023 00:24	WG2082917
(T) Barium-133	*93.7*			*30.0-143*	*06/30/2023 00:24*	WG2082917

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	3.13		0.355	0.545	06/29/2023 16:25	WG2080396
(T) Barium	*80.5*			*30.0-143*	*06/29/2023 16:25*	WG2080396
(T) Yttrium	*92.6*			*30.0-136*	*06/29/2023 16:25*	WG2080396

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	4.00		0.523	0.630	06/30/2023 00:24	WG2082917

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.878		0.384	0.317	06/30/2023 00:24	WG2082917
(T) Barium-133	*95.2*			*30.0-143*	*06/30/2023 00:24*	WG2082917

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.05		0.384	0.676	06/29/2023 20:50	WG2080715
(T) Barium	*120*			*30.0-143*	*06/29/2023 20:50*	WG2080715
(T) Yttrium	*99.6*			*30.0-136*	*06/29/2023 20:50*	WG2080715

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.62		0.491	0.721	06/30/2023 00:24	WG2082917

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.567		0.306	0.250	06/30/2023 00:24	WG2082917
(T) Barium-133	*97.7*			*30.0-143*	*06/30/2023 00:24*	WG2082917

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	2.20		0.766	1.35	06/29/2023 20:50	WG2080715
(T) Barium	*125*			*30.0-143*	*06/29/2023 20:50*	WG2080715
(T) Yttrium	*90.3*			*30.0-136*	*06/29/2023 20:50*	WG2080715

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.54		0.808	1.38	06/30/2023 00:24	WG2082917

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.346		0.257	0.293	06/30/2023 00:24	WG2082917
(T) Barium-133	*96.7*			*30.0-143*	*06/30/2023 00:24*	WG2082917

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.44		0.449	0.786	06/29/2023 20:50	WG2080715
(T) Barium	*114*			*30.0-143*	*06/29/2023 20:50*	WG2080715
(T) Yttrium	*96.6*			*30.0-136*	*06/29/2023 20:50*	WG2080715

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.75		0.498	0.813	06/30/2023 00:24	WG2082917

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.308		0.215	0.208	06/30/2023 00:24	WG2082917
(T) Barium-133	*86.5*			*30.0-143*	*06/30/2023 00:24*	WG2082917

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.000	U	0.684	1.26	06/29/2023 20:50	WG2080715
(T) Barium	*126*			*30.0-143*	*06/29/2023 20:50*	WG2080715
(T) Yttrium	*98.8*			*30.0-136*	*06/29/2023 20:50*	WG2080715

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.172	U	0.705	1.28	06/30/2023 00:24	WG2082917

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.172	J	0.169	0.205	06/30/2023 00:24	WG2082917
(T) Barium-133	*96.6*			*30.0-143*	*06/30/2023 00:24*	WG2082917

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.62		0.639	1.13	06/29/2023 20:50	WG2080715
(T) Barium	*116*			*30.0-143*	*06/29/2023 20:50*	WG2080715
(T) Yttrium	*114*			*30.0-136*	*06/29/2023 20:50*	WG2080715

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.84		0.691	1.19	06/29/2023 20:50	WG2084678

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.216	J	0.264	0.368	06/29/2023 18:47	WG2084678
(T) Barium-133	*82.5*			*30.0-143*	*06/29/2023 18:47*	WG2084678

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.163	U	0.626	1.15	06/29/2023 20:50	WG2080715
(T) Barium	*121*			*30.0-143*	*06/29/2023 20:50*	WG2080715
(T) Yttrium	*99.5*			*30.0-136*	*06/29/2023 20:50*	WG2080715

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.05	J	0.732	1.19	06/29/2023 20:50	WG2084678

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.888		0.379	0.308	06/29/2023 18:47	WG2084678
(T) Barium-133	*95.1*			*30.0-143*	*06/29/2023 18:47*	WG2084678

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.02		0.562	1.01	06/29/2023 20:50	WG2080715
(T) Barium	*113*			*30.0-143*	*06/29/2023 20:50*	WG2080715
(T) Yttrium	*105*			*30.0-136*	*06/29/2023 20:50*	WG2080715

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.72		0.653	1.05	06/29/2023 20:50	WG2084678

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.703		0.333	0.282	06/29/2023 18:47	WG2084678
(T) Barium-133	*100*			*30.0-143*	*06/29/2023 18:47*	WG2084678

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.134	U	0.534	0.987	06/29/2023 20:50	WG2080715
(T) Barium	*119*			*30.0-143*	*06/29/2023 20:50*	WG2080715
(T) Yttrium	*107*			*30.0-136*	*06/29/2023 20:50*	WG2080715

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.887	J	0.645	1.03	06/29/2023 20:50	WG2084678

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.753		0.361	0.278	06/29/2023 18:47	WG2084678
(T) Barium-133	*97.0*			*30.0-143*	*06/29/2023 18:47*	WG2084678

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	-0.269	U	0.732	1.35	06/29/2023 20:50	WG2080715
(T) Barium	*121*			*30.0-143*	*06/29/2023 20:50*	WG2080715
(T) Yttrium	*98.9*			*30.0-136*	*06/29/2023 20:50*	WG2080715

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.528	U	0.794	1.39	06/29/2023 20:50	WG2084678

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.528		0.308	0.315	06/29/2023 18:47	WG2084678
(T) Barium-133	*103*			*30.0-143*	*06/29/2023 18:47*	WG2084678

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.284	U	0.556	1.02	06/29/2023 20:50	WG2080715
(T) Barium	*121*			*30.0-143*	*06/29/2023 20:50*	WG2080715
(T) Yttrium	*91.7*			*30.0-136*	*06/29/2023 20:50*	WG2080715

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.515	J	0.587	1.04	06/29/2023 20:50	WG2084678

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.231		0.187	0.185	06/29/2023 18:47	WG2084678
(T) Barium-133	*104*			*30.0-143*	*06/29/2023 18:47*	WG2084678

Method Blank (MB)

(MB) R3943542-2 06/29/23 16:25

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-228	-0.218	U	0.184	0.347
(T) Barium	*91.3*		*91.3*	
(T) Yttrium	*117*		*117*	

L1620729-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1620729-01 06/29/23 16:25 • (DUP) R3943542-5 06/29/23 16:25

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.514	0.408	0.721	1.03	0.453	0.721	1	67.1	0.850		20	3
(T) Barium	*86.6*			*83.0*	*83.0*							
(T) Yttrium	*110*			*113*	*113*							

Laboratory Control Sample (LCS)

(LCS) R3943542-1 06/27/23 21:48

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	4.48	89.5	80.0-120	
(T) Barium			*87.0*		
(T) Yttrium			*110*		

L1620418-11 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1620418-11 06/29/23 16:25 • (MS) R3943542-3 06/29/23 16:25 • (MSD) R3943542-4 06/29/23 16:25

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	10.0	1.51	8.68	8.62	71.6	71.1	1	70.0-130			0.671		20
(T) Barium		*72.1*			*87.1*	*77.9*							
(T) Yttrium		*115*			*116*	*117*							

Method Blank (MB)

(MB) R3945508-1 06/29/23 20:50

Analyte	MB Result	MB Qualifier	MB Uncertainty	MB MDA
	pCi/l		+ / -	pCi/l
Radium-228	0.137	J	0.149	0.273
(T) Barium	*122*		*122*	
(T) Yttrium	*109*		*109*	

L1621260-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1621260-03 06/29/23 20:50 • (DUP) R3945508-5 06/29/23 20:50

Analyte	Original Result	Original Uncertainty	Original MDA	DUP Result	DUP Uncertainty	DUP MDA	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	+ / -	pCi/l		%			%	
Radium-228	0.341	0.351	0.638	0.307	0.394	0.638	1	10.6	0.0650	U	20	3
(T) Barium	*125*			*136*	*136*							
(T) Yttrium	*102*			*113*	*113*							

Laboratory Control Sample (LCS)

(LCS) R3945508-2 06/29/23 20:50

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-228	5.00	4.51	90.1	80.0-120	
(T) Barium			*129*		
(T) Yttrium			*111*		

L1621139-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1621139-06 06/29/23 20:50 • (MS) R3945508-3 06/29/23 20:50 • (MSD) R3945508-4 06/29/23 20:50

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-228	16.7	1.44	16.4	15.1	89.7	82.0	1	70.0-130			8.18		20
(T) Barium		*114*			*124*	*122*							
(T) Yttrium		*96.6*			*102*	*114*							

Method Blank (MB)

(MB) R3943591-1 06/30/23 00:24

Analyte	MB Result	MB Qualifier	MB Uncertainty	MB MDA
	pCi/l		+ / -	pCi/l
Radium-226	0.0173	U	0.0537	0.0930
(T) Barium-133	*88.3*		*88.3*	

L1619422-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1619422-03 06/30/23 00:24 • (DUP) R3943591-5 06/30/23 00:24

Analyte	Original Result	Original Uncertainty	Original MDA	DUP Result	DUP Uncertainty	DUP MDA	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	+ / -	pCi/l		%			%	
Radium-226	0.350	0.230	0.192	0.149	0.280	0.192	1	80.3	0.553	U	20	3
(T) Barium-133	*85.4*			*87.6*	*87.6*							

Laboratory Control Sample (LCS)

(LCS) R3943591-2 06/30/23 00:24

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-226	5.01	4.65	92.8	80.0-120	
(T) Barium-133			*81.0*		

L1621139-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1621139-07 06/30/23 00:24 • (MS) R3943591-3 06/30/23 00:24 • (MSD) R3943591-4 06/30/23 00:24

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-226	20.0	0.172	20.1	19.6	99.5	96.9	1	75.0-125			2.57		20
(T) Barium-133		*96.6*			*94.3*	*87.2*							

Method Blank (MB)

(MB) R3943663-1 06/29/23 18:42

Analyte	MB Result	MB Qualifier	MB Uncertainty	MB MDA
	pCi/l		+ / -	pCi/l
Radium-226	-0.0106	U	0.0235	0.0572
(T) Barium-133	*93.2*		*93.2*	

L1626093-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1626093-09 06/29/23 18:59 • (DUP) R3943663-5 06/29/23 18:47

Analyte	Original Result	Original Uncertainty	Original MDA	DUP Result	DUP Uncertainty	DUP MDA	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	+ / -	pCi/l	pCi/l	+ / -	pCi/l		%			%	
Radium-226	0.0230	0.174	0.329	0.0656	0.146	0.329	1	96.2	0.188	U	20	3
(T) Barium-133	*101*			*104*	*104*							

Laboratory Control Sample (LCS)

(LCS) R3943663-2 06/29/23 18:47

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-226	5.01	4.34	86.7	80.0-120	
(T) Barium-133			*87.4*		

L1621139-09 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1621139-09 06/29/23 18:47 • (MS) R3943663-3 06/29/23 18:47 • (MSD) R3943663-4 06/29/23 18:47

Analyte	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	MS RER	RPD Limits
	pCi/l	pCi/l	pCi/l	pCi/l	%	%		%			%		%
Radium-226	20.0	0.888	19.5	18.9	93.2	90.3	1	75.0-125			3.02		20
(T) Barium-133		*95.1*			*95.1*	*101*							

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

C155

CHAIN-OF-CUSTODY RECORD

DHL Analytical, Inc.
2300 Double Creek Drive
Round Rock, TX 78664
TEL: *(512) 388-8222* FAX:

Work Order: 2305350

Subcontractor:

Pace Analytical
12065 Lebanon Rd
Mt. Juliet, TN 37122

TEL: (615) 773-5923
FAX:
Acct #: DHLRRTX

L1621139

25-May-23

Sample ID	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests: Ra-228 E904.0	Ra-226 M7500 Ra B M				
BMW-24	Aqueous	01C	05/23/23 09:20 AM	1LHDPEHNO3	1					]-01
BMW-24	Aqueous	01D	05/23/23 09:20 AM	1LHDPEHNO3		1				
BMW-23	Aqueous	02C	05/23/23 10:10 AM	1LHDPEHNO3	1					]-02
BMW-23	Aqueous	02D	05/23/23 10:10 AM	1LHDPEHNO3		1				
BMW-22	Aqueous	03C	05/23/23 11:00 AM	1LHDPEHNO3	1					]-03
BMW-22	Aqueous	03D	05/23/23 11:00 AM	1LHDPEHNO3		1				
BMW-21	Aqueous	04C	05/23/23 12:00 PM	1LHDPEHNO3	1					]-04
BMW-21	Aqueous	04D	05/23/23 12:00 PM	1LHDPEHNO3		1				
BMW-20	Aqueous	05C	05/23/23 01:05 PM	1LHDPEHNO3	1					]-05
BMW-20	Aqueous	05D	05/23/23 01:05 PM	1LHDPEHNO3		1				
BMW-27	Aqueous	06C	05/23/23 02:10 PM	1LHDPEHNO3	1					]-06
BMW-27	Aqueous	06D	05/23/23 02:10 PM	1LHDPEHNO3		1				
BMW-26	Aqueous	07C	05/23/23 03:15 PM	1LHDPEHNO3	1					]-07
BMW-26	Aqueous	07D	05/23/23 03:15 PM	1LHDPEHNO3		1				
BMW-11AR	Aqueous	08C	05/23/23 04:20 PM	1LHDPEHNO3	1					]-08
BMW-11AR	Aqueous	08D	05/23/23 04:20 PM	1LHDPEHNO3		1				
BMW-19	Aqueous	09C	05/23/23 05:15 PM	1LHDPEHNO3	1					-09

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report Ra-226, Ra-228 & Combined per Specs.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

Sample Receipt Checklist
COC Seal Present/Intact: ✓Y N
COC Signed/Accurate: ✓Y N
Bottles arrive intact: ✓Y N
Correct bottles used: ✓Y N
Sufficient volume sent: ✓Y N
RAD Screen <0.5 mR/hr: ✓Y N
If Applicable
VOA Zero Headspace: Y N
Pres.Correct/Check: ✓Y N
PH-10BDH4321 TRC 2144141
CR6-220221V

		Date/Time			Date/Time
Relinquished by:	[signature]	5/25/23 1800	**Received by:**	GRACE BARRON [signature] ⑦	5.30.23 1030
Relinquished by:			**Received by:**		

DHL Analytical, Inc.
2300 Double Creek Drive
Round Rock, TX 78664
TEL: *(512) 388-8222* FAX:

CHAIN-OF-CUSTODY RECORD

Work Order: 2305350

Subcontractor:
Pace Analytical
12065 Lebanon Rd
Mt. Juliet, TN 37122

TEL: (615) 773-5923
FAX:
Acct #: DHLRRTX

L1621139

25-May-23

Sample ID	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					Ra-228 E904.0	Ra-226 M7500 Ra B M				
BMW-19	Aqueous	09D	05/23/23 05:15 PM	1LHDPEHNO3		1				-09
BMW-18	Aqueous	10C	05/24/23 08:00 AM	1LHDPEHNO3	1					-10
BMW-18	Aqueous	10D	05/24/23 08:00 AM	1LHDPEHNO3		1				
BMW-28	Aqueous	11C	05/24/23 09:00 AM	1LHDPEHNO3	1					-11
BMW-28	Aqueous	11D	05/24/23 09:00 AM	1LHDPEHNO3		1				
DUP-1	Aqueous	12C	05/24/23 09:00 AM	1LHDPEHNO3	1					-12
DUP-1	Aqueous	12D	05/24/23 09:00 AM	1LHDPEHNO3		1				
BMW-33	Aqueous	13C	05/24/23 10:20 AM	1LHDPEHNO3	1					-13
BMW-33	Aqueous	13D	05/24/23 10:20 AM	1LHDPEHNO3		1				

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report Ra-226, Ra-228 & Combined per Specs.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time		Date/Time
Relinquished by:	5/25/23 1800	**Received by:** GRACE BARRON	5.30.23 1030
Relinquished by:		**Received by:**	

4621139

Tracking Numbers	Temperature
1Z 970 R40 03 3813 3902	MSA7 27.8+0 = 27.8
1Z 970 R40 03 2185 9311	MSA7 25.2+0 = 25.2

September 26, 2023

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

Order No.: 2308283

RE: Luminant - A1 Landfill - CCR

Dear Jacob Jarvis:

DHL Analytical, Inc. received 14 sample(s) on 8/18/2023 for the analyses presented in the following report.

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

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

Sincerely,

John DuPont
General Manager

This report was performed under the accreditation of the State of Texas Laboratory Certification Number: T104704211-23-29

Table of Contents

Miscellaneous Documents 3

CaseNarrative 2308283 9

WorkOrderSampleSummary 2308283 10

PrepDatesReport 2308283 11

AnalyticalDatesReport 2308283 14

Analytical Report 2308283 18

AnalyticalQCSummaryReport 2308283 32

MQLSummaryReport 2308283 52

Subcontract Report 2308283 53

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

CHAIN-OF-CUSTODY

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

DATE: 8-18-23
PO#: 31404097.021

LAB USE ONLY
DHL WORKORDER #:

PROJECT LOCATION OR NAME: LUMINANT - A1 LANDFILL - CCR
CLIENT PROJECT # 31404097.021 COLLECTOR: JOHN BRAYTON

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

Lab Use Only

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

Field Sample I.D.	DHL Lab #	Collection Date	Collection Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl ☐ H_3PO_4 ☐	HNO_3	H_2SO_4	NaOH ☐ Zn Acetate ☐	ICE ☒ UNPRESERVED ☐	ANALYSES	APPENDIX III	APPENDIX IV		FIELD NOTES
BMW-24	01	8-15-23	1445	W	P	4		X			X		X	X		
BMW-23	02		1540	W	P	4		X			X		X	X		
BMW-22	03		1635	W	P	4		X			X		X	X		
BMW-20	04		1725	W	P	4		X			X		X	X		
BMW-21	05	8-16-23	0745	W	P	4		X			X		X	X		
BMW-27	06		0835	W	P	4		X			X		X	X		
BMW-26	07		0925	W	P	4		X			X		X	X		
BMW-11AR	08		1000	W	P	4		X			X		X	X		
BMW-19	09		1055	W	P	4		X			X		X	X		
BMW-18	10		1155	W	P	4		X			X		X	X		
BMW-28	11		1255	W	P	4		X			X		X	X		
DUP-1	12		1255	W	P	4		X			X		X	X		
BMW-33	13		1405	W	P	4		X			X		X	X		
BMW-32	14		1510	W	P	~~4~~ 1		X			X		~~X~~	~~X~~		Cobalt Only
																CJK 8/18/23
																Per John Brayton

Relinquished By: (Sign) DATE/TIME 8-18-23 1420 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 _____ ☐

LAB USE ONLY THERMO #: 75
RECEIVING TEMP (°C): 37.2 / 3.5 / 38.9 °C
IF >6°C, ARE SAMPLES ON ICE AND JUST COLLECTED? YES / NO
CUSTODY SEALS ON ICE CHEST: ☐ BROKEN ☐ INTACT ☒ NOT USED
CARRIER: ☐ LSO ☐ FEDEX ☐ UPS ☐ COURIER ☒ HAND DELIVERED

☐ **DHL DISPOSAL @ $10.00 each**

Hot coolers Radium only

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

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name: **WSP-Golder**

Date Received: **8/18/2023**

Work Order Number: **2308283**

Received by: **GLK**

Checklist completed by: _____ 8/18/2023
Signature | Date

Reviewed by: DL 8/18/2023
Initials | 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 ☐	
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? N		Checked by GLK
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	

Cooler #	1	2	3
Temp °C	37.2	3.5	38.9
Seal Intact	NP	NP	NP

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

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

Contacted by: _____ Regarding: _____

Comments: BMW-32 received with only 1 bottle

Corrective Action: Per John Brayton, BMW-32 should only have 1 bottle for Cobalt only total metals analysis

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: Luminant - A1 Landfill - CCR	**LRC Date:** 9/26/23
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2308283
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

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

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: Luminant - A1 Landfill - CCR	**LRC Date:** 9/26/23
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2308283
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 May 30 - June 2, 2023. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

Name: John DuPont
Official Title: General Manager

Signature

09/26/23
Date

Name: Dr. Derhsing Luu
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *26-Sep-23*

CLIENT: WSP-Golder
Project: Luminant - A1 Landfill - CCR
Lab Order: 2308283

CASE NARRATIVE

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

Method SW6020B - Metals Analysis
Method SW7470A - Mercury Analysis
Method E300 - Anions Analysis
Method M2540C - TDS Analysis
Sub-contract - Radium-228 and Radium-226 analyses by methods E904/9320 and SM7500 Ra B M. Analyzed at Pace Analytical.

Exception Report R1-01

The samples were received and log-in performed on 8/18/23. A total of 14 samples were received. For further login notes please refer to the Sample Receipt Checklist. The samples arrived in good condition and were properly packaged.

Exception Report R7-03

For Metals analysis performed on 8/24/23 the matrix spike and matrix spike duplicate recoveries were above control limits for Calcium. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate was from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

For Anions analysis performed on 8/22/23 the matrix spikes and matrix spike duplicate recoveries (2308283-01 MS/MSD & 2308283-09 MS/MSD) were below control limits for Chloride or Sulfate. This was due to matrix effect. These are flagged accordingly. The samples selected for the matrix spikes and matrix spike duplicates were from this work order. The LCS was within control limits for these analytes. No further corrective actions were taken.

Exception Report S9-01

For Mercury analysis performed on 8/22/23 (batch 111807) the PDS recovery was slightly below control limits. This was due to matrix effect. This is flagged accordingly in the QC summary report. The serial dilution was within control limits. No further corrective actions were taken.

DHL Analytical, Inc.

Date: *26-Sep-23*

CLIENT: WSP-Golder
Project: Luminant - A1 Landfill - CCR
Lab Order: 2308283

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2308283-01	BMW-24		08/15/23 02:45 PM	08/18/2023
2308283-02	BMW-23		08/15/23 03:40 PM	08/18/2023
2308283-03	BMW-22		08/15/23 04:35 PM	08/18/2023
2308283-04	BMW-20		08/15/23 05:25 PM	08/18/2023
2308283-05	BMW-21		08/16/23 07:45 AM	08/18/2023
2308283-06	BMW-27		08/16/23 08:35 AM	08/18/2023
2308283-07	BMW-26		08/16/23 09:25 AM	08/18/2023
2308283-08	BMW-11AR		08/16/23 10:00 AM	08/18/2023
2308283-09	BMW-19		08/16/23 10:55 AM	08/18/2023
2308283-10	BMW-18		08/16/23 11:55 AM	08/18/2023
2308283-11	BMW-28		08/16/23 12:55 PM	08/18/2023
2308283-12	DUP-1		08/16/23 12:55 PM	08/18/2023
2308283-13	BMW-33		08/16/23 02:05 PM	08/18/2023
2308283-14	BMW-32		08/16/23 03:10 PM	08/18/2023

Lab Order: 2308283
Client: WSP-Golder
Project: Luminant - A1 Landfill - CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2308283-01A	BMW-24	08/15/23 02:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-24	08/15/23 02:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-24	08/15/23 02:45 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-24	08/15/23 02:45 PM	Aqueous	SW7470A	Mercury Aq Prep	08/21/23 01:15 PM	111807
2308283-01B	BMW-24	08/15/23 02:45 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-24	08/15/23 02:45 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-24	08/15/23 02:45 PM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-02A	BMW-23	08/15/23 03:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-23	08/15/23 03:40 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-23	08/15/23 03:40 PM	Aqueous	SW7470A	Mercury Aq Prep	08/21/23 01:15 PM	111807
2308283-02B	BMW-23	08/15/23 03:40 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-23	08/15/23 03:40 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-23	08/15/23 03:40 PM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-03A	BMW-22	08/15/23 04:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-22	08/15/23 04:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-22	08/15/23 04:35 PM	Aqueous	SW7470A	Mercury Aq Prep	08/21/23 01:15 PM	111807
2308283-03B	BMW-22	08/15/23 04:35 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-22	08/15/23 04:35 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-22	08/15/23 04:35 PM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-04A	BMW-20	08/15/23 05:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-20	08/15/23 05:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-20	08/15/23 05:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-20	08/15/23 05:25 PM	Aqueous	SW7470A	Mercury Aq Prep	08/21/23 01:15 PM	111807
2308283-04B	BMW-20	08/15/23 05:25 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-20	08/15/23 05:25 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-20	08/15/23 05:25 PM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-05A	BMW-21	08/16/23 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-21	08/16/23 07:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783

Lab Order: 2308283
Client: WSP-Golder
Project: Luminant - A1 Landfill - CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2308283-05A	BMW-21	08/16/23 07:45 AM	Aqueous	SW7470A	Mercury Aq Prep	08/24/23 08:09 AM	111854
2308283-05B	BMW-21	08/16/23 07:45 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-21	08/16/23 07:45 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-21	08/16/23 07:45 AM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-06A	BMW-27	08/16/23 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-27	08/16/23 08:35 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-27	08/16/23 08:35 AM	Aqueous	SW7470A	Mercury Aq Prep	08/24/23 08:09 AM	111854
2308283-06B	BMW-27	08/16/23 08:35 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-27	08/16/23 08:35 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-27	08/16/23 08:35 AM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-07A	BMW-26	08/16/23 09:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-26	08/16/23 09:25 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-26	08/16/23 09:25 AM	Aqueous	SW7470A	Mercury Aq Prep	08/24/23 08:09 AM	111854
2308283-07B	BMW-26	08/16/23 09:25 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-26	08/16/23 09:25 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-26	08/16/23 09:25 AM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-08A	BMW-11AR	08/16/23 10:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-11AR	08/16/23 10:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-11AR	08/16/23 10:00 AM	Aqueous	SW7470A	Mercury Aq Prep	08/24/23 08:09 AM	111854
2308283-08B	BMW-11AR	08/16/23 10:00 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-11AR	08/16/23 10:00 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-11AR	08/16/23 10:00 AM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-09A	BMW-19	08/16/23 10:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-19	08/16/23 10:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-19	08/16/23 10:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-19	08/16/23 10:55 AM	Aqueous	SW7470A	Mercury Aq Prep	08/24/23 08:09 AM	111854
2308283-09B	BMW-19	08/16/23 10:55 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-19	08/16/23 10:55 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817

Lab Order: 2308283
Client: WSP-Golder
Project: Luminant - A1 Landfill - CCR

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2308283-09B	BMW-19	08/16/23 10:55 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-19	08/16/23 10:55 AM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-10A	BMW-18	08/16/23 11:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-18	08/16/23 11:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-18	08/16/23 11:55 AM	Aqueous	SW7470A	Mercury Aq Prep	08/24/23 08:09 AM	111854
2308283-10B	BMW-18	08/16/23 11:55 AM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-18	08/16/23 11:55 AM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-11A	BMW-28	08/16/23 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-28	08/16/23 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-28	08/16/23 12:55 PM	Aqueous	SW7470A	Mercury Aq Prep	08/24/23 08:09 AM	111854
2308283-11B	BMW-28	08/16/23 12:55 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-28	08/16/23 12:55 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-28	08/16/23 12:55 PM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-12A	DUP-1	08/16/23 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	DUP-1	08/16/23 12:55 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	DUP-1	08/16/23 12:55 PM	Aqueous	SW7470A	Mercury Aq Prep	08/24/23 08:09 AM	111854
2308283-12B	DUP-1	08/16/23 12:55 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	DUP-1	08/16/23 12:55 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	DUP-1	08/16/23 12:55 PM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-13A	BMW-33	08/16/23 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-33	08/16/23 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-33	08/16/23 02:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783
	BMW-33	08/16/23 02:05 PM	Aqueous	SW7470A	Mercury Aq Prep	08/24/23 08:09 AM	111854
2308283-13B	BMW-33	08/16/23 02:05 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-33	08/16/23 02:05 PM	Aqueous	E300	Anion Preparation	08/22/23 10:23 AM	111817
	BMW-33	08/16/23 02:05 PM	Aqueous	M2540C	TDS Preparation	08/21/23 10:47 AM	111801
2308283-14A	BMW-32	08/16/23 03:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	08/21/23 07:35 AM	111783

Lab Order: 2308283
Client: WSP-Golder
Project: Luminant - A1 Landfill - CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2308283-01A	BMW-24	Aqueous	SW7470A	Mercury Total: Aqueous	111807	1	08/22/23 10:43 AM	CETAC2_HG_230822B
	BMW-24	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	10	08/24/23 03:10 PM	ICP-MS4_230824A
	BMW-24	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 03:12 PM	ICP-MS4_230824A
	BMW-24	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 01:52 PM	ICP-MS5_230824A
2308283-01B	BMW-24	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 06:07 PM	IC2_230822B
	BMW-24	Aqueous	E300	Anions by IC method - Water	111817	1	08/22/23 11:31 PM	IC2_230822B
	BMW-24	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-02A	BMW-23	Aqueous	SW7470A	Mercury Total: Aqueous	111807	1	08/22/23 10:45 AM	CETAC2_HG_230822B
	BMW-23	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 01:54 PM	ICP-MS5_230824A
	BMW-23	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	10	08/24/23 03:14 PM	ICP-MS4_230824A
2308283-02B	BMW-23	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 07:01 PM	IC2_230822B
	BMW-23	Aqueous	E300	Anions by IC method - Water	111817	1	08/22/23 11:49 PM	IC2_230822B
	BMW-23	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-03A	BMW-22	Aqueous	SW7470A	Mercury Total: Aqueous	111807	1	08/22/23 10:47 AM	CETAC2_HG_230822B
	BMW-22	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	20	08/24/23 03:16 PM	ICP-MS4_230824A
	BMW-22	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 01:57 PM	ICP-MS5_230824A
2308283-03B	BMW-22	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 07:19 PM	IC2_230822B
	BMW-22	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 12:07 AM	IC2_230822B
	BMW-22	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-04A	BMW-20	Aqueous	SW7470A	Mercury Total: Aqueous	111807	1	08/22/23 10:49 AM	CETAC2_HG_230822B
	BMW-20	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 01:35 PM	ICP-MS5_230824A
	BMW-20	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 03:37 PM	ICP-MS4_230824A
	BMW-20	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	20	08/24/23 03:02 PM	ICP-MS4_230824A
2308283-04B	BMW-20	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 07:37 PM	IC2_230822B
	BMW-20	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 12:25 AM	IC2_230822B
	BMW-20	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B

Lab Order: 2308283
Client: WSP-Golder
Project: Luminant - A1 Landfill - CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2308283-05A	BMW-21	Aqueous	SW7470A	Mercury Total: Aqueous	111854	1	08/24/23 01:11 PM	CETAC2_HG_230824B
	BMW-21	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	10	08/24/23 03:18 PM	ICP-MS4_230824A
	BMW-21	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 02:00 PM	ICP-MS5_230824A
2308283-05B	BMW-21	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 01:55 AM	IC2_230822B
	BMW-21	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 07:55 PM	IC2_230822B
	BMW-21	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-06A	BMW-27	Aqueous	SW7470A	Mercury Total: Aqueous	111854	1	08/24/23 01:14 PM	CETAC2_HG_230824B
	BMW-27	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	2	08/24/23 03:20 PM	ICP-MS4_230824A
	BMW-27	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 02:02 PM	ICP-MS5_230824A
2308283-06B	BMW-27	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 08:13 PM	IC2_230822B
	BMW-27	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 02:13 AM	IC2_230822B
	BMW-27	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-07A	BMW-26	Aqueous	SW7470A	Mercury Total: Aqueous	111854	1	08/24/23 01:16 PM	CETAC2_HG_230824B
	BMW-26	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 02:21 PM	ICP-MS5_230824A
	BMW-26	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	5	08/24/23 03:22 PM	ICP-MS4_230824A
2308283-07B	BMW-26	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 09:43 PM	IC2_230822B
	BMW-26	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 02:31 AM	IC2_230822B
	BMW-26	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-08A	BMW-11AR	Aqueous	SW7470A	Mercury Total: Aqueous	111854	1	08/24/23 01:18 PM	CETAC2_HG_230824B
	BMW-11AR	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	5	08/24/23 03:41 PM	ICP-MS4_230824A
	BMW-11AR	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 02:24 PM	ICP-MS5_230824A
2308283-08B	BMW-11AR	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 10:01 PM	IC2_230822B
	BMW-11AR	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 02:49 AM	IC2_230822B
	BMW-11AR	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-09A	BMW-19	Aqueous	SW7470A	Mercury Total: Aqueous	111854	1	08/24/23 01:20 PM	CETAC2_HG_230824B
	BMW-19	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 02:26 PM	ICP-MS5_230824A

Lab Order: 2308283
Client: WSP-Golder
Project: Luminant - A1 Landfill - CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2308283-09A	BMW-19	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	50	08/24/23 03:43 PM	ICP-MS4_230824A
	BMW-19	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	2	08/24/23 03:45 PM	ICP-MS4_230824A
2308283-09B	BMW-19	Aqueous	E300	Anions by IC method - Water	111817	100	08/22/23 05:13 PM	IC2_230822B
	BMW-19	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 10:19 PM	IC2_230822B
	BMW-19	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 03:07 AM	IC2_230822B
	BMW-19	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-10A	BMW-18	Aqueous	SW7470A	Mercury Total: Aqueous	111854	1	08/24/23 01:23 PM	CETAC2_HG_230824B
	BMW-18	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	2	08/24/23 03:47 PM	ICP-MS4_230824A
	BMW-18	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 02:29 PM	ICP-MS5_230824A
2308283-10B	BMW-18	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 03:25 AM	IC2_230822B
	BMW-18	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-11A	BMW-28	Aqueous	SW7470A	Mercury Total: Aqueous	111854	1	08/24/23 01:25 PM	CETAC2_HG_230824B
	BMW-28	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	10	08/24/23 03:49 PM	ICP-MS4_230824A
	BMW-28	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 02:31 PM	ICP-MS5_230824A
2308283-11B	BMW-28	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 10:37 PM	IC2_230822B
	BMW-28	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 03:43 AM	IC2_230822B
	BMW-28	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-12A	DUP-1	Aqueous	SW7470A	Mercury Total: Aqueous	111854	1	08/24/23 01:32 PM	CETAC2_HG_230824B
	DUP-1	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 02:34 PM	ICP-MS5_230824A
	DUP-1	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	10	08/24/23 03:51 PM	ICP-MS4_230824A
2308283-12B	DUP-1	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 10:55 PM	IC2_230822B
	DUP-1	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 04:01 AM	IC2_230822B
	DUP-1	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-13A	BMW-33	Aqueous	SW7470A	Mercury Total: Aqueous	111854	1	08/24/23 01:34 PM	CETAC2_HG_230824B
	BMW-33	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	10	08/24/23 03:53 PM	ICP-MS4_230824A
	BMW-33	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 03:55 PM	ICP-MS4_230824A

Lab Order: 2308283
Client: WSP-Golder
Project: Luminant - A1 Landfill - CCR

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2308283-13A	BMW-33	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 02:36 PM	ICP-MS5_230824A
2308283-13B	BMW-33	Aqueous	E300	Anions by IC method - Water	111817	10	08/22/23 11:13 PM	IC2_230822B
	BMW-33	Aqueous	E300	Anions by IC method - Water	111817	1	08/23/23 04:19 AM	IC2_230822B
	BMW-33	Aqueous	M2540C	Total Dissolved Solids	111801	1	08/21/23 05:15 PM	WC_230821B
2308283-14A	BMW-32	Aqueous	SW6020B	Total Metals: ICP-MS - Water	111783	1	08/24/23 02:39 PM	ICP-MS5_230824A

DHL Analytical, Inc.

Date: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-24
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-01
Project No:	31404097.021	**Collection Date:**	08/15/23 02:45 PM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 01:52 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:52 PM
Barium	1.54	0.00300	0.0100		mg/L	1	08/24/23 01:52 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:52 PM
Boron	0.216	0.0100	0.0300		mg/L	1	08/24/23 03:12 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:52 PM
Calcium	68.8	1.00	3.00		mg/L	10	08/24/23 03:10 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:52 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 01:52 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:52 PM
Lithium	0.00983	0.00500	0.0100	J	mg/L	1	08/24/23 01:52 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:52 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:52 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 01:52 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/22/23 10:43 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	477	3.00	10.0		mg/L	10	08/22/23 06:07 PM
Fluoride	0.553	0.100	0.400		mg/L	1	08/22/23 11:31 PM
Sulfate	8.52	1.00	3.00		mg/L	1	08/22/23 11:31 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1160	50.0	50.0		mg/L	1	08/21/23 05:15 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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-23
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-02
Project No:	31404097.021	**Collection Date:**	08/15/23 03:40 PM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 01:54 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:54 PM
Barium	0.0404	0.00300	0.0100		mg/L	1	08/24/23 01:54 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:54 PM
Boron	1.82	0.100	0.300		mg/L	10	08/24/23 03:14 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:54 PM
Calcium	104	1.00	3.00		mg/L	10	08/24/23 03:14 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:54 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 01:54 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:54 PM
Lithium	0.0855	0.00500	0.0100		mg/L	1	08/24/23 01:54 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:54 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:54 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 01:54 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/22/23 10:45 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	251	3.00	10.0		mg/L	10	08/22/23 07:01 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/22/23 11:49 PM
Sulfate	459	10.0	30.0		mg/L	10	08/22/23 07:01 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1660	50.0	50.0		mg/L	1	08/21/23 05:15 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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-22
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-03
Project No:	31404097.021	**Collection Date:**	08/15/23 04:35 PM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 01:57 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:57 PM
Barium	0.0734	0.00300	0.0100		mg/L	1	08/24/23 01:57 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:57 PM
Boron	3.44	0.200	0.600		mg/L	20	08/24/23 03:16 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:57 PM
Calcium	223	2.00	6.00		mg/L	20	08/24/23 03:16 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:57 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 01:57 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:57 PM
Lithium	0.0875	0.00500	0.0100		mg/L	1	08/24/23 01:57 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:57 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:57 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 01:57 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/22/23 10:47 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	286	3.00	10.0		mg/L	10	08/22/23 07:19 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/23/23 12:07 AM
Sulfate	844	10.0	30.0		mg/L	10	08/22/23 07:19 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	2390	50.0	50.0		mg/L	1	08/21/23 05:15 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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-20
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-04
Project No:	31404097.021	**Collection Date:**	08/15/23 05:25 PM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 01:35 PM
Arsenic	0.00888	0.00200	0.00500		mg/L	1	08/24/23 01:35 PM
Barium	0.0304	0.00300	0.0100		mg/L	1	08/24/23 01:35 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:35 PM
Boron	0.106	0.0100	0.0300		mg/L	1	08/24/23 03:37 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 01:35 PM
Calcium	155	2.00	6.00		mg/L	20	08/24/23 03:02 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:35 PM
Cobalt	0.108	0.00300	0.00500		mg/L	1	08/24/23 01:35 PM
Lead	0.000961	0.000300	0.00100	J	mg/L	1	08/24/23 01:35 PM
Lithium	<0.00500	0.00500	0.0100		mg/L	1	08/24/23 01:35 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:35 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 01:35 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 01:35 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/22/23 10:49 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	48.1	0.300	1.00		mg/L	1	08/23/23 12:25 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/23/23 12:25 AM
Sulfate	1010	10.0	30.0		mg/L	10	08/22/23 07:37 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1810	50.0	50.0		mg/L	1	08/21/23 05:15 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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-21
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-05
Project No:	31404097.021	**Collection Date:**	08/16/23 07:45 AM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 02:00 PM
Arsenic	0.00485	0.00200	0.00500	J	mg/L	1	08/24/23 02:00 PM
Barium	0.0385	0.00300	0.0100		mg/L	1	08/24/23 02:00 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:00 PM
Boron	1.08	0.100	0.300		mg/L	10	08/24/23 03:18 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:00 PM
Calcium	172	1.00	3.00		mg/L	10	08/24/23 03:18 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:00 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 02:00 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:00 PM
Lithium	0.0726	0.00500	0.0100		mg/L	1	08/24/23 02:00 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:00 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:00 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 02:00 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/23 01:11 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	422	3.00	10.0		mg/L	10	08/22/23 07:55 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/23/23 01:55 AM
Sulfate	445	10.0	30.0		mg/L	10	08/22/23 07:55 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	2140	50.0	50.0		mg/L	1	08/21/23 05:15 PM

Qualifiers:

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J - Analyte detected between SDL and RL
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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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-27
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-06
Project No:	31404097.021	**Collection Date:**	08/16/23 08:35 AM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 02:02 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:02 PM
Barium	0.00644	0.00300	0.0100	J	mg/L	1	08/24/23 02:02 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:02 PM
Boron	0.490	0.0200	0.0600		mg/L	2	08/24/23 03:20 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:02 PM
Calcium	39.5	0.200	0.600		mg/L	2	08/24/23 03:20 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:02 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 02:02 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:02 PM
Lithium	0.113	0.00500	0.0100		mg/L	1	08/24/23 02:02 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:02 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:02 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 02:02 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/23 01:14 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	132	3.00	10.0		mg/L	10	08/22/23 08:13 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/23/23 02:13 AM
Sulfate	673	10.0	30.0		mg/L	10	08/22/23 08:13 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1520	50.0	50.0		mg/L	1	08/21/23 05:15 PM

Qualifiers:

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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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-26
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-07
Project No:	31404097.021	**Collection Date:**	08/16/23 09:25 AM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 02:21 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:21 PM
Barium	0.00892	0.00300	0.0100	J	mg/L	1	08/24/23 02:21 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:21 PM
Boron	0.536	0.0500	0.150		mg/L	5	08/24/23 03:22 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:21 PM
Calcium	63.0	0.500	1.50		mg/L	5	08/24/23 03:22 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:21 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 02:21 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:21 PM
Lithium	0.107	0.00500	0.0100		mg/L	1	08/24/23 02:21 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:21 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:21 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 02:21 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/23 01:16 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	132	3.00	10.0		mg/L	10	08/22/23 09:43 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/23/23 02:31 AM
Sulfate	669	10.0	30.0		mg/L	10	08/22/23 09:43 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1700	50.0	50.0		mg/L	1	08/21/23 05:15 PM

Qualifiers:

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DF- Dilution Factor
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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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-11AR
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-08
Project No:	31404097.021	**Collection Date:**	08/16/23 10:00 AM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 02:24 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:24 PM
Barium	0.0607	0.00300	0.0100		mg/L	1	08/24/23 02:24 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:24 PM
Boron	0.399	0.0500	0.150		mg/L	5	08/24/23 03:41 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:24 PM
Calcium	91.8	0.500	1.50		mg/L	5	08/24/23 03:41 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:24 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 02:24 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:24 PM
Lithium	0.0342	0.00500	0.0100		mg/L	1	08/24/23 02:24 PM
Molybdenum	0.00223	0.00200	0.00500	J	mg/L	1	08/24/23 02:24 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:24 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 02:24 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/23 01:18 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	19.5	0.300	1.00		mg/L	1	08/23/23 02:49 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/23/23 02:49 AM
Sulfate	234	10.0	30.0		mg/L	10	08/22/23 10:01 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	995	10.0	10.0		mg/L	1	08/21/23 05:15 PM

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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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-19
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-09
Project No:	31404097.021	**Collection Date:**	08/16/23 10:55 AM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 02:26 PM
Arsenic	0.00217	0.00200	0.00500	J	mg/L	1	08/24/23 02:26 PM
Barium	0.0115	0.00300	0.0100		mg/L	1	08/24/23 02:26 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:26 PM
Boron	0.482	0.0200	0.0600		mg/L	2	08/24/23 03:45 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:26 PM
Calcium	421	5.00	15.0		mg/L	50	08/24/23 03:43 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:26 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 02:26 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:26 PM
Lithium	0.0800	0.00500	0.0100		mg/L	1	08/24/23 02:26 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:26 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:26 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 02:26 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/23 01:20 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	6.78	0.300	1.00		mg/L	1	08/23/23 03:07 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/23/23 03:07 AM
Sulfate	1570	100	300		mg/L	100	08/22/23 05:13 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	3000	50.0	50.0		mg/L	1	08/21/23 05:15 PM

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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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-18
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-10
Project No:	31404097.021	**Collection Date:**	08/16/23 11:55 AM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 02:29 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:29 PM
Barium	0.0346	0.00300	0.0100		mg/L	1	08/24/23 02:29 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:29 PM
Boron	0.439	0.0200	0.0600		mg/L	2	08/24/23 03:47 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:29 PM
Calcium	7.99	0.100	0.300		mg/L	1	08/24/23 02:29 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:29 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 02:29 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:29 PM
Lithium	0.0122	0.00500	0.0100		mg/L	1	08/24/23 02:29 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:29 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:29 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 02:29 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/23 01:23 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	18.8	0.300	1.00		mg/L	1	08/23/23 03:25 AM
Fluoride	0.164	0.100	0.400	J	mg/L	1	08/23/23 03:25 AM
Sulfate	79.3	1.00	3.00		mg/L	1	08/23/23 03:25 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	464	10.0	10.0		mg/L	1	08/21/23 05:15 PM

Qualifiers:

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- DF- Dilution Factor
- N - Parameter not NELAP certified
- 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

See Final Page of Report for MQLs and MDLs

DHL Analytical, Inc.

Date: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-28
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-11
Project No:	31404097.021	**Collection Date:**	08/16/23 12:55 PM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 02:31 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:31 PM
Barium	0.0101	0.00300	0.0100		mg/L	1	08/24/23 02:31 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:31 PM
Boron	0.634	0.100	0.300		mg/L	10	08/24/23 03:49 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:31 PM
Calcium	182	1.00	3.00		mg/L	10	08/24/23 03:49 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:31 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 02:31 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:31 PM
Lithium	0.112	0.00500	0.0100		mg/L	1	08/24/23 02:31 PM
Molybdenum	0.00687	0.00200	0.00500		mg/L	1	08/24/23 02:31 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:31 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 02:31 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/23 01:25 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	10.2	0.300	1.00		mg/L	1	08/23/23 03:43 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/23/23 03:43 AM
Sulfate	928	10.0	30.0		mg/L	10	08/22/23 10:37 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1700	50.0	50.0		mg/L	1	08/21/23 05:15 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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	DUP-1
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-12
Project No:	31404097.021	**Collection Date:**	08/16/23 12:55 PM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 02:34 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:34 PM
Barium	0.0108	0.00300	0.0100		mg/L	1	08/24/23 02:34 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:34 PM
Boron	0.588	0.100	0.300		mg/L	10	08/24/23 03:51 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:34 PM
Calcium	183	1.00	3.00		mg/L	10	08/24/23 03:51 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:34 PM
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 02:34 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:34 PM
Lithium	0.111	0.00500	0.0100		mg/L	1	08/24/23 02:34 PM
Molybdenum	0.00693	0.00200	0.00500		mg/L	1	08/24/23 02:34 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:34 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 02:34 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/23 01:32 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	10.1	0.300	1.00		mg/L	1	08/23/23 04:01 AM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/23/23 04:01 AM
Sulfate	928	10.0	30.0		mg/L	10	08/22/23 10:55 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1750	50.0	50.0		mg/L	1	08/21/23 05:15 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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-33
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-13
Project No:	31404097.021	**Collection Date:**	08/16/23 02:05 PM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	08/24/23 02:36 PM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:36 PM
Barium	0.103	0.00300	0.0100		mg/L	1	08/24/23 02:36 PM
Beryllium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:36 PM
Boron	0.201	0.0100	0.0300		mg/L	1	08/24/23 03:55 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:36 PM
Calcium	133	1.00	3.00		mg/L	10	08/24/23 03:53 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:36 PM
Cobalt	0.00394	0.00300	0.00500	J	mg/L	1	08/24/23 02:36 PM
Lead	<0.000300	0.000300	0.00100		mg/L	1	08/24/23 02:36 PM
Lithium	0.0131	0.00500	0.0100		mg/L	1	08/24/23 02:36 PM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:36 PM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	08/24/23 02:36 PM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	08/24/23 02:36 PM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **CMC**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	08/24/23 01:34 PM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **RA**
Chloride	62.4	3.00	10.0		mg/L	10	08/22/23 11:13 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	08/23/23 04:19 AM
Sulfate	149	10.0	30.0		mg/L	10	08/22/23 11:13 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1020	50.0	50.0		mg/L	1	08/21/23 05:15 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: *26-Sep-23*

CLIENT:	WSP-Golder	**Client Sample ID:**	BMW-32
Project:	Luminant - A1 Landfill - CCR	**Lab ID:**	2308283-14
Project No:	31404097.021	**Collection Date:**	08/16/23 03:10 PM
Lab Order:	2308283	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TOTAL METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Cobalt	<0.00300	0.00300	0.00500		mg/L	1	08/24/23 02:39 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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_230726B

Sample ID: **DCS-111365** Batch ID: **111365** TestNo: **SW7470A** Units: **mg/L**
SampType: **DCS** Run ID: **CETAC2_HG_230726B** Analysis Date: **7/26/2023 3:37:35 PM** Prep Date: **7/26/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000185	0.000200	0.000200	0	92.5	82	119	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_230822B

The QC data in batch 111807 applies to the following samples: 2308283-01A, 2308283-02A, 2308283-03A, 2308283-04A

Sample ID: **MB-111807**	Batch ID: **111807**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MBLK**	Run ID: **CETAC2_HG_230822B**	Analysis Date: **8/22/2023 9:36:16 AM**	Prep Date: **8/21/2023**

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

Sample ID: **LCS-111807**	Batch ID: **111807**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **LCS**	Run ID: **CETAC2_HG_230822B**	Analysis Date: **8/22/2023 9:38:32 AM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00183	0.000200	0.00200	0	91.5	85	115			

Sample ID: **LCSD-111807**	Batch ID: **111807**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **LCSD**	Run ID: **CETAC2_HG_230822B**	Analysis Date: **8/22/2023 9:40:48 AM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00189	0.000200	0.00200	0	94.5	85	115	3.23	15	

Sample ID: **2308215-02AMS**	Batch ID: **111807**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MS**	Run ID: **CETAC2_HG_230822B**	Analysis Date: **8/22/2023 10:08:01 AM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00160	0.000200	0.00200	0	80.0	80	120			

Sample ID: **2308215-02AMSD**	Batch ID: **111807**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **MSD**	Run ID: **CETAC2_HG_230822B**	Analysis Date: **8/22/2023 10:10:17 AM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00159	0.000200	0.00200	0	79.5	80	120	0.627	15	

Sample ID: **2308215-02ASD**	Batch ID: **111807**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **SD**	Run ID: **CETAC2_HG_230822B**	Analysis Date: **8/22/2023 10:12:33 AM**	Prep Date: **8/21/2023**

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

Sample ID: **2308215-02APDS**	Batch ID: **111807**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **PDS**	Run ID: **CETAC2_HG_230822B**	Analysis Date: **8/22/2023 10:14:49 AM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00204	0.000200	0.00250	0	81.6	85	115			S

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_230822B

Sample ID: **ICV-230822**	Batch ID: **R128738**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **ICV**	Run ID: **CETAC2_HG_230822B**	Analysis Date: **8/22/2023 9:31:42 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00399	0.000200	0.00400	0	99.8	90	110			

Sample ID: **CCV1-230822**	Batch ID: **R128738**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_230822B**	Analysis Date: **8/22/2023 10:21:39 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00195	0.000200	0.00200	0	97.5	90	110			

Sample ID: **CCV2-230822**	Batch ID: **R128738**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_230822B**	Analysis Date: **8/22/2023 10:52:08 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00195	0.000200	0.00200	0	97.5	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_230824B

The QC data in batch 111854 applies to the following samples: 2308283-05A, 2308283-06A, 2308283-07A, 2308283-08A, 2308283-09A, 2308283-10A, 2308283-11A, 2308283-12A, 2308283-13A

Sample ID: **MB-111854** Batch ID: **111854** TestNo: **SW7470A** Units: **mg/L**
SampType: **MBLK** Run ID: **CETAC2_HG_230824B** Analysis Date: **8/24/2023 12:44:34 PM** Prep Date: **8/24/2023**

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

Sample ID: **LCS-111854** Batch ID: **111854** TestNo: **SW7470A** Units: **mg/L**
SampType: **LCS** Run ID: **CETAC2_HG_230824B** Analysis Date: **8/24/2023 12:49:06 PM** Prep Date: **8/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00193	0.000200	0.00200	0	96.5	85	115			

Sample ID: **LCSD-111854** Batch ID: **111854** TestNo: **SW7470A** Units: **mg/L**
SampType: **LCSD** Run ID: **CETAC2_HG_230824B** Analysis Date: **8/24/2023 12:51:22 PM** Prep Date: **8/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00191	0.000200	0.00200	0	95.5	85	115	1.04	15	

Sample ID: **2308266-01AMS** Batch ID: **111854** TestNo: **SW7470A** Units: **mg/L**
SampType: **MS** Run ID: **CETAC2_HG_230824B** Analysis Date: **8/24/2023 12:58:12 PM** Prep Date: **8/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00955	0.00100	0.0100	0	95.5	80	120			

Sample ID: **2308266-01AMSD** Batch ID: **111854** TestNo: **SW7470A** Units: **mg/L**
SampType: **MSD** Run ID: **CETAC2_HG_230824B** Analysis Date: **8/24/2023 1:00:28 PM** Prep Date: **8/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00935	0.00100	0.0100	0	93.5	80	120	2.12	15	

Sample ID: **2308266-01ASD** Batch ID: **111854** TestNo: **SW7470A** Units: **mg/L**
SampType: **SD** Run ID: **CETAC2_HG_230824B** Analysis Date: **8/24/2023 1:02:43 PM** Prep Date: **8/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	<0.00200	0.00500	0	0				0	10	

Sample ID: **2308266-01APDS** Batch ID: **111854** TestNo: **SW7470A** Units: **mg/L**
SampType: **PDS** Run ID: **CETAC2_HG_230824B** Analysis Date: **8/24/2023 1:04:59 PM** Prep Date: **8/24/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0116	0.00100	0.0125	0	93.2	85	115			

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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_230824B

Sample ID: **ICV-230824**	Batch ID: **R128802**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **ICV**	Run ID: **CETAC2_HG_230824B**	Analysis Date: **8/24/2023 12:40:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00394	0.000200	0.00400	0	98.5	90	110			

Sample ID: **CCV1-230824**	Batch ID: **R128802**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_230824B**	Analysis Date: **8/24/2023 1:27:41 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00197	0.000200	0.00200	0	98.5	90	110			

Sample ID: **CCV2-230822**	Batch ID: **R128802**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_230824B**	Analysis Date: **8/24/2023 1:55:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00196	0.000200	0.00200	0	98.0	90	110			

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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230606B

Sample ID: **DCS2-110475**	Batch ID: **110475**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS2**	Run ID: **ICP-MS4_230606B**	Analysis Date: **6/6/2023 10:20:00 AM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.315	0.300	0.300	0	105	70	130	0	0	

Sample ID: **DCS4-110475**	Batch ID: **110475**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS4**	Run ID: **ICP-MS4_230606B**	Analysis Date: **6/6/2023 10:25:00 AM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0291	0.0300	0.0300	0	97.1	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230824A

The QC data in batch 111783 applies to the following samples: 2308283-01A, 2308283-02A, 2308283-03A, 2308283-04A, 2308283-05A, 2308283-06A, 2308283-07A, 2308283-08A, 2308283-09A, 2308283-10A, 2308283-11A, 2308283-12A, 2308283-13A, 2308283-14A

Sample ID: **MB-111783** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS4_230824A** Analysis Date: **8/24/2023 2:54:00 PM** Prep Date: **8/21/2023**

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

Sample ID: **LCS-111783** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS4_230824A** Analysis Date: **8/24/2023 2:56:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.202	0.0300	0.200	0	101	80	120			
Calcium	4.74	0.300	5.00	0	94.9	80	120			

Sample ID: **LCSD-111783** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS4_230824A** Analysis Date: **8/24/2023 2:58:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.209	0.0300	0.200	0	104	80	120	3.43	15	
Calcium	4.75	0.300	5.00	0	95.0	80	120	0.103	15	

Sample ID: **2308283-04A SD** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS4_230824A** Analysis Date: **8/24/2023 3:04:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	154	30.0	0	155				0.445	20	

Sample ID: **2308283-04A PDS** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS4_230824A** Analysis Date: **8/24/2023 3:24:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	259	6.00	100	155	104	75	125			

Sample ID: **2308283-04A MS** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS4_230824A** Analysis Date: **8/24/2023 3:26:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	162	6.00	5.00	155	142	75	125			S

Sample ID: **2308283-04A MSD** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS4_230824A** Analysis Date: **8/24/2023 3:28:00 PM** Prep Date: **8/21/2023**

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

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230824A

Sample ID: **2308283-04A MSD**	Batch ID: **111783**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MSD**	Run ID: **ICP-MS4_230824A**	Analysis Date: **8/24/2023 3:28:00 PM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	162	6.00	5.00	155	141	75	125	0.024	15	S

Sample ID: **2308283-04A SD**	Batch ID: **111783**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **SD**	Run ID: **ICP-MS4_230824A**	Analysis Date: **8/24/2023 3:39:00 PM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.136	0.150	0	0.106				25.4	20	R

Sample ID: **2308283-04A PDS**	Batch ID: **111783**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **PDS**	Run ID: **ICP-MS4_230824A**	Analysis Date: **8/24/2023 3:57:00 PM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.286	0.0300	0.200	0.106	90.3	75	125			

Sample ID: **2308283-04A MS**	Batch ID: **111783**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MS**	Run ID: **ICP-MS4_230824A**	Analysis Date: **8/24/2023 4:03:00 PM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.296	0.0300	0.200	0.106	95.0	75	125			

Sample ID: **2308283-04A MSD**	Batch ID: **111783**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MSD**	Run ID: **ICP-MS4_230824A**	Analysis Date: **8/24/2023 4:05:00 PM**	Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.306	0.0300	0.200	0.106	100	75	125	3.59	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_230824A

Sample ID: **ICV-230824**	Batch ID: **R128812**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_230824A**	Analysis Date: **8/24/2023 2:41:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.103	0.0300	0.100	0	103	90	110			
Calcium	2.56	0.300	2.50	0	102	90	110			

Sample ID: **LCVL-230824**	Batch ID: **R128812**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_230824A**	Analysis Date: **8/24/2023 2:48:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0216	0.0300	0.0200	0	108	80	120			
Calcium	0.101	0.300	0.100	0	101	80	120			

Sample ID: **CCV1-230824**	Batch ID: **R128812**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_230824A**	Analysis Date: **8/24/2023 3:30:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.206	0.0300	0.200	0	103	90	110			
Calcium	5.00	0.300	5.00	0	100	90	110			

Sample ID: **CCV2-230824**	Batch ID: **R128812**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_230824A**	Analysis Date: **8/24/2023 4:07:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.213	0.0300	0.200	0	106	90	110			
Calcium	4.96	0.300	5.00	0	99.2	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230606A

Sample ID: **DCS1-110475**	Batch ID: **110475**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS**	Run ID: **ICP-MS5_230606A**	Analysis Date: **6/6/2023 4:31:00 PM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00108	0.00250	0.00100	0	108	70	130	0	0	
Beryllium	0.000502	0.00100	0.000500	0	100	70	130	0	0	
Cadmium	0.000524	0.00100	0.000500	0	105	70	130	0	0	
Lead	0.000497	0.00100	0.000500	0	99.4	70	130	0	0	
Thallium	0.000516	0.00150	0.000500	0	103	70	130	0	0	

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

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

Sample ID: **DCS3-110475**	Batch ID: **110475**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS3**	Run ID: **ICP-MS5_230606A**	Analysis Date: **6/6/2023 4:36:00 PM**	Prep Date: **6/5/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00499	0.00500	0.00500	0	99.9	70	130	0	0	
Barium	0.00525	0.0100	0.00500	0	105	70	130	0	0	
Chromium	0.00520	0.00500	0.00500	0	104	70	130	0	0	
Cobalt	0.00524	0.00500	0.00500	0	105	70	130	0	0	
Lithium	0.00519	0.0100	0.00500	0	104	70	130	0	0	
Molybdenum	0.00526	0.00500	0.00500	0	105	70	130	0	0	
Selenium	0.00545	0.00500	0.00500	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS5_230824A**

The QC data in batch 111783 applies to the following samples: 2308283-01A, 2308283-02A, 2308283-03A, 2308283-04A, 2308283-05A, 2308283-06A, 2308283-07A, 2308283-08A, 2308283-09A, 2308283-10A, 2308283-11A, 2308283-12A, 2308283-13A, 2308283-14A

Sample ID: **MB-111783** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 1:24:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.000800	0.00250								
Arsenic	<0.00200	0.00500								
Barium	<0.00300	0.0100								
Beryllium	<0.000300	0.00100								
Cadmium	<0.000300	0.00100								
Chromium	<0.00200	0.00500								
Cobalt	<0.00300	0.00500								
Lead	<0.000300	0.00100								
Lithium	<0.00500	0.0100								
Molybdenum	<0.00200	0.00500								
Selenium	<0.00200	0.00500								
Thallium	<0.000500	0.00150								

Sample ID: **LCS-111783** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 1:27:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	101	80	120			
Arsenic	0.199	0.00500	0.200	0	99.6	80	120			
Barium	0.201	0.0100	0.200	0	100	80	120			
Beryllium	0.197	0.00100	0.200	0	98.5	80	120			
Cadmium	0.201	0.00100	0.200	0	101	80	120			
Chromium	0.196	0.00500	0.200	0	97.9	80	120			
Cobalt	0.202	0.00500	0.200	0	101	80	120			
Lead	0.198	0.00100	0.200	0	99.2	80	120			
Lithium	0.200	0.0100	0.200	0	100	80	120			
Molybdenum	0.196	0.00500	0.200	0	98.1	80	120			
Selenium	0.200	0.00500	0.200	0	99.8	80	120			
Thallium	0.196	0.00150	0.200	0	97.8	80	120			

Sample ID: **LCSD-111783** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 1:30:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.5	80	120	1.10	15	
Arsenic	0.197	0.00500	0.200	0	98.5	80	120	1.04	15	
Barium	0.198	0.0100	0.200	0	99.2	80	120	1.17	15	
Beryllium	0.197	0.00100	0.200	0	98.5	80	120	0.013	15	
Cadmium	0.200	0.00100	0.200	0	99.8	80	120	0.955	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230824A

Sample ID: **LCSD-111783** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 1:30:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.194	0.00500	0.200	0	97.1	80	120	0.864	15	
Cobalt	0.201	0.00500	0.200	0	100	80	120	0.825	15	
Lead	0.198	0.00100	0.200	0	99.0	80	120	0.192	15	
Lithium	0.201	0.0100	0.200	0	100	80	120	0.246	15	
Molybdenum	0.195	0.00500	0.200	0	97.6	80	120	0.546	15	
Selenium	0.198	0.00500	0.200	0	99.1	80	120	0.656	15	
Thallium	0.193	0.00150	0.200	0	96.3	80	120	1.49	15	

Sample ID: **2308283-04A SD** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 1:37:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	<0.00400	0.0125	0	0				0	20	
Arsenic	<0.0100	0.0250	0	0.00888				0	20	
Barium	0.0308	0.0500	0	0.0304				1.43	20	
Beryllium	<0.00150	0.00500	0	0				0	20	
Cadmium	<0.00150	0.00500	0	0				0	20	
Chromium	<0.0100	0.0250	0	0				0	20	
Cobalt	0.110	0.0250	0	0.108				1.82	20	
Lead	<0.00150	0.00500	0	0.000961				0	20	
Lithium	<0.0250	0.0500	0	0				0	20	
Molybdenum	<0.0100	0.0250	0	0				0	20	
Selenium	<0.0100	0.0250	0	0				0	20	
Thallium	<0.00250	0.00750	0	0				0	20	

Sample ID: **2308283-04A PDS** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 2:05:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	100	75	125			
Arsenic	0.199	0.00500	0.200	0.00888	95.1	75	125			
Barium	0.230	0.0100	0.200	0.0304	99.9	75	125			
Beryllium	0.188	0.00100	0.200	0	94.2	75	125			
Cadmium	0.196	0.00100	0.200	0	98.2	75	125			
Chromium	0.193	0.00500	0.200	0	96.4	75	125			
Cobalt	0.291	0.00500	0.200	0.108	91.2	75	125			
Lead	0.196	0.00100	0.200	0.000961	97.3	75	125			
Lithium	0.198	0.0100	0.200	0	99.2	75	125			
Molybdenum	0.193	0.00500	0.200	0	96.6	75	125			
Selenium	0.192	0.00500	0.200	0	96.0	75	125			
Thallium	0.195	0.00150	0.200	0	97.5	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230824A

Sample ID: **2308283-04A MS** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 2:07:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.200	0.00250	0.200	0	99.9	75	125			
Arsenic	0.204	0.00500	0.200	0.00888	97.4	75	125			
Barium	0.229	0.0100	0.200	0.0304	99.1	75	125			
Beryllium	0.184	0.00100	0.200	0	92.2	75	125			
Cadmium	0.193	0.00100	0.200	0	96.4	75	125			
Chromium	0.191	0.00500	0.200	0	95.4	75	125			
Cobalt	0.300	0.00500	0.200	0.108	96.1	75	125			
Lead	0.195	0.00100	0.200	0.000961	97.0	75	125			
Lithium	0.192	0.0100	0.200	0	96.1	75	125			
Molybdenum	0.195	0.00500	0.200	0	97.5	75	125			
Selenium	0.194	0.00500	0.200	0	96.8	75	125			
Thallium	0.194	0.00150	0.200	0	97.2	75	125			

Sample ID: **2308283-04A MSD** Batch ID: **111783** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 2:10:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	101	75	125	0.767	15	
Arsenic	0.204	0.00500	0.200	0.00888	97.3	75	125	0.091	15	
Barium	0.230	0.0100	0.200	0.0304	99.7	75	125	0.511	15	
Beryllium	0.184	0.00100	0.200	0	91.8	75	125	0.449	15	
Cadmium	0.195	0.00100	0.200	0	97.3	75	125	0.879	15	
Chromium	0.191	0.00500	0.200	0	95.6	75	125	0.126	15	
Cobalt	0.302	0.00500	0.200	0.108	96.8	75	125	0.434	15	
Lead	0.193	0.00100	0.200	0.000961	96.1	75	125	0.885	15	
Lithium	0.190	0.0100	0.200	0	95.2	75	125	0.875	15	
Molybdenum	0.198	0.00500	0.200	0	98.8	75	125	1.32	15	
Selenium	0.194	0.00500	0.200	0	97.2	75	125	0.425	15	
Thallium	0.192	0.00150	0.200	0	95.8	75	125	1.51	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_230824A

Sample ID: **ICV-230824** Batch ID: **R128807** TestNo: **SW6020B** Units: **mg/L**
SampType: **ICV** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 1:11:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0982	0.00250	0.100	0	98.2	90	110			
Arsenic	0.0957	0.00500	0.100	0	95.7	90	110			
Barium	0.0964	0.0100	0.100	0	96.4	90	110			
Beryllium	0.0960	0.00100	0.100	0	96.0	90	110			
Cadmium	0.0988	0.00100	0.100	0	98.8	90	110			
Calcium	2.50	0.300	2.50	0	99.9	90	110			
Chromium	0.0972	0.00500	0.100	0	97.2	90	110			
Cobalt	0.0980	0.00500	0.100	0	98.0	90	110			
Lead	0.0971	0.00100	0.100	0	97.1	90	110			
Lithium	0.0982	0.0100	0.100	0	98.2	90	110			
Molybdenum	0.0936	0.00500	0.100	0	93.6	90	110			
Selenium	0.0979	0.00500	0.100	0	97.9	90	110			
Thallium	0.0956	0.00150	0.100	0	95.6	90	110			

Sample ID: **LCVL-230824** Batch ID: **R128807** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCVL** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 1:16:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00201	0.00250	0.00200	0	100	80	120			
Arsenic	0.00502	0.00500	0.00500	0	100	80	120			
Barium	0.00499	0.0100	0.00500	0	99.7	80	120			
Beryllium	0.00101	0.00100	0.00100	0	101	80	120			
Cadmium	0.00115	0.00100	0.00100	0	115	80	120			
Calcium	0.106	0.300	0.100	0	106	80	120			
Chromium	0.00495	0.00500	0.00500	0	99.1	80	120			
Cobalt	0.00511	0.00500	0.00500	0	102	80	120			
Lead	0.00101	0.00100	0.00100	0	101	80	120			
Lithium	0.0102	0.0100	0.0100	0	102	80	120			
Molybdenum	0.00508	0.00500	0.00500	0	102	80	120			
Selenium	0.00525	0.00500	0.00500	0	105	80	120			
Thallium	0.00104	0.00150	0.00100	0	104	80	120			

Sample ID: **CCV1-230824** Batch ID: **R128807** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS5_230824A** Analysis Date: **8/24/2023 2:12:00 PM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.202	0.00250	0.200	0	101	90	110			
Arsenic	0.199	0.00500	0.200	0	99.3	90	110			
Barium	0.201	0.0100	0.200	0	100	90	110			
Beryllium	0.187	0.00100	0.200	0	93.4	90	110			
Cadmium	0.200	0.00100	0.200	0	100	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS5_230824A**

Sample ID: **CCV1-230824**	Batch ID: **R128807**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_230824A**	Analysis Date: **8/24/2023 2:12:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.74	0.300	5.00	0	94.8	90	110			
Chromium	0.196	0.00500	0.200	0	98.1	90	110			
Cobalt	0.202	0.00500	0.200	0	101	90	110			
Lead	0.197	0.00100	0.200	0	98.3	90	110			
Lithium	0.188	0.0100	0.200	0	93.9	90	110			
Molybdenum	0.197	0.00500	0.200	0	98.6	90	110			
Selenium	0.199	0.00500	0.200	0	99.5	90	110			
Thallium	0.195	0.00150	0.200	0	97.4	90	110			

Sample ID: **CCV2-230824**	Batch ID: **R128807**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_230824A**	Analysis Date: **8/24/2023 2:42:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.202	0.00250	0.200	0	101	90	110			
Arsenic	0.196	0.00500	0.200	0	98.0	90	110			
Barium	0.198	0.0100	0.200	0	99.0	90	110			
Beryllium	0.195	0.00100	0.200	0	97.7	90	110			
Cadmium	0.202	0.00100	0.200	0	101	90	110			
Calcium	4.75	0.300	5.00	0	95.1	90	110			
Chromium	0.197	0.00500	0.200	0	98.7	90	110			
Cobalt	0.204	0.00500	0.200	0	102	90	110			
Lead	0.198	0.00100	0.200	0	99.1	90	110			
Lithium	0.201	0.0100	0.200	0	100	90	110			
Molybdenum	0.199	0.00500	0.200	0	99.4	90	110			
Selenium	0.199	0.00500	0.200	0	99.7	90	110			
Thallium	0.196	0.00150	0.200	0	97.9	90	110			

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230821A

Sample ID: **DCS3-111798** Batch ID: **111798** TestNo: **E300** Units: **mg/L**
SampType: **DCS3** Run ID: **IC2_230821A** Analysis Date: **8/21/2023 3:37:43 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1.06	1.00	1.000	0	106	70	130	0	0	
Fluoride	0.424	0.400	0.4000	0	106	70	130	0	0	
Sulfate	2.77	3.00	3.000	0	92.4	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230822B

The QC data in batch 111817 applies to the following samples: 2308283-01B, 2308283-02B, 2308283-03B, 2308283-04B, 2308283-05B, 2308283-06B, 2308283-07B, 2308283-08B, 2308283-09B, 2308283-10B, 2308283-11B, 2308283-12B, 2308283-13B

Sample ID: **MB-111817** Batch ID: **111817** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_230822B** Analysis Date: **8/22/2023 12:01:56 PM** Prep Date: **8/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	<0.300	1.00								
Fluoride	<0.100	0.400								
Sulfate	<1.00	3.00								

Sample ID: **LCS-111817** Batch ID: **111817** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_230822B** Analysis Date: **8/22/2023 12:19:56 PM** Prep Date: **8/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.88	1.00	10.00	0	98.8	90	110			
Fluoride	3.94	0.400	4.000	0	98.5	90	110			
Sulfate	28.3	3.00	30.00	0	94.3	90	110			

Sample ID: **LCSD-111817** Batch ID: **111817** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_230822B** Analysis Date: **8/22/2023 12:37:56 PM** Prep Date: **8/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110	1.59	20	
Fluoride	3.99	0.400	4.000	0	99.7	90	110	1.21	20	
Sulfate	28.6	3.00	30.00	0	95.4	90	110	1.17	20	

Sample ID: **2308283-09BMS** Batch ID: **111817** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_230822B** Analysis Date: **8/22/2023 5:31:22 PM** Prep Date: **8/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1940	100	2000	0	96.9	90	110			
Fluoride	1980	40.0	2000	0	99.2	90	110			
Sulfate	3320	300	2000	1570	87.5	90	110			S

Sample ID: **2308283-09BMSD** Batch ID: **111817** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_230822B** Analysis Date: **8/22/2023 5:49:22 PM** Prep Date: **8/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1940	100	2000	0	97.2	90	110	0.322	20	
Fluoride	1990	40.0	2000	0	99.7	90	110	0.507	20	
Sulfate	3330	300	2000	1570	87.9	90	110	0.221	20	S

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230822B

Sample ID: **2308283-01BMS**	Batch ID: **111817**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_230822B**	Analysis Date: **8/22/2023 6:25:22 PM**	Prep Date: **8/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	609	10.0	200.0	477.1	66.0	90	110			S
Fluoride	204	4.00	200.0	1.007	101	90	110			
Sulfate	196	30.0	200.0	0	98.0	90	110			

Sample ID: **2308283-01BMSD**	Batch ID: **111817**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_230822B**	Analysis Date: **8/22/2023 6:43:22 PM**	Prep Date: **8/22/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	605	10.0	200.0	477.1	64.2	90	110	0.611	20	S
Fluoride	202	4.00	200.0	1.007	101	90	110	0.651	20	
Sulfate	194	30.0	200.0	0	96.9	90	110	1.20	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_230822B

Sample ID: **ICV-230822**	Batch ID: **R128766**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_230822B**	Analysis Date: **8/22/2023 11:25:56 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.8	1.00	25.00	0	99.2	90	110			
Fluoride	10.0	0.400	10.00	0	100	90	110			
Sulfate	71.7	3.00	75.00	0	95.7	90	110			

Sample ID: **CCV1-230822**	Batch ID: **R128766**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230822B**	Analysis Date: **8/22/2023 9:07:22 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.96	1.00	10.00	0	99.6	90	110			
Fluoride	4.03	0.400	4.000	0	101	90	110			
Sulfate	28.7	3.00	30.00	0	95.5	90	110			

Sample ID: **CCV2-230822**	Batch ID: **R128766**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230822B**	Analysis Date: **8/23/2023 1:19:22 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.90	1.00	10.00	0	99.0	90	110			
Fluoride	3.99	0.400	4.000	0	99.7	90	110			
Sulfate	28.4	3.00	30.00	0	94.8	90	110			

Sample ID: **CCV3-230822**	Batch ID: **R128766**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_230822B**	Analysis Date: **8/23/2023 5:13:22 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110			
Fluoride	4.09	0.400	4.000	0	102	90	110			
Sulfate	28.8	3.00	30.00	0	96.0	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: 2308283
Project: Luminant - A1 Landfill - CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_230821B

The QC data in batch 111801 applies to the following samples: 2308283-01B, 2308283-02B, 2308283-03B, 2308283-04B, 2308283-05B, 2308283-06B, 2308283-07B, 2308283-08B, 2308283-09B, 2308283-10B, 2308283-11B, 2308283-12B, 2308283-13B

Sample ID: **MB-111801** Batch ID: **111801** TestNo: **M2540C** Units: **mg/L**
SampType: **MBLK** Run ID: **WC_230821B** Analysis Date: **8/21/2023 5:15:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	<10.0	10.0								

Sample ID: **LCS-111801** Batch ID: **111801** TestNo: **M2540C** Units: **mg/L**
SampType: **LCS** Run ID: **WC_230821B** Analysis Date: **8/21/2023 5:15:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	754	10.0	745.6	0	101	90	113			

Sample ID: **2308243-02D-DUP** Batch ID: **111801** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_230821B** Analysis Date: **8/21/2023 5:15:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3720	50.0	0	3715				0.000	5	

Sample ID: **2308283-01B-DUP** Batch ID: **111801** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_230821B** Analysis Date: **8/21/2023 5:15:00 PM** Prep Date: **8/21/2023**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	1210	50.0	0	1160				3.81	5	

Qualifiers:

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

CLIENT: WSP-Golder
Work Order: 2308283
Project: Luminant - A1 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**
Antimony	0.000800	0.00250
Arsenic	0.00200	0.00500
Barium	0.00300	0.0100
Beryllium	0.000300	0.00100
Boron	0.0100	0.0300
Cadmium	0.000300	0.00100
Calcium	0.100	0.300
Chromium	0.00200	0.00500
Cobalt	0.00300	0.00500
Lead	0.000300	0.00100
Lithium	0.00500	0.0100
Molybdenum	0.00200	0.00500
Selenium	0.00200	0.00500
Thallium	0.000500	0.00150

TestNo: SW7470A	**MDL**	**MQL**
Analyte	**mg/L**	**mg/L**
Mercury	0.0000800	0.000200

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

ANALYTICAL REPORT

September 26, 2023

DHL Analytical, Inc.

Sample Delivery Group:	L1648543
Samples Received:	08/22/2023
Project Number:	2308283
Description:	

Report To: John DuPont
2300 Double Creek Drive
Round Rock, TX 78664

Entire Report Reviewed By:

Donna Eidson
Project Manager

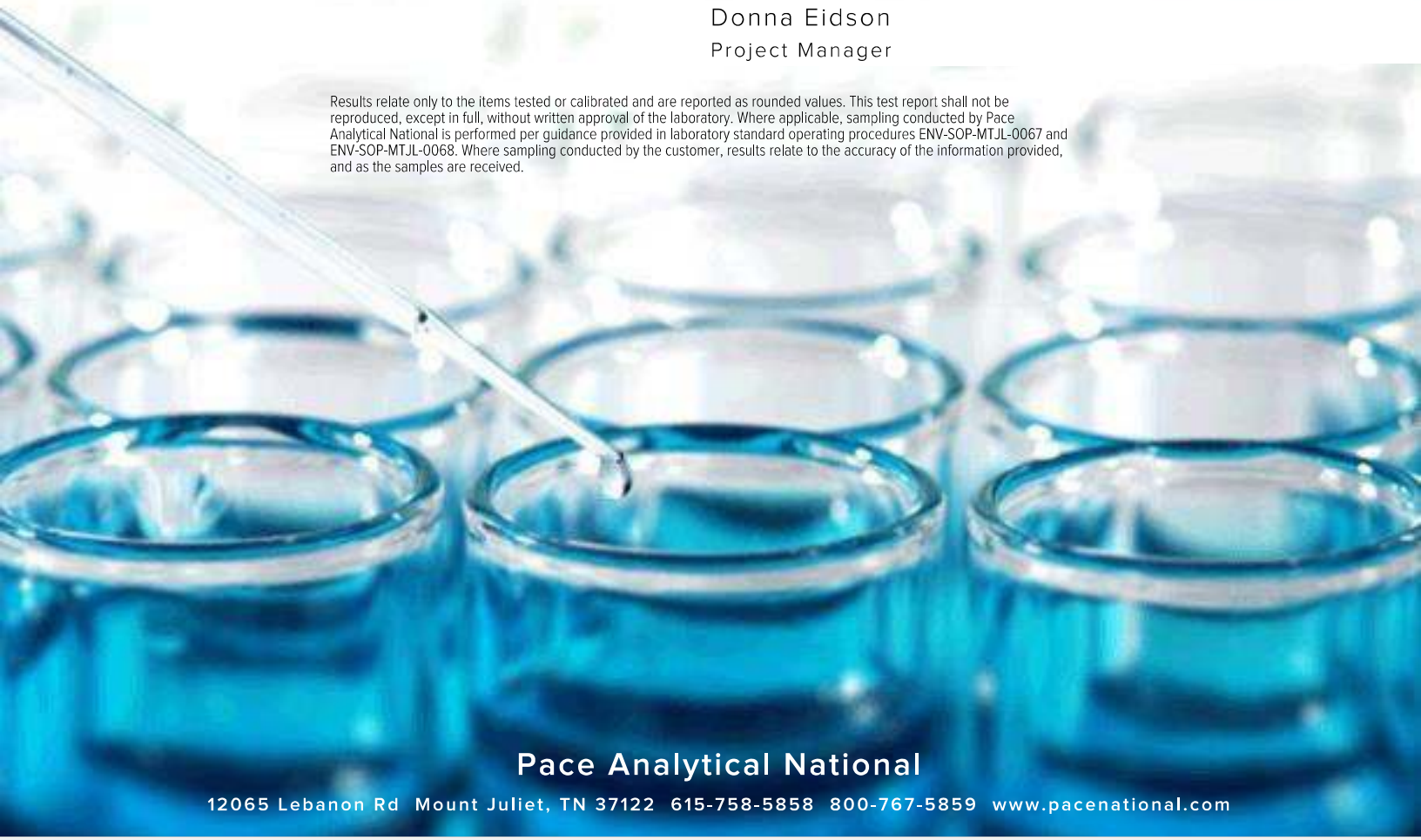


TABLE OF CONTENTS

Cp: Cover Page 1

Tc: Table of Contents 2

Ss: Sample Summary 3

Cn: Case Narrative 6

Sr: Sample Results 7

H-28 L1648543-01 7

BMW-23 L1648543-02 8

BMW-22 L1648543-03 9

BMW-20 L1648543-04 10

BMW-21 L1648543-05 11

BMW-27 L1648543-06 12

BMW-26 L1648543-07 13

BMW-11AR L1648543-08 14

BMW-19 L1648543-09 15

BMW-18 L1648543-10 16

BMW-28 L1648543-11 17

DUP-1 L1648543-12 18

BMW-33 L1648543-13 19

Qc: Quality Control Summary 20

Radiochemistry by Method 904/9320 20

Radiochemistry by Method SM7500Ra B M 21

Gl: Glossary of Terms 22

Al: Accreditations & Locations 23

Sc: Sample Chain of Custody 24

H-28 L1648543-01 Non-Potable Water

Collected by | Collected date/time 08/15/23 14:45 | Received date/time 08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-23 L1648543-02 Non-Potable Water

Collected by | Collected date/time 08/15/23 15:40 | Received date/time 08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-22 L1648543-03 Non-Potable Water

Collected by | Collected date/time 08/15/23 16:35 | Received date/time 08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-20 L1648543-04 Non-Potable Water

Collected by | Collected date/time 08/15/23 17:25 | Received date/time 08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-21 L1648543-05 Non-Potable Water

Collected by | Collected date/time 08/16/23 07:45 | Received date/time 08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-27 L1648543-06 Non-Potable Water

Collected by | Collected date/time 08/16/23 08:35 | Received date/time 08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-26 L1648543-07 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/16/23 09:25	08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-11AR L1648543-08 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/16/23 10:00	08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-19 L1648543-09 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/16/23 10:55	08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-18 L1648543-10 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/16/23 11:55	08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-28 L1648543-11 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/16/23 12:55	08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

DUP-1 L1648543-12 Non-Potable Water

Collected by	Collected date/time	Received date/time
	08/16/23 12:55	08/22/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/01/23 20:26	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

BMW-33 L1648543-13 Non-Potable Water			Collected by	Collected date/time 08/16/23 14:05	Received date/time 08/22/23 09:00	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904/9320	WG2120935	1	08/25/23 10:27	09/06/23 20:57	DDD	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG2120954	1	08/25/23 12:23	09/11/23 18:44	DDD	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG2120954	1	08/25/23 12:23	09/11/23 18:44	RGT	Mt. Juliet, TN

CASE NARRATIVE

All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

Donna Eidson
Project Manager

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.83		0.258	0.425	09/01/2023 20:26	WG2120935
(T) Barium	*97.8*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*86.1*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	3.74		0.629	0.484	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	1.92		0.574	0.232	09/11/2023 18:44	WG2120954
(T) Barium-133	*71.4*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	2.16		0.272	0.437	09/01/2023 20:26	WG2120935
(T) Barium	*80.6*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*118*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	3.33		0.566	0.556	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	1.18		0.496	0.344	09/11/2023 18:44	WG2120954
(T) Barium-133	*71.4*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.76		0.236	0.387	09/01/2023 20:26	WG2120935
(T) Barium	*113*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*103*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	3.31		0.560	0.480	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	1.55		0.508	0.284	09/11/2023 18:44	WG2120954
(T) Barium-133	*78.9*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.05		0.267	0.472	09/01/2023 20:26	WG2120935
(T) Barium	*86.6*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*92.5*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.50		0.380	0.526	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.455		0.271	0.232	09/11/2023 18:44	WG2120954
(T) Barium-133	*89.7*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.65		0.272	0.462	09/01/2023 20:26	WG2120935
(T) Barium	*95.8*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*85.6*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.00		0.428	0.618	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.348	J	0.330	0.411	09/11/2023 18:44	WG2120954
(T) Barium-133	*69.4*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.000	U	0.303	0.574	09/01/2023 20:26	WG2120935
(T) Barium	*85.8*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*118*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.000	U	0.327	0.683	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	-0.0850	U	0.124	0.370	09/11/2023 18:44	WG2120954
(T) Barium-133	*79.7*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.990		0.238	0.421	09/01/2023 20:26	WG2120935
(T) Barium	*102*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*133*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.45		0.438	0.576	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.455		0.368	0.393	09/11/2023 18:44	WG2120954
(T) Barium-133	*59.7*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.91		0.268	0.452	09/01/2023 20:26	WG2120935
(T) Barium	*110*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*108*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.59		0.537	0.676	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.680		0.465	0.503	09/11/2023 18:44	WG2120954
(T) Barium-133	*58.9*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.502	J	0.295	0.543	09/01/2023 20:26	WG2120935
(T) Barium	*84.9*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*110*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.518	J	0.312	0.593	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.0164	U	0.102	0.238	09/11/2023 18:44	WG2120954
(T) Barium-133	*91.5*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.444	J	0.273	0.504	09/01/2023 20:26	WG2120935
(T) Barium	*95.4*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*105*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.571	J	0.351	0.610	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.127	J	0.220	0.343	09/11/2023 18:44	WG2120954
(T) Barium-133	*77.0*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.222	U	0.293	0.547	09/01/2023 20:26	WG2120935
(T) Barium	*97.5*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*105*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.430	J	0.355	0.601	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.208	J	0.201	0.249	09/11/2023 18:44	WG2120954
(T) Barium-133	*80.5*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.712		0.297	0.542	09/01/2023 20:26	WG2120935
(T) Barium	*117*			*30.0-143*	*09/01/2023 20:26*	WG2120935
(T) Yttrium	*104*			*30.0-136*	*09/01/2023 20:26*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.01		0.406	0.642	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.298	J	0.277	0.345	09/11/2023 18:44	WG2120954
(T) Barium-133	*75.1*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.19		0.347	0.579	09/06/2023 20:57	WG2120935
(T) Barium	*84.0*			*30.0-143*	*09/06/2023 20:57*	WG2120935
(T) Yttrium	*94.9*			*30.0-136*	*09/06/2023 20:57*	WG2120935

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.49		0.507	0.778	09/11/2023 18:44	WG2120954

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.299	J	0.370	0.519	09/11/2023 18:44	WG2120954
(T) Barium-133	*60.2*			*30.0-143*	*09/11/2023 18:44*	WG2120954

Method Blank (MB)

(MB) R3976782-1 09/01/23 20:26

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / -	MB MDA pCi/l
Radium-228	0.0505	U	0.197	0.371
(T) Barium	*91.1*		*91.1*	
(T) Yttrium	*131*		*131*	

L1648439-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1648439-06 09/21/23 17:02 • (DUP) R3976782-5 09/21/23 17:02

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	2.35	0.449	0.766	2.69	0.396	0.650	1	13.8	0.581		20	3
(T) Barium	*87.3*			*88.6*	*88.6*							
(T) Yttrium	*104*			*97.3*	*97.3*							

Laboratory Control Sample (LCS)

(LCS) R3976782-2 09/01/23 20:26

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.30	106	80.0-120	
(T) Barium			*120*		
(T) Yttrium			*125*		

L1648439-04 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1648439-04 09/01/23 20:26 • (MS) R3976782-3 09/01/23 20:26 • (MSD) R3976782-4 09/01/23 20:26

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-228	16.7	0.136	19.4	18.5	115	110	1	70.0-130			4.96		20
(T) Barium		*110*			*106*	*103*							
(T) Yttrium		*128*			*91.6*	*91.9*							

Method Blank (MB)

(MB) R3976221-1 09/11/23 18:44

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	0.0138	U	0.0590	0.104
(T) Barium-133	*72.1*		*72.1*	

L1648543-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1648543-13 09/11/23 18:44 • (DUP) R3976221-5 09/11/23 18:44

Analyte	Original Result pCi/l	Original Uncertainty + / -	Original MDA pCi/l	DUP Result pCi/l	DUP Uncertainty + / -	DUP MDA pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-226	0.299	0.370	0.519	0.301	0.291	0.360	1	0.767	0.00489	J	20	3
(T) Barium-133	*60.2*			*61.8*	*61.8*							

Laboratory Control Sample (LCS)

(LCS) R3976221-2 09/11/23 18:44

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.01	5.04	100	80.0-120	
(T) Barium-133			*59.9*		

L1648531-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1648531-02 09/11/23 18:44 • (MS) R3976221-3 09/11/23 18:44 • (MSD) R3976221-4 09/11/23 18:44

Analyte	Spike Amount pCi/l	Original Result pCi/l	MS Result pCi/l	MSD Result pCi/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	MS RER	RPD Limits %
Radium-226	20.0	1.22	22.0	20.1	104	94.3	1	75.0-125			8.90		20
(T) Barium-133		*82.5*			*66.6*	*73.1*							

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDA	Minimum Detectable Activity.
Rec.	Recovery.
RER	Replicate Error Ratio.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(T)	Tracer - A radioisotope of known concentration added to a solution of chemically equivalent radioisotopes at a known concentration to assist in monitoring the yield of the chemical separation.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
U	Below Detectable Limits: Indicates that the analyte was not detected.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

DHL Analytical, Inc.
2300 Double Creek Drive
Round Rock, TX 78664
TEL: *(512) 388-8222* FAX:

CHAIN-OF-CUSTODY RECORD

Work Order: 2308283

J204

LIL485453 PH-10BDH4321 TRC-214414 CR6-20221V

<2

Subcontractor:

Pace Analytical
12065 Lebanon Rd
Mt. Juliet, TN 37122

TEL: (615) 773-5923
FAX:
Acct #: DHLRRTX

18-Aug-23

Sample ID	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests: Ra-228 E904.0	Ra-226 M7500 Ra B M				
H-28	Aqueous	01C	08/15/23 02:45 PM	1LHDPEHNO3		1				]-01
H-28	Aqueous	01D	08/15/23 02:45 PM	1LHDPEHNO3	1					
BMW-23	Aqueous	02C	08/15/23 03:40 PM	1LHDPEHNO3		1				]-02
BMW-23	Aqueous	02D	08/15/23 03:40 PM	1LHDPEHNO3	1					
BMW-22	Aqueous	03C	08/15/23 04:35 PM	1LHDPEHNO3		1				]-03
BMW-22	Aqueous	03D	08/15/23 04:35 PM	1LHDPEHNO3	1					
BMW-20	Aqueous	04C	08/15/23 05:25 PM	1LHDPEHNO3		1				]-04
BMW-20	Aqueous	04D	08/15/23 05:25 PM	1LHDPEHNO3	1					
BMW-21	Aqueous	05C	08/16/23 07:45 AM	1LHDPEHNO3		1				]-05
BMW-21	Aqueous	05D	08/16/23 07:45 AM	1LHDPEHNO3	1					
BMW-27	Aqueous	06C	08/16/23 08:35 AM	1LHDPEHNO3		1				]-06
BMW-27	Aqueous	06D	08/16/23 08:35 AM	1LHDPEHNO3	1					
BMW-26	Aqueous	07C	08/16/23 09:25 AM	1LHDPEHNO3		1				]-07
BMW-26	Aqueous	07D	08/16/23 09:25 AM	1LHDPEHNO3	1					
BMW-11AR	Aqueous	08C	08/16/23 10:00 AM	1LHDPEHNO3		1				]-08
BMW-11AR	Aqueous	08D	08/16/23 10:00 AM	1LHDPEHNO3	1					
BMW-19	Aqueous	09C	08/16/23 10:55 AM	1LHDPEHNO3		1				-09

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report Ra-226, Ra-228 & Combined per Specs.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

		Date/Time			Date/Time
Relinquished by:	[signature]	8/18/23 1700	Received by:	[signature]	8/22/23 0900
Relinquished by:			Received by:		

DHL Analytical, Inc.
2300 Double Creek Drive
Round Rock, TX 78664
TEL: *(512) 388-8222* FAX:

CHAIN-OF-CUSTODY RECORD

Work Order: 2308283

Subcontractor:

Pace Analytical
12065 Lebanon Rd
Mt. Juliet, TN 37122

TEL: (615) 773-5923
FAX:
Acct #: DHLRRTX

18-Aug-23

Sample ID	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests: Ra-228 E904.0	Ra-226 M7500 Ra B M				
BMW-19	Aqueous	09D	08/16/23 10:55 AM	1LHDPEHNO3	1					-09
BMW-18	Aqueous	10C	08/16/23 11:55 AM	1LHDPEHNO3		1				-10
BMW-18	Aqueous	10D	08/16/23 11:55 AM	1LHDPEHNO3	1					
BMW-28	Aqueous	11C	08/16/23 12:55 PM	1LHDPEHNO3		1				-11
BMW-28	Aqueous	11D	08/16/23 12:55 PM	1LHDPEHNO3	1					
DUP-1	Aqueous	12C	08/16/23 12:55 PM	1LHDPEHNO3		1				-12
DUP-1	Aqueous	12D	08/16/23 12:55 PM	1LHDPEHNO3	1					
BMW-33	Aqueous	13C	08/16/23 02:05 PM	1LHDPEHNO3		1				-13
BMW-33	Aqueous	13D	08/16/23 02:05 PM	1LHDPEHNO3	1					

Sample Receipt Checklist

COC Seal Present/Intact:	Y N	If Applicable	
COC Signed/Accurate:	Y N	VOA Zero Headspace:	Y N
Bottles arrive intact:	Y N	Pres.Correct/Check:	Y N
Correct bottles used:	Y N	AMB	
Sufficient volume sent:	Y N	12970R40 03 3006 1745	
RAD Screen <0.5 mR/hr:	Y N		

General Comments:

Please analyze these samples with Normal Turnaround Time.
Report Ra-226, Ra-228 & Combined per Specs.
Quality Control Package Needed: Standard - NELAC Rad Test compliant
Email to cac@dhlanalytical.com & dupont@dhlanalytical.com

	Date/Time		Date/Time
Relinquished by:	8/18/23 1700	Received by:	8/22/23 0900
Relinquished by:		Received by:	

APPENDIX B

APPENDIX IV CONFIDENCE INTERVAL GRAPHS

EXPLANATION

95% Upper confidence limit

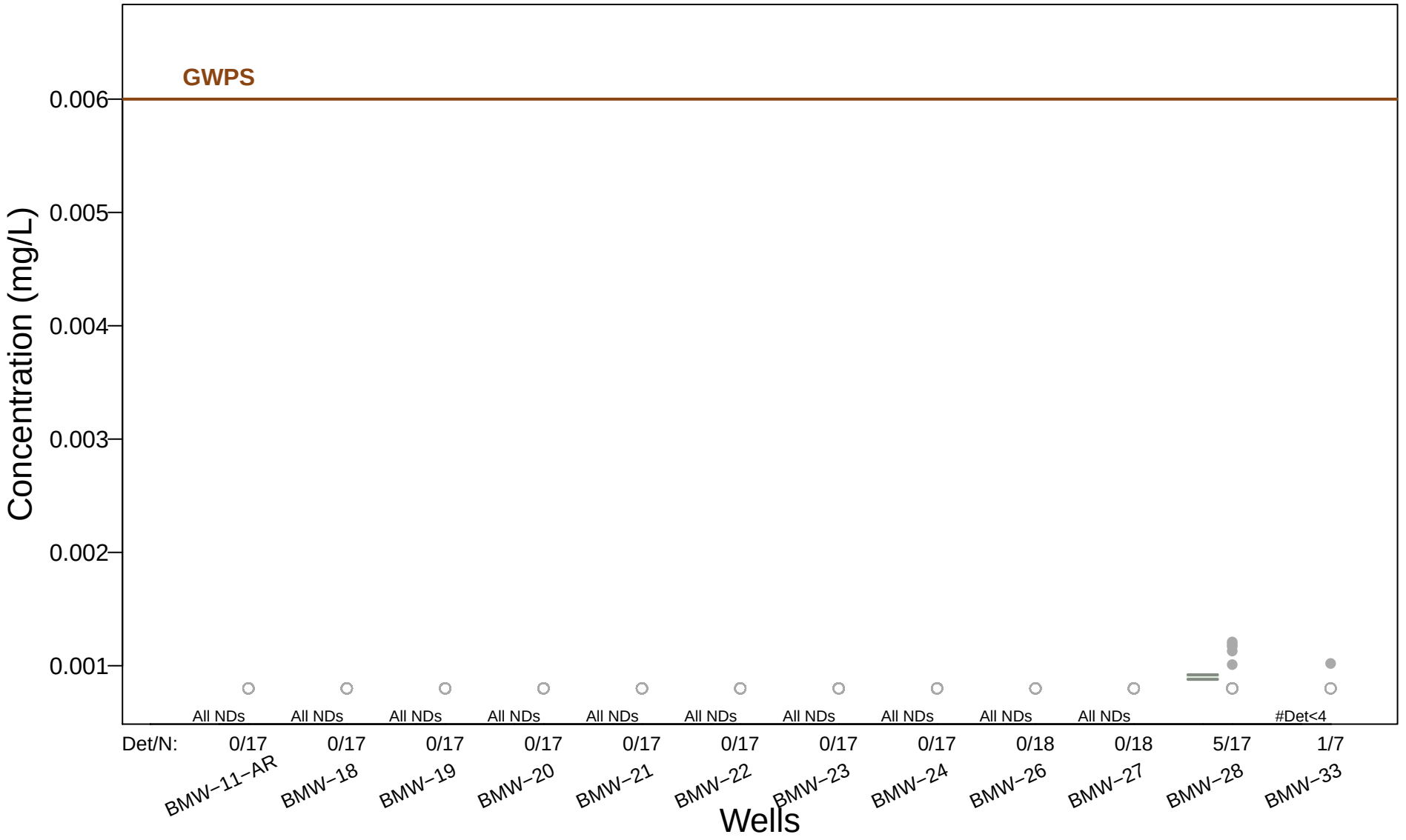
95% Lower confidence limit

Detected sample concentration

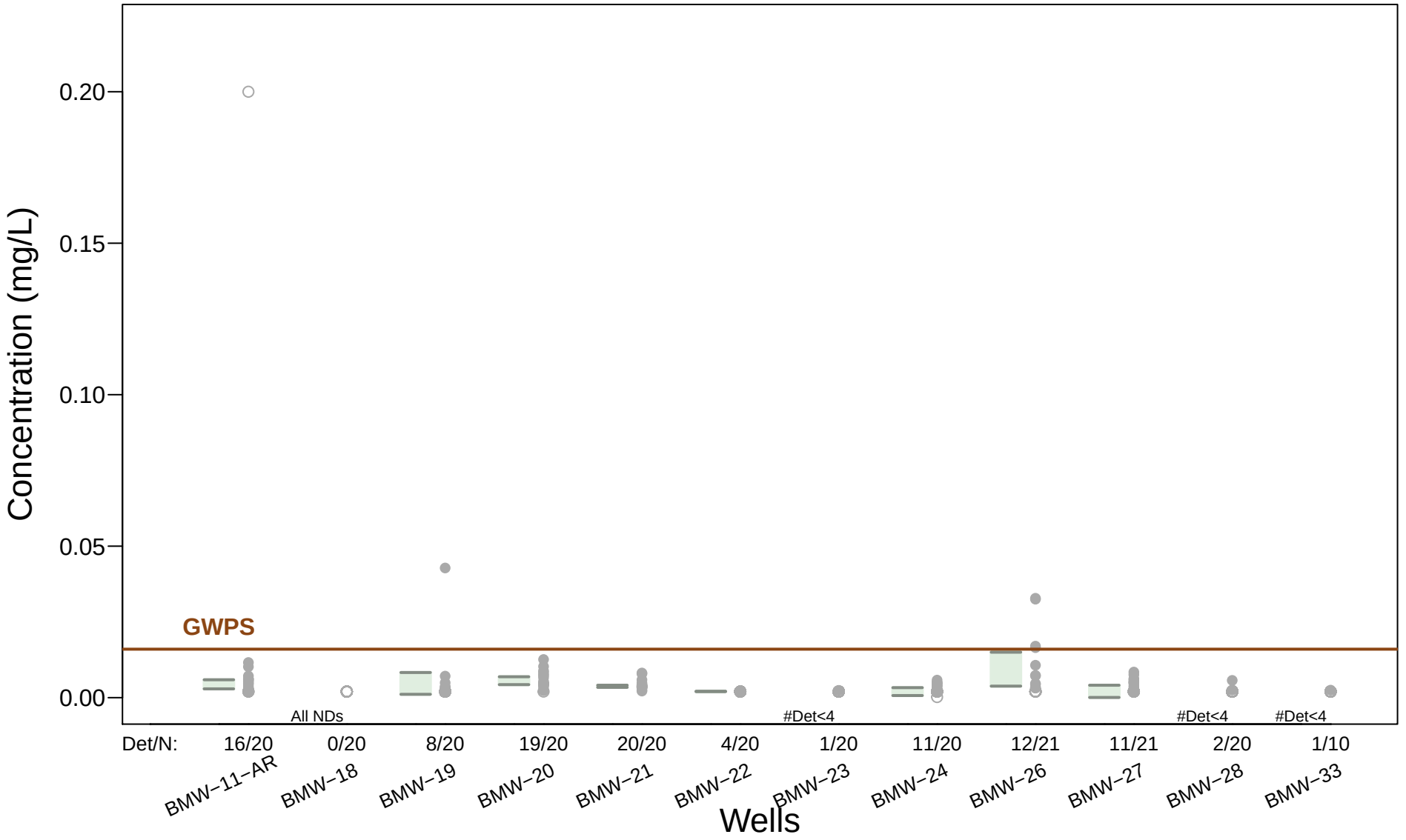
Non-detect sample result (concentration set to laboratory reporting limit)

Note: An SSL is indicated if the lower confidence limit exceeds the GWPS. SSLs above the GWPS are highlighted in red.

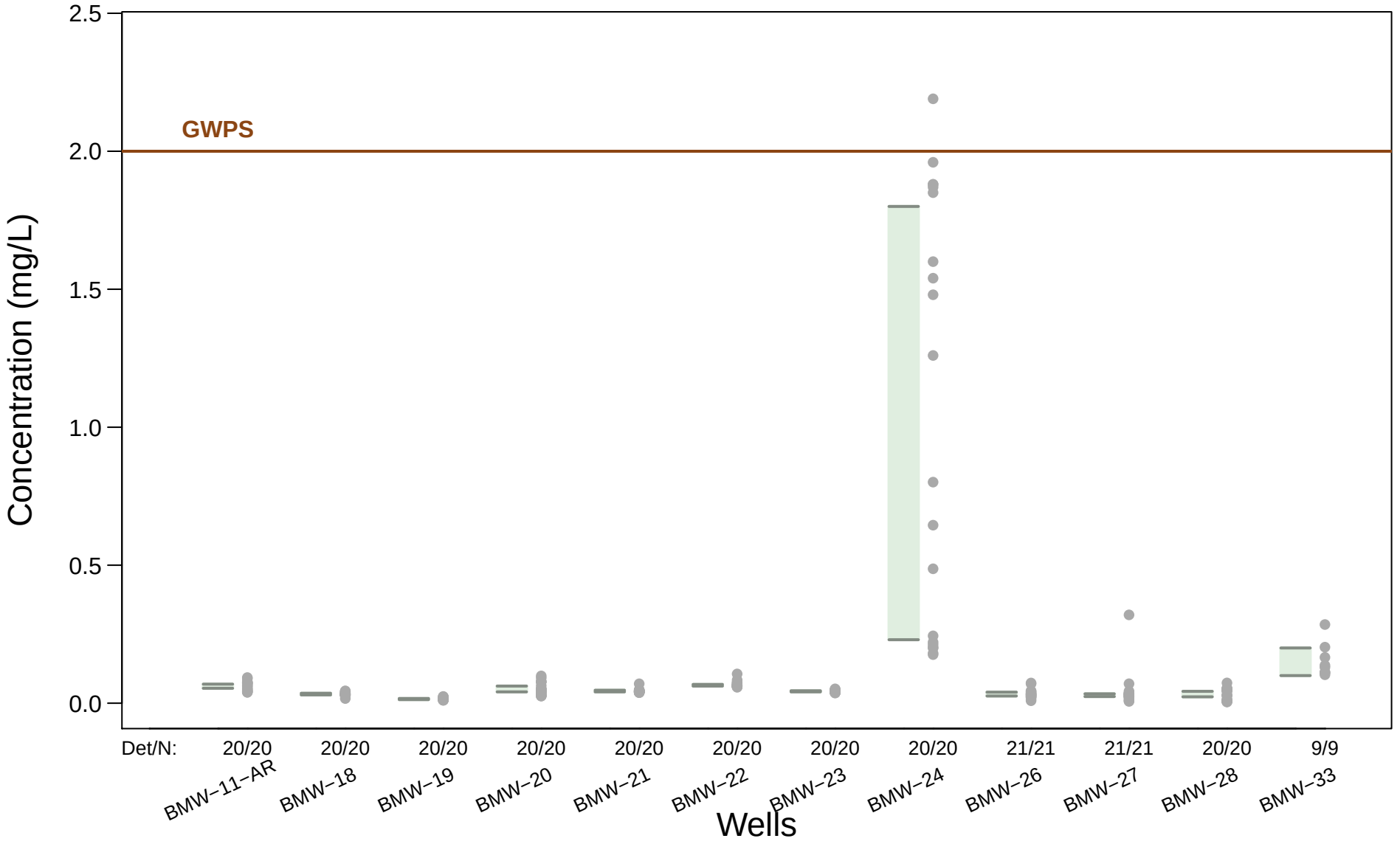
Antimony – 95% Confidence Intervals



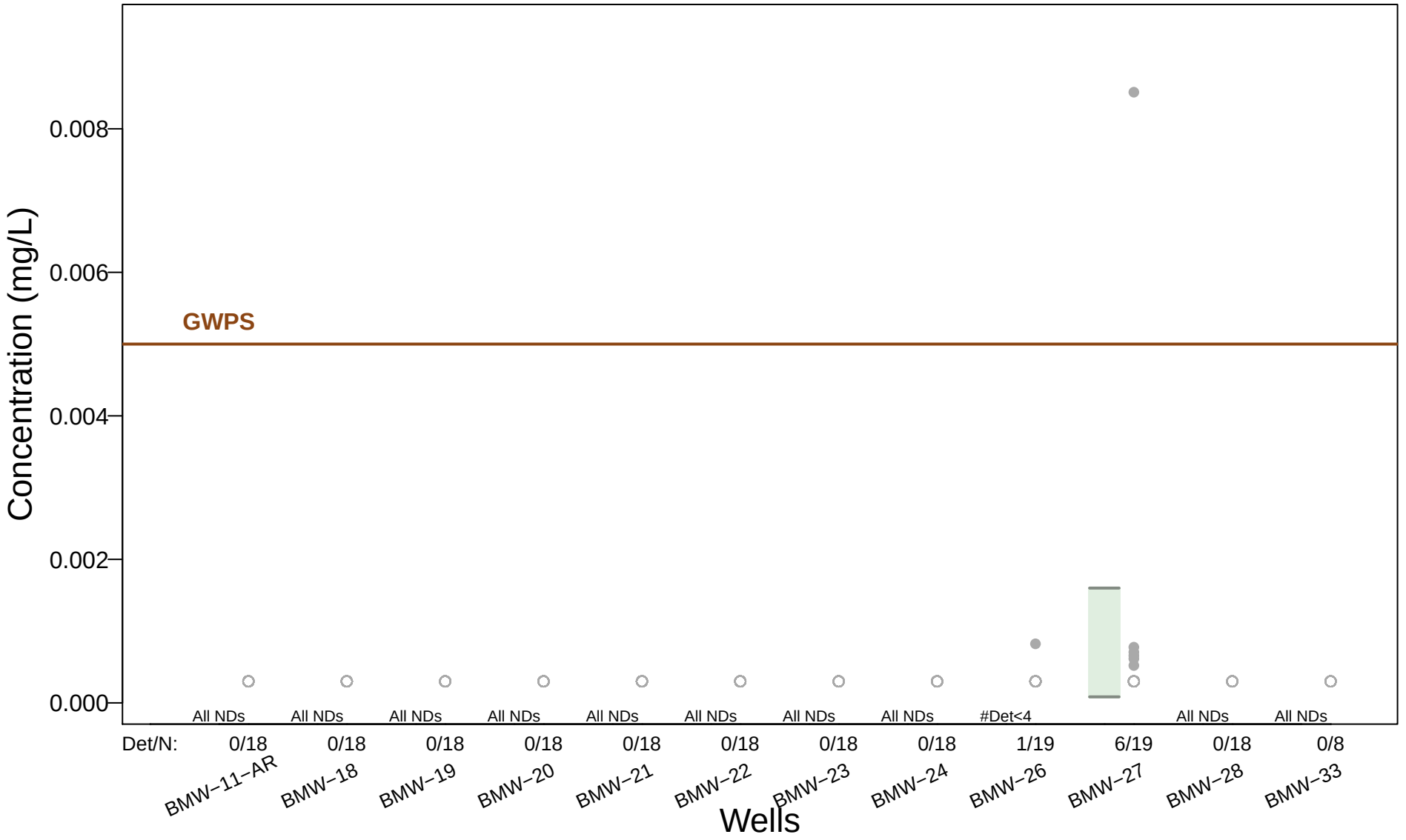
Arsenic − 95% Confidence Intervals



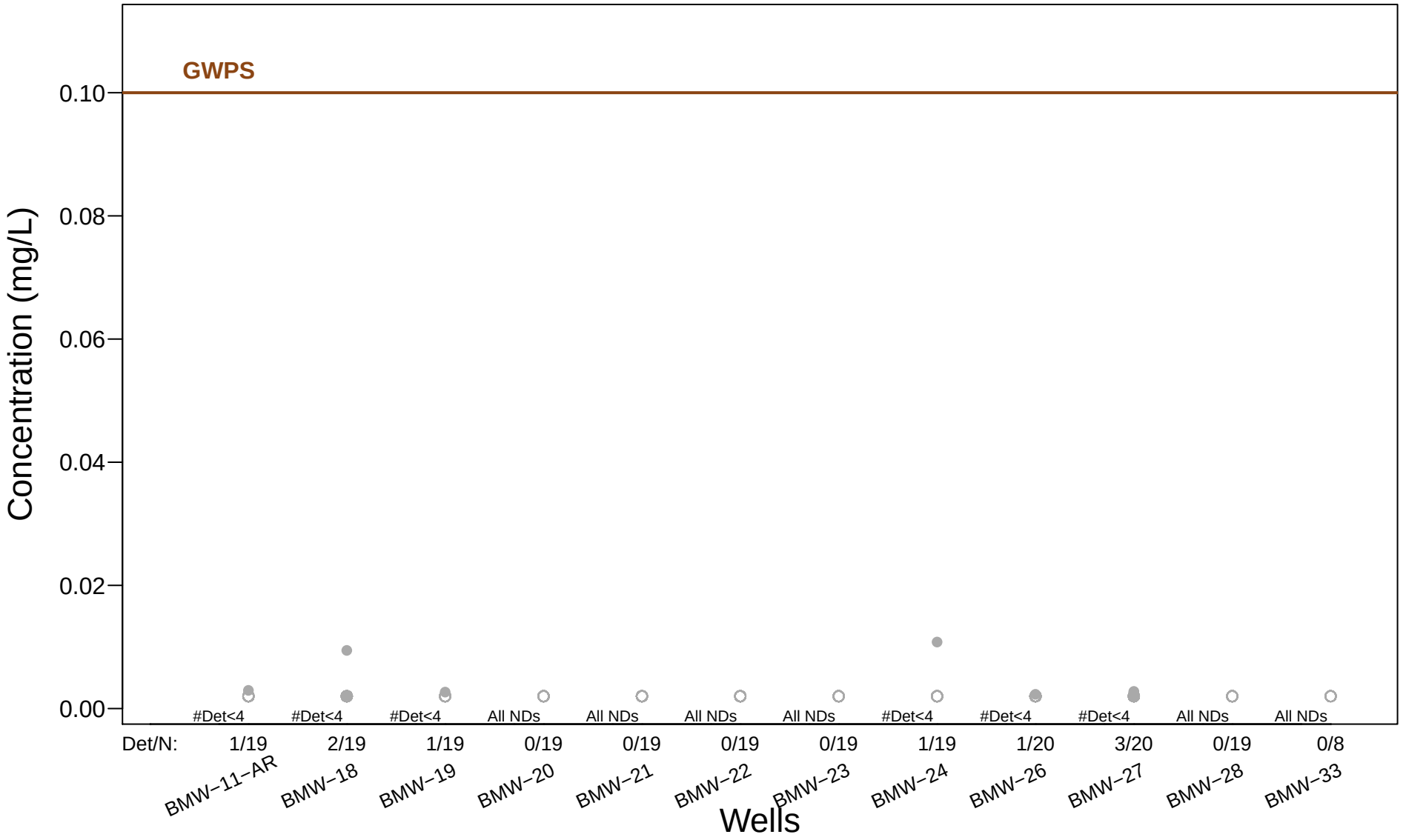
Barium – 95% Confidence Intervals



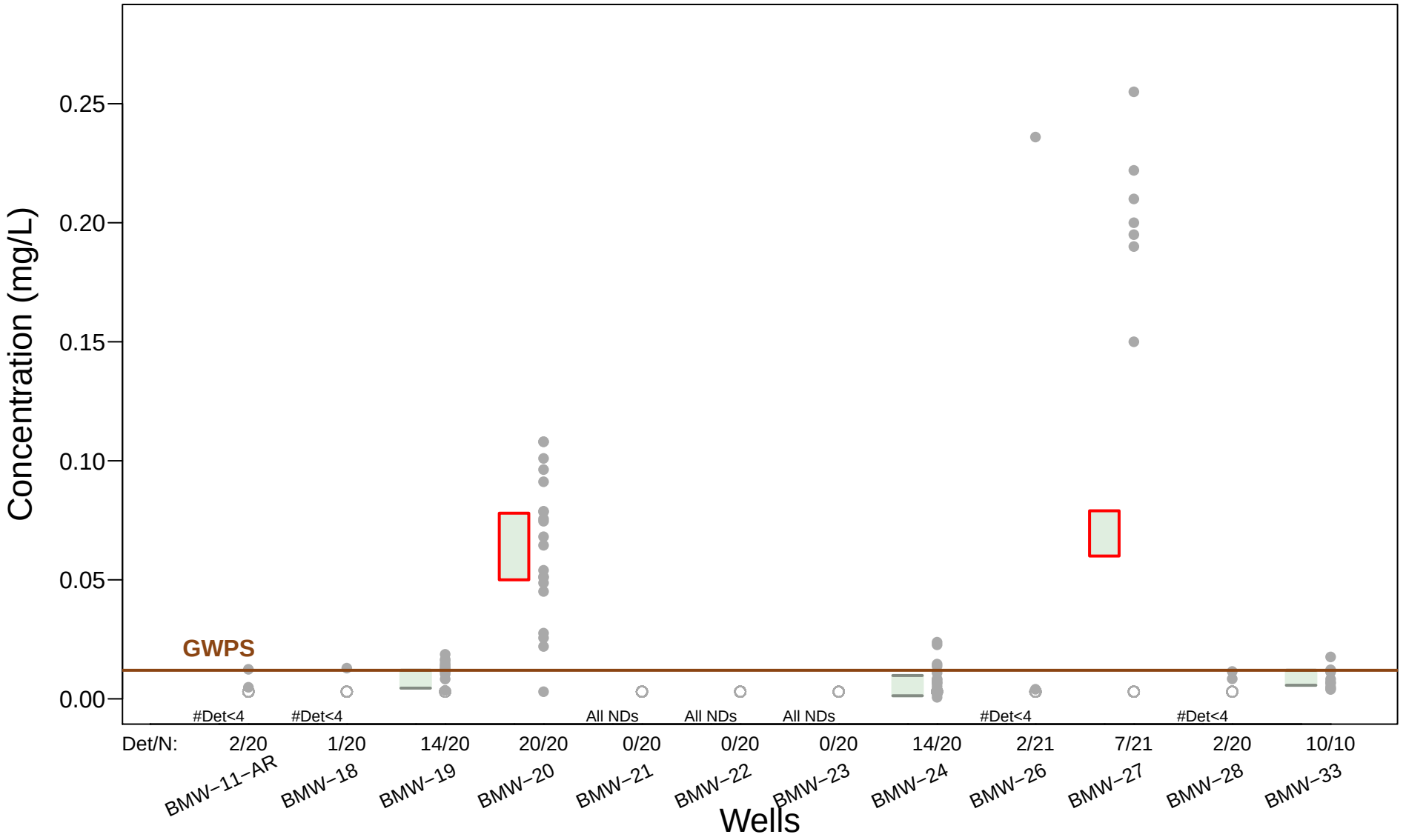
Cadmium – 95% Confidence Intervals



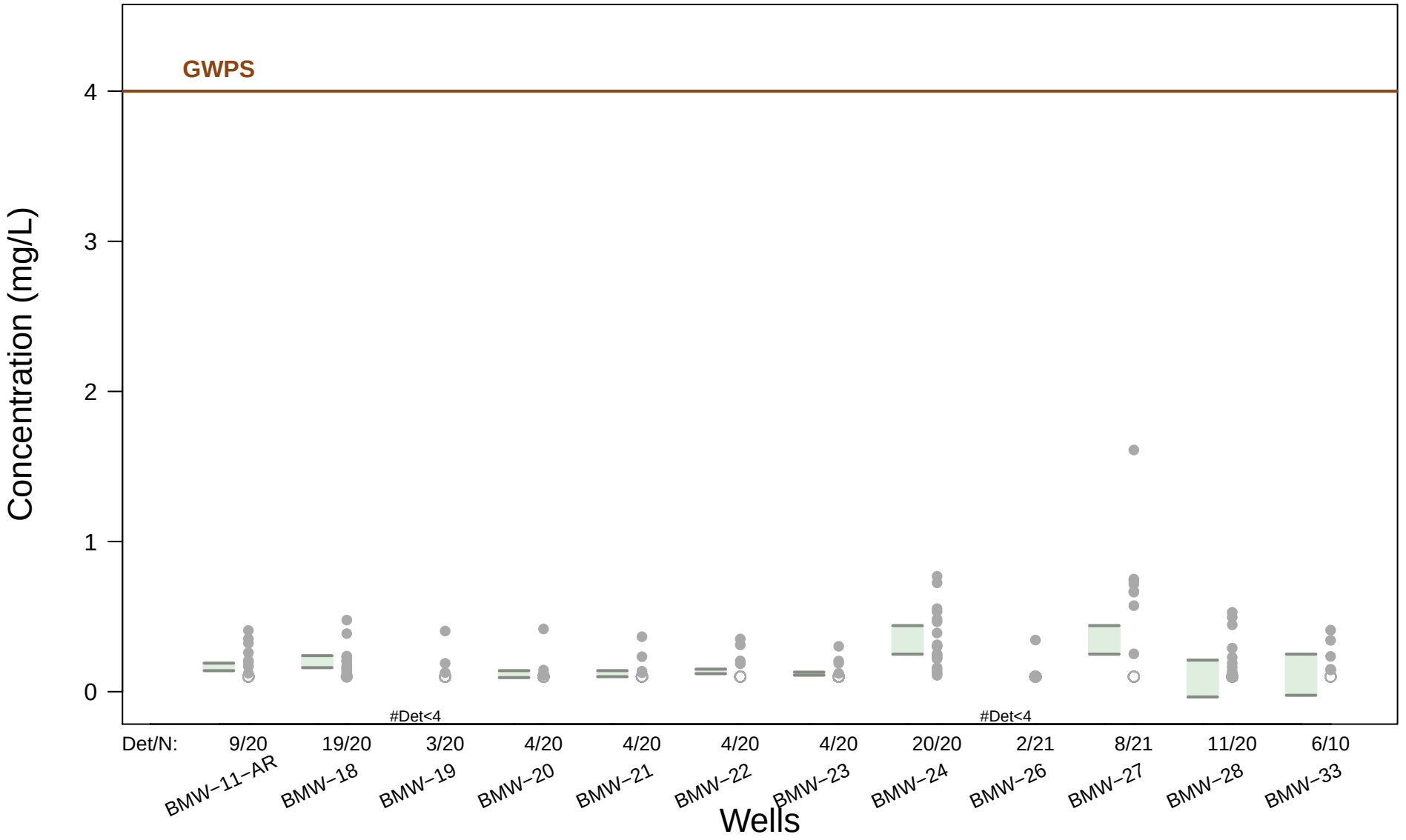
Chromium – 95% Confidence Intervals



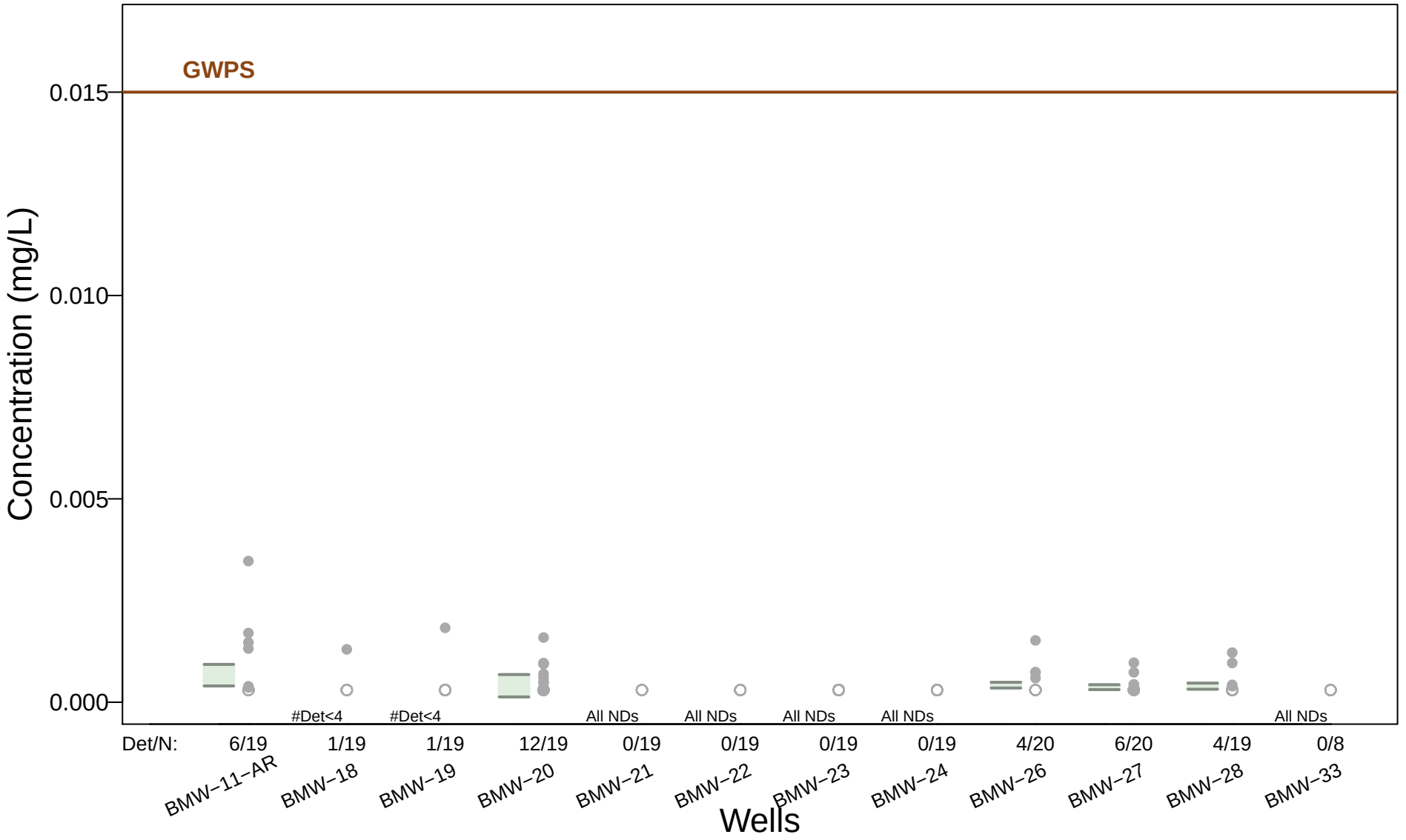
Cobalt – 95% Confidence Intervals



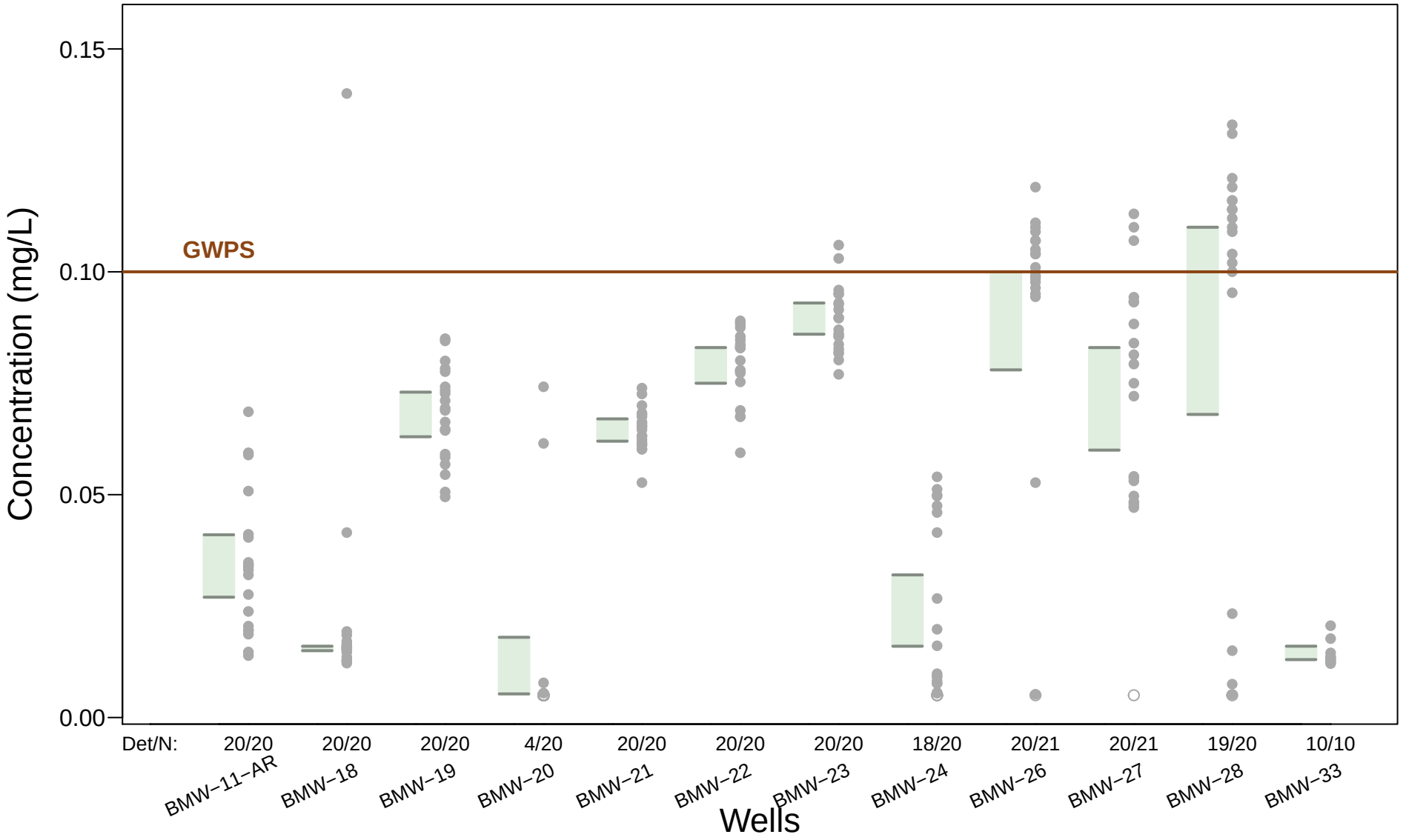
Fluoride (Appendix IV) – 95% Confidence Intervals



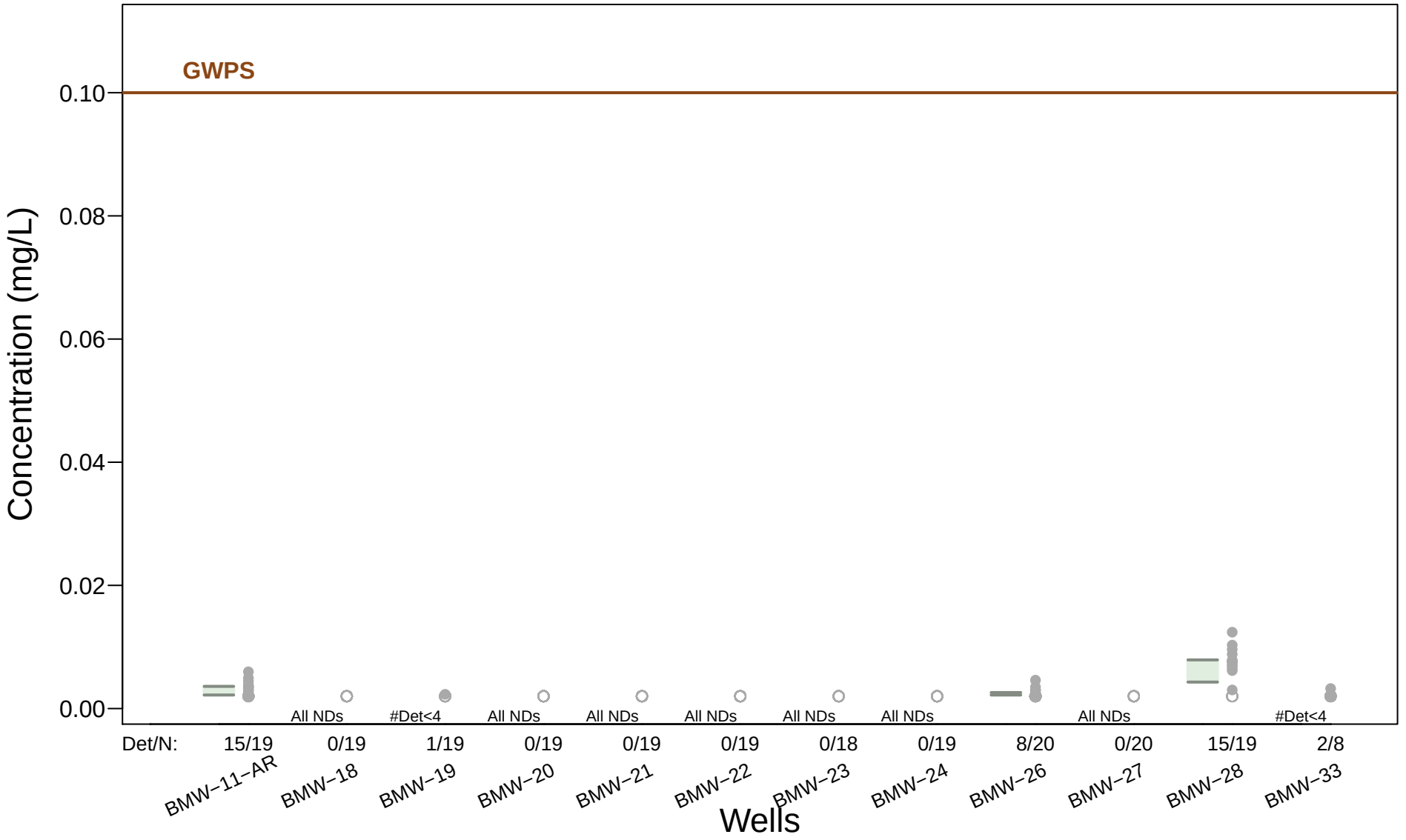
Lead – 95% Confidence Intervals



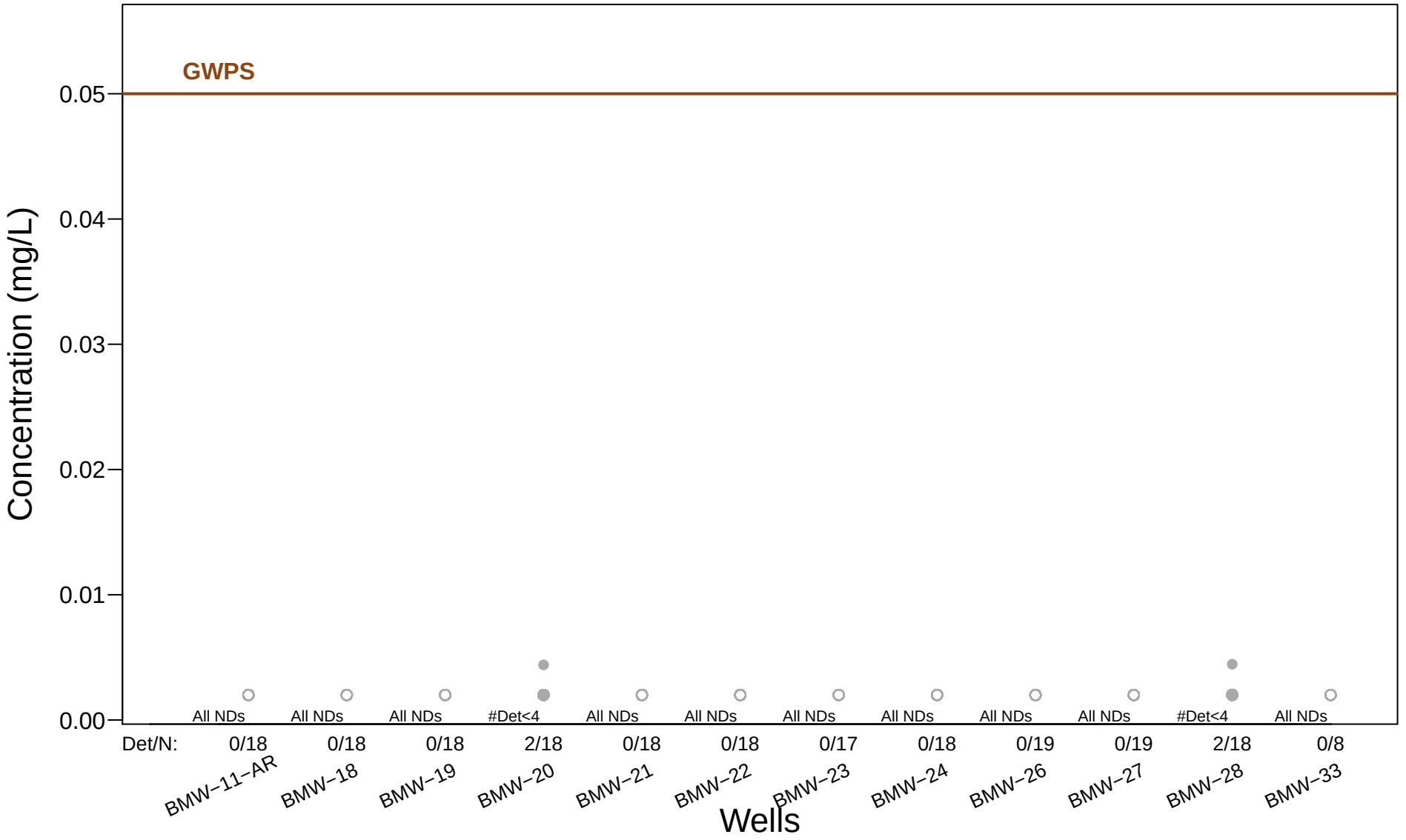
Lithium – 95% Confidence Intervals



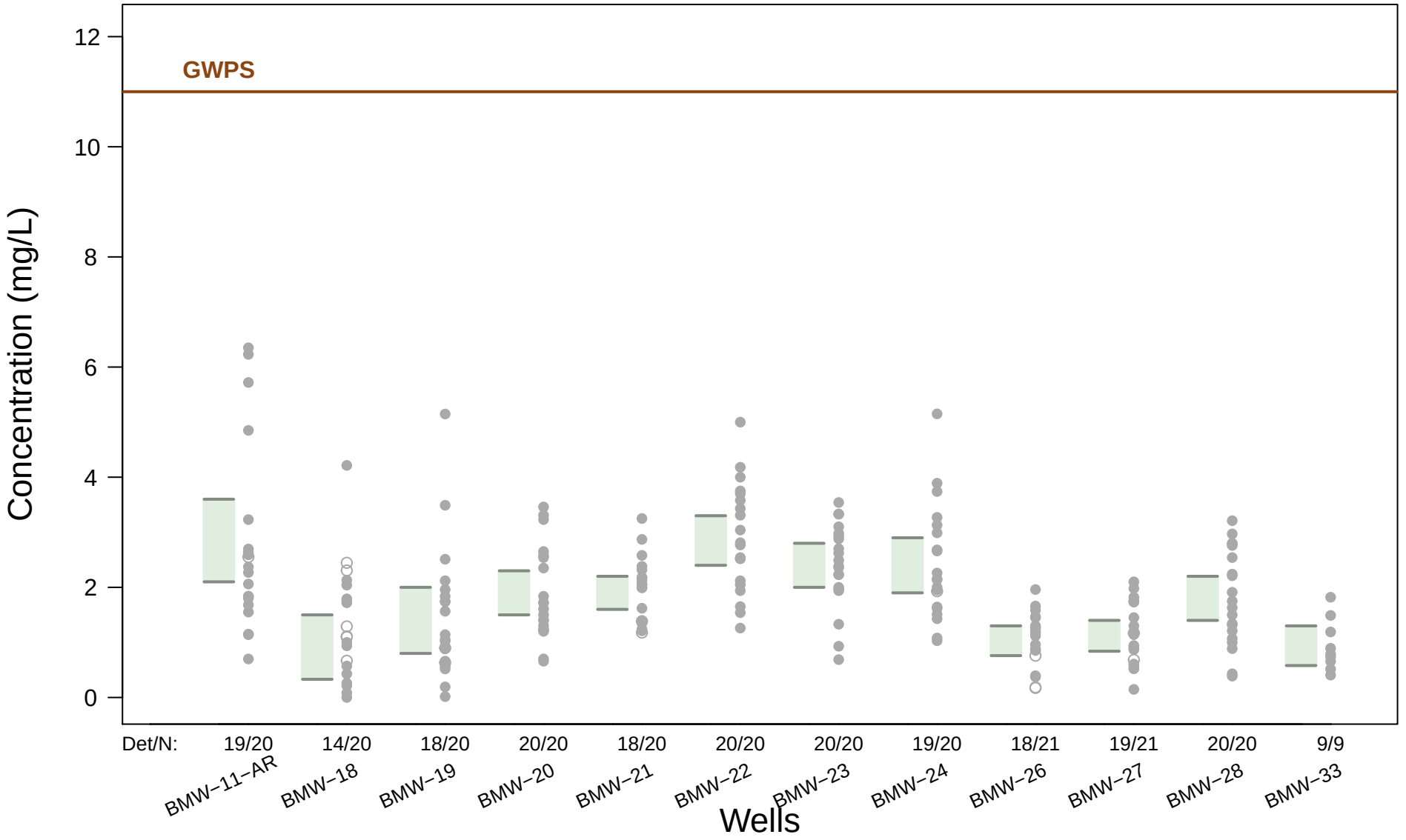
Molybdenum – 95% Confidence Intervals



Selenium − 95% Confidence Intervals

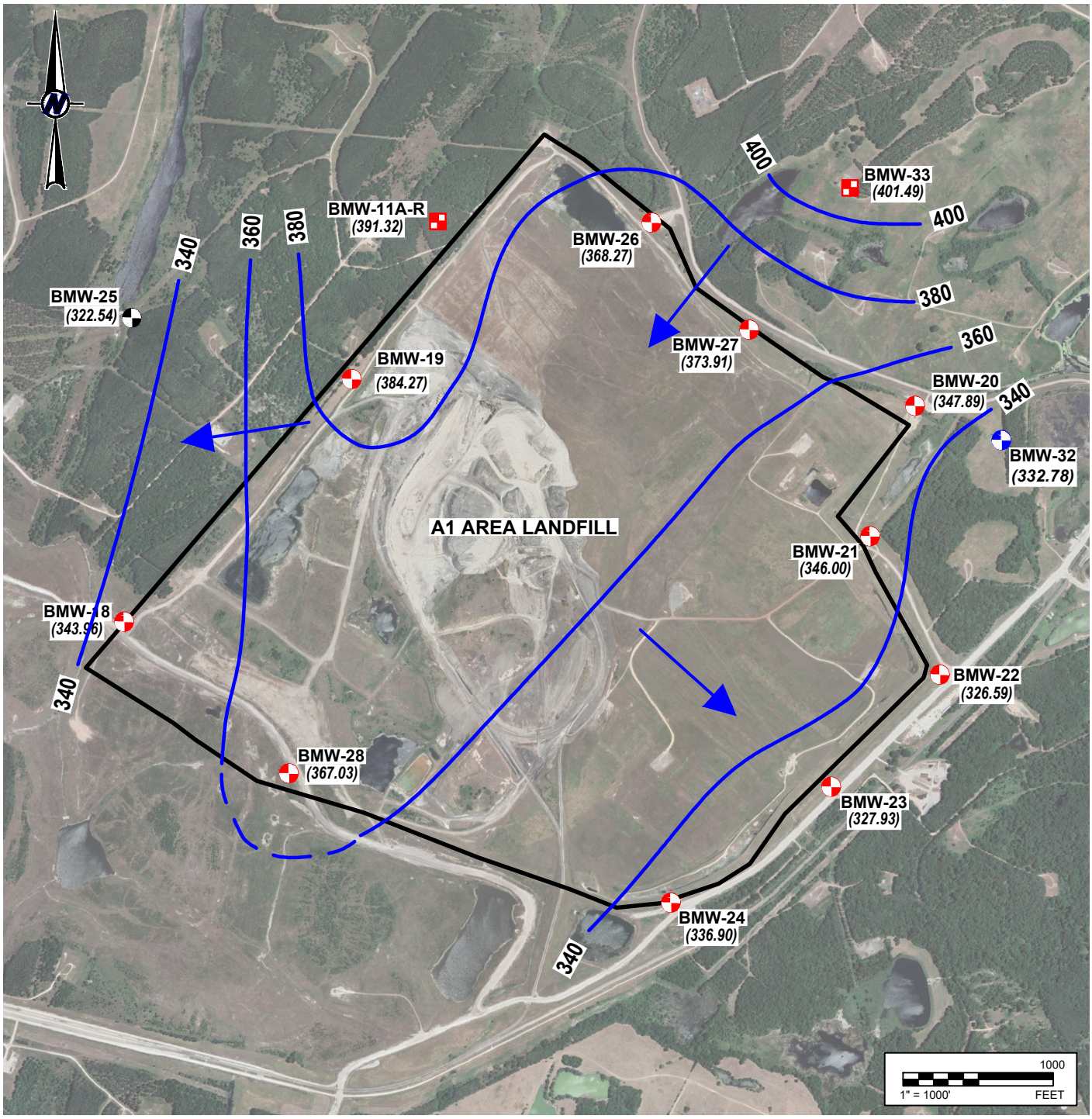


Radium−226/228 combined − 95% Confidence Intervals



APPENDIX C

GROUNDWATER POTENTIOMETRIC SURFACE MAPS



LEGEND

- DOWNGRADIENT CCR MONITORING WELL
- UPGRADIENT CCR MONITORING WELL
- ACM DELINEATION MONITORING WELL
- NON-CCR MONITORING WELL
- (358.02) GROUNDWATER POTENTIOMETRIC SURFACE (FT MSL)
- 340 GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR (C.I. = 20 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

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

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATE JANUARY 2021

LUMINANT

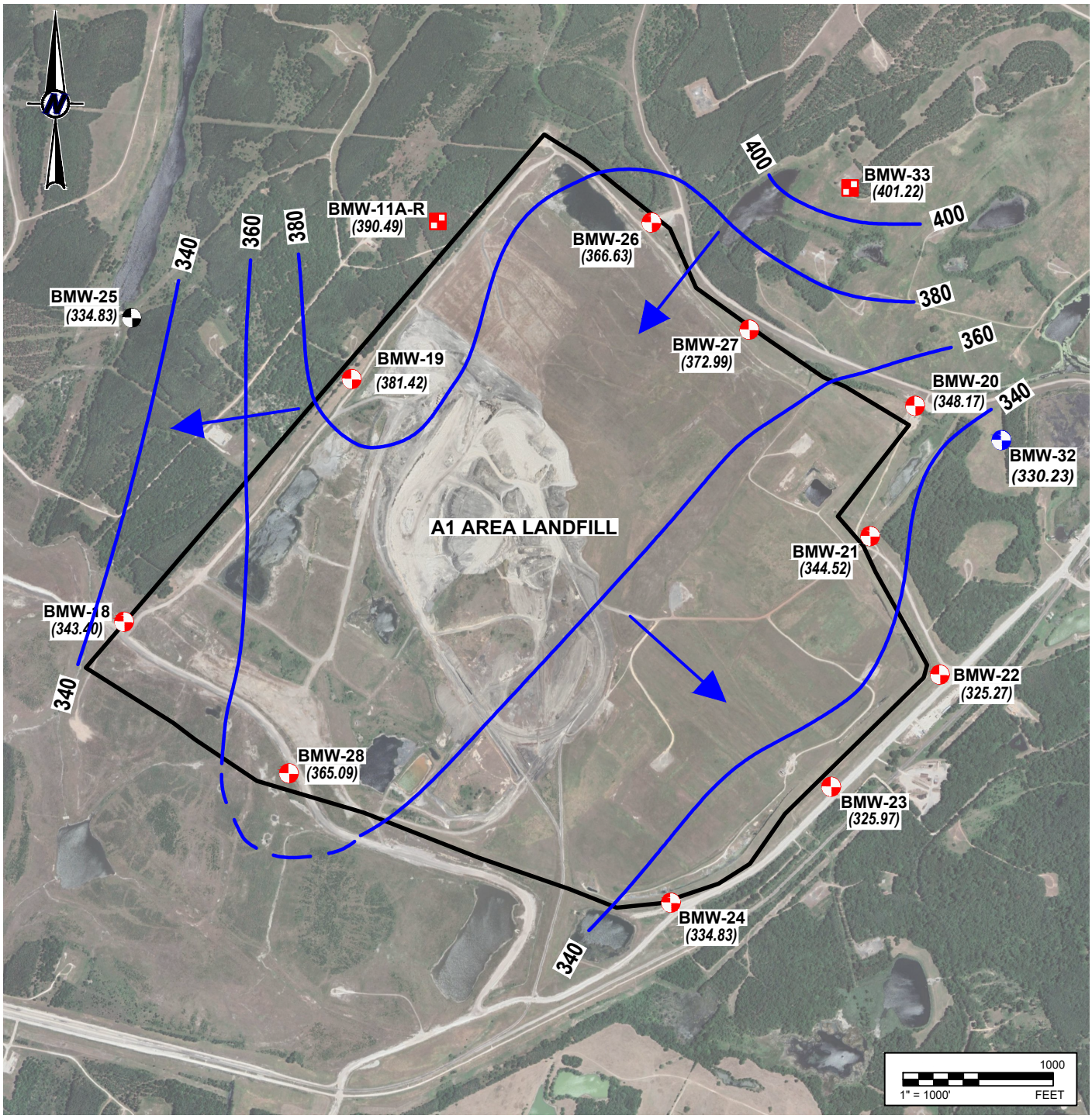
MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

A1 AREA LANDFILL
POTENTIOMETRIC SURFACE MAP
MAY 2023

PROJECT: 23643.03	BY: SLB	DATE: 12/19/2023	CHECKED: WV

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

C:\BBA Engineering Dropbox\Jobs\23643 - Luminant Env Support\5 Technical Work\CCR GW Monitoring\23643-04 A-1 Area Landfill\Pot Maps



LEGEND

- DOWNGRADIENT CCR MONITORING WELL
- UPGRADIENT CCR MONITORING WELL
- CCR MONITORING WELL
- ACM DELINEATION MONITORING WELL
- (358.02) GROUNDWATER POTENTIOMETRIC SURFACE (FT MSL)
- 340 GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR (C.I. = 20 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

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

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATE JANUARY 2021

LUMINANT

MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

A1 AREA LANDFILL
POTENTIOMETRIC SURFACE MAP
AUGUST 2023

PROJECT: 23643.03	BY: SLB	DATE: 12/19/2023	CHECKED: WV

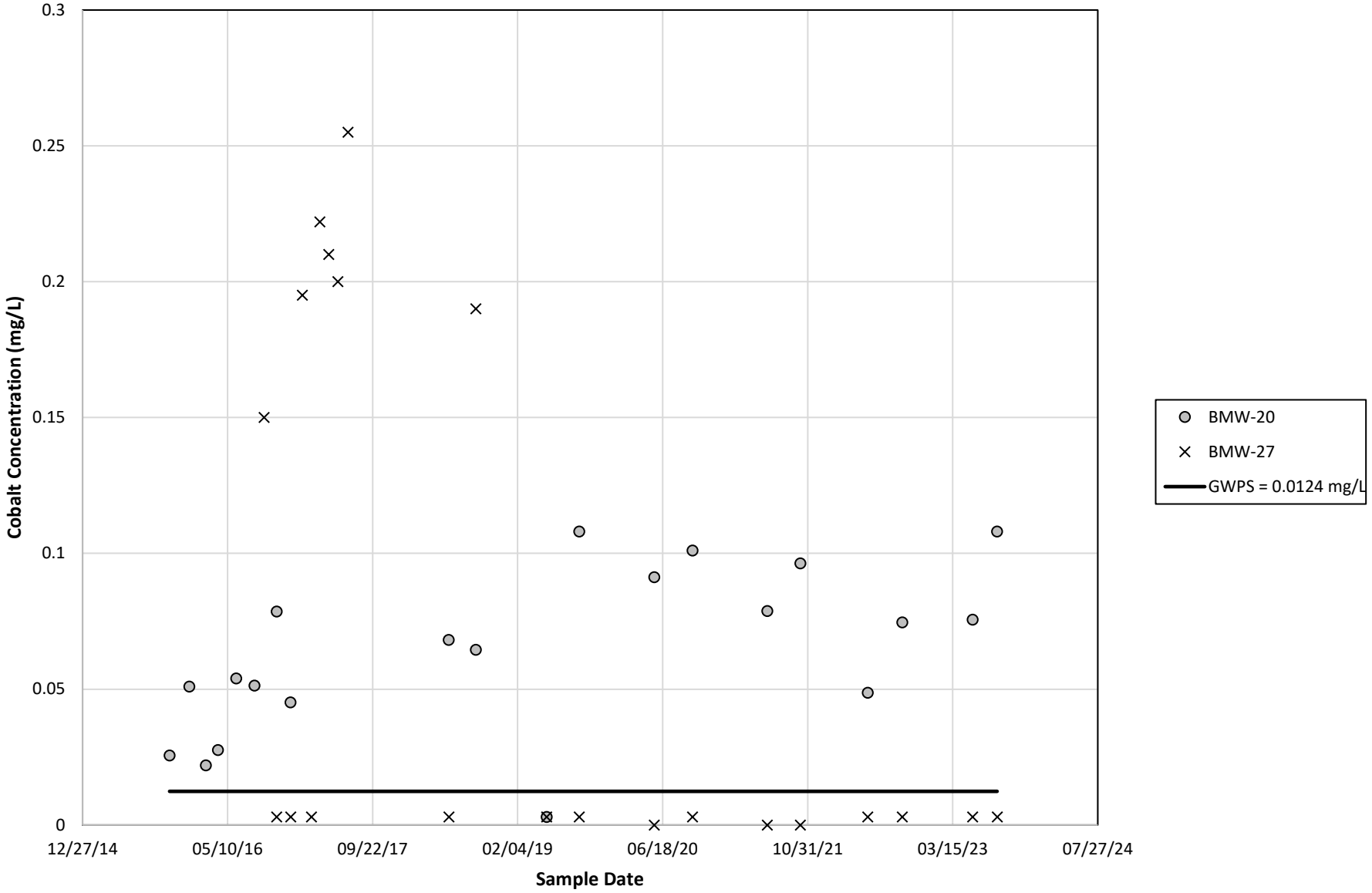
Bullock, Bennett & Associates, LLC
Engineering and Geoscience
Texas Registrations: Engineering F-8542, Geoscience 50127

C:\BBA Engineering Dropbox\Jobs\23643 - Luminant Env Support\5 Technical Work\CCR GW Monitoring\23643-04 A-1 Area Landfill\Pot Maps

APPENDIX D

COBALT TIME SERIES PLOTS

COBALT TIME SERIES: MONITORING WELLS BMW-20 AND BMW-27*



Notes:

*Graph includes data for monitoring wells and constituents for which statistically significant levels (SSLs) over the groundwater protection standard (GWPS) have been observed.