2021 Annual Groundwater Monitoring and Corrective Action Report - Revision 1

Martin Lake Steam Electric Station Ash Pond Area - Rusk County, Texas

Prepared for:

Luminant Generation Company LLC

Prepared by:

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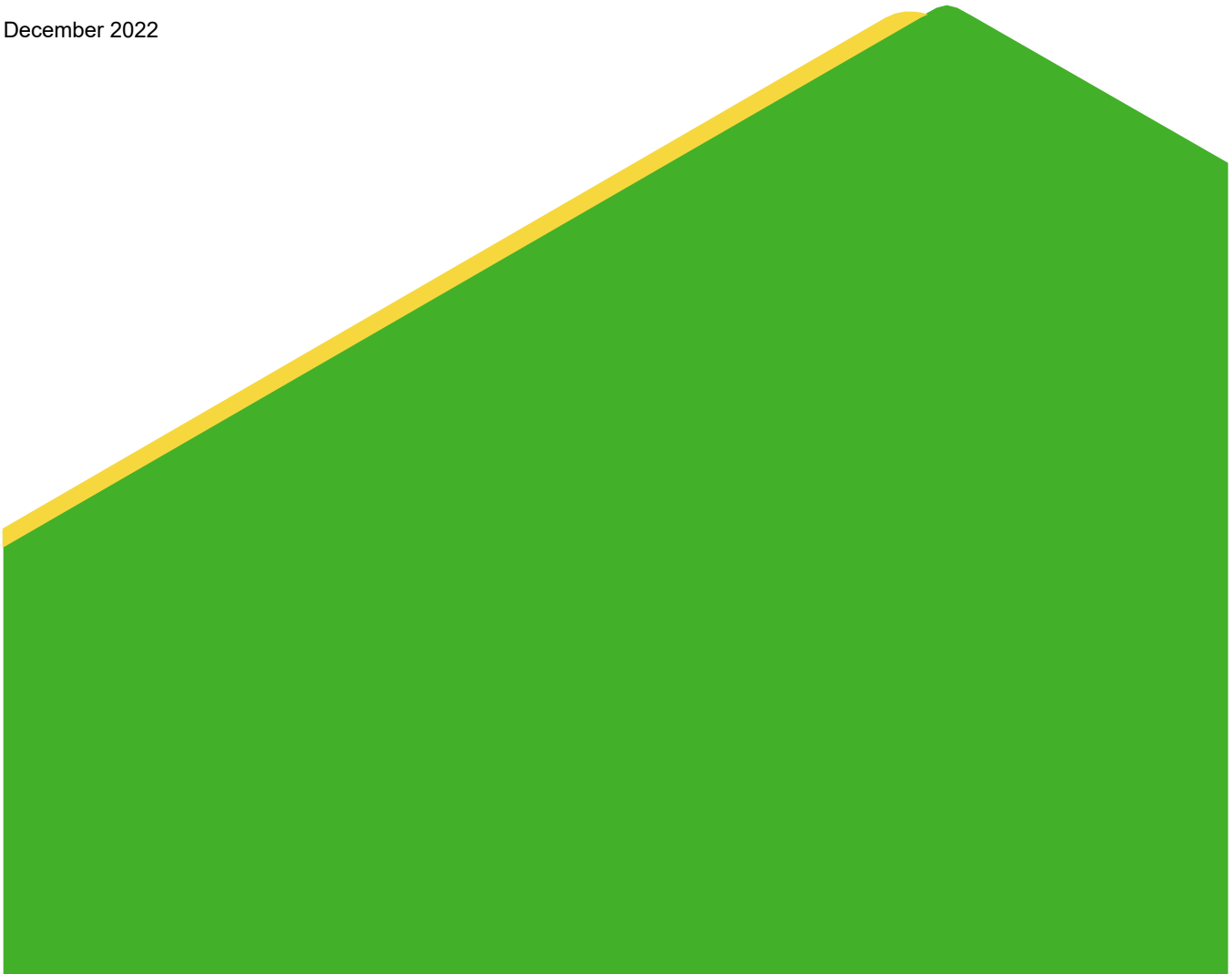
December 2022



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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

DOCUMENT REVISION RECORD

Issue No.	Date	Details of Revisions
Revision 0	January 31, 2022	Original Document
Revision 1	December 2022	Added laboratory analytical reports, documentation on statistical evaluation of Appendix IV groundwater data, groundwater potentiometric surface maps, and professional seals to figures where applicable

EXECUTIVE SUMMARY

Golder Associates USA Inc. (Golder), Member of WSP, has prepared this report on behalf of Luminant Generation Company LLC (Luminant) to satisfy the 2021 annual groundwater monitoring and corrective action reporting requirements of 40 C.F.R. Part 257 and 30 T.A.C. Chapter 352 for the Ash Pond Area (the "CCR units") at the Martin Lake Steam Electric Station (MLSES) in Rusk County, Texas. The CCR units and CCR monitoring well network are shown on Figure 1.

At the beginning and end of the 2021 reporting period, the CCR units were 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 beryllium, cobalt, and lithium in the Ash Pond Area. An Assessment of Corrective Measures (ACM) was initiated on April 8, 2019 and 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 2022) was completed in January 2022 in accordance with the requirements of §257.97. Monitored natural attenuation (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.

During 2021, SSLs above GWPSs were observed in the Ash Pond Area for beryllium in well H-31 and cobalt in wells H-28, H-31, and H-32.

1.0 INTRODUCTION

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

2.0 MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

Golder collected the initial Detection Monitoring Program groundwater samples from the Ash Pond Area 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 2022a) 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 Dates	Parameters	SSIs	Assessment Monitoring Program Established
September 21, 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 Ash Pond Area CCR units in 2018 in accordance with §257.94(e)(2).

Golder collected the initial Assessment Monitoring Program groundwater samples in June 2018. Subsequent Assessment Monitoring Program sampling events have been conducted on a semi-annual basis, as required by the CCR Rule. All CCR groundwater monitoring wells were sampled for Appendix III and Appendix IV constituents during the semi-annual sampling events.

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.

Concentrations of Appendix IV constituents at statistically significant levels (SSLs) above GWPSs were identified in January 2019 for beryllium, cobalt, and lithium. 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 (i.e., beryllium, cobalt, and lithium), pursuant to §257.96.

Additional semi-annual Assessment Monitoring events were conducted in 2019 through 2021. Statistical analysis of the sample data was performed in accordance with the Statistical Analysis Plan (Golder 2022a) and USEPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities-Unified Guidance (USEPA 2009). The statistical analysis included an evaluation of statistical confidence intervals based on Appendix IV sample data collected from downgradient monitoring wells. SSLs are indicated if the 95% lower confidence limit of a particular parameter's data population exceeds the GWPS. SSLs above GWPSs were identified for beryllium and cobalt during each of the semi-annual groundwater assessments in 2019 through 2021. Notification of the beryllium and cobalt SSLs have been made after SSLs are identified in accordance with §257.107(d). SSLs for lithium have not been observed since 2018. Graphical representations of the statistical analysis performed on the 2021 data are provided in Attachment 2.

The Assessment Monitoring Program sampling dates and parameters are summarized in the following table:

Assessment Monitoring Program Summary

Sampling Dates	Analytical Data Receipt Date	Parameters Collected	Constituents with SSL(s)	SSL Determination Date	Corrective Measures Assessment Initiated	Corrective Measures Assessment Completed
June 12-13, 2018	July 27, 2018	Appendix III Appendix IV	NA	NA	NA	NA
September 7, 2018	October 8, 2018	Appendix III Appendix IV	Be, Co, Li	January 7, 2019	April 8, 2019	September 5, 2019
May 14, 2019	June 14, 2019	Appendix III Appendix IV	Be and Co	September 5, 2019	NA	NA
September 10, 2019	October 11, 2019	Appendix III Appendix IV	Be and Co	January 8, 2020	NA	NA
May 13, 2020	June 12, 2020	Appendix III Appendix IV	Be and Co	July 22, 2020	NA	NA
October 6, 2020	November 6, 2020	Appendix III Appendix IV	Be and Co	December 7, 2020	NA	NA
June 4, 2021	July 8, 2021	Appendix III Appendix IV	Be and Co	July 14, 2021	NA	NA
October 4, 2021	November 10, 2021	Appendix III Appendix IV	Be and Co	January 10, 2022	NA	NA

Notes:

NA: Not Applicable

3.0 KEY ACTIONS COMPLETED IN 2021

Assessment Monitoring Program groundwater monitoring events were completed in June and October 2021. 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). No CCR wells were installed or decommissioned in 2021.

Water elevations measured in the CCR wells during the 2021 semi-annual groundwater sampling events were used to develop groundwater potentiometric surface maps, which are presented in Attachment 3. The inferred direction of groundwater flow was generally to the east during both semi-annual groundwater sampling events in 2021.

As noted in Section 2.0, an ACM for the Appendix IV parameters identified at SSLs above GWPSs in 2018 (beryllium, cobalt, and lithium) was completed in September 2019. The ACM evaluated potential corrective measures alternatives, including retrofitting the Ash Ponds liner systems for purposes of source control. A public meeting was held on November 13, 2019, pursuant to §257.96(e), to discuss the results of the ACM. In accordance with §257.102(k)(5), a notification of intent to retrofit the Ash Pond Area liner systems was posted on June 29, 2020. Design of the Ash Pond Area liner system retrofit has been completed and construction is underway. The EAP and WAP were retrofitted in 2020 and 2021, respectively, with a new composite liner system meeting the requirements of § 257.70(b). The liner system in the NSP will be similarly retrofitted in 2022.

A Remedy Selection Report (Golder 2022b) 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. 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 beryllium, cobalt, and lithium is occurring at the Site. Concentrations of these constituents in groundwater are stable 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 Ash Pond Area.

4.0 PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

No problems were encountered with the CCR groundwater monitoring program in 2021.

5.0 KEY ACTIVITIES PLANNED FOR 2022

The following key activities are planned for 2022:

- Luminant submitted a registration application to TCEQ under the Texas CCR Rule for the Martin Lake Ash Pond Area on January 24, 2022.
- Continue the Assessment Monitoring Program in accordance with applicable provisions of 40 C.F.R. §257.95 and 30 TAC §352.951.
- An assessment of MNA effectiveness in addressing SSLs will be documented in future Annual Groundwater Monitoring and Corrective Action Reports.
- The retrofit of the NSP is scheduled for 2022. This will complete the retrofit of the Ash Pond area.

6.0 REFERENCES

Golder, 2019. CCR Assessment of Corrective Measures, Martin Lake Steam Electric Station – Ash Pond Area, Rusk County, Texas. September.

Golder, 2022a. Statistical Analysis Plan – Revision No. 1, Martin Lake Steam Electric Station – Ash Pond Area, Rusk County, Texas.

Golder, 2022b. Remedy Selection Report, Martin Lake Steam Electric Station – Ash Pond Area, Rusk County, Texas. January 18.

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.

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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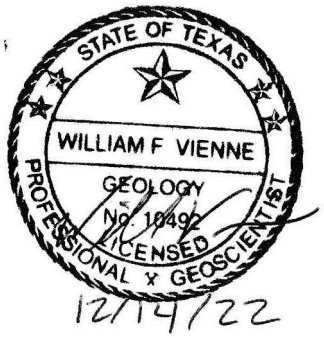

FIGURES

LEGEND

- DOWNGRADIENT CCR MONITORING WELL
- UPGRADIENT CCR MONITORING WELL

STATE OF TEXAS
WILLIAM F VIENNE
GEOLOGY
No. 10492
LICENSED
PROFESSIONAL GEOSCIENTIST
11/16/2022

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 4/6/17.

CLIENT
LUMINANT

PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

TITLE
DETAILED SITE PLAN - ASH POND AREA

CONSULTANT
GOLDER

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

PROJECT NO.	REV.	FIGURE
19122262	0	1

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TABLES

Table 1
Appendix III Background Statistical Values
MLSES Ash Pond Area

Parameter	Statistical Background Value
Boron (mg/L)	0.602
Calcium (mg/L)	57.2
Chloride (mg/L)	153
Fluoride (mg/L)	0.4
field pH (s.u.)	4.63 7.6
Sulfate (mg/L)	365
Total Dissolved Solids (mg/L)	1,110

Table 2
Appendix IV Analytical Results
MLSES Ash Pond Area

Parameter	Groundwater Protection Standard
Antimony (mg/L)	0.006
Arsenic (mg/L)	0.01
Barium (mg/L)	2
Beryllium (mg/L)	0.004
Cadmium (mg/L)	0.005
Chromium (mg/L)	0.1
Cobalt (mg/L)	0.0564
Fluoride (mg/L)	4
Lead (mg/L)	0.015
Lithium (mg/L)	0.177
Mercury (mg/L)	0.002
Molybdenum (mg/L)	0.1
Selenium (mg/L)	0.05
Thallium (mg/L)	0.002
Radium 226+228 (pCi/L)	5

TABLE 3
APPENDIX III ANALYTICAL RESULTS
MLSES ASH POND AREA

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								
H-26	10/21/15	0.602	24.2	69.2	<0.1	5.82	154	466
	12/14/15	0.0679	9.88	40.3	<0.1	5.91	76	280
	02/23/16	0.206	11.7	17.1	0.151 J	6.84	54	219
	04/05/16	0.289	11.8	27.8	0.199 J	5.89	57	213
	06/07/16	0.441	11.7	48.6	<0.1	5.98	72	278
	08/09/16	0.569	14	70	<0.1	4.63	91	354
	10/18/16	0.439	13.6	49.1	0.127 J	6.63	70	263
	12/11/16	0.537	11.9	57.6	0.161 J	6.73	69	236
	09/21/17	0.579	13.1	67.8	<0.100	6.88	70	288
	06/13/18	0.512	17	66.1	<0.100	6.74	67	313
	09/07/18	0.606	11.3	65.1	<0.100	6.85	61	265
	05/14/19	0.0507	85.2	61.7	0.140 J	6.83	88	453
	09/10/19	0.505	12	72.1	<0.100	6.75	69	265
	05/13/20	0.644	30.4	71	<0.100	6.89	58	280
	10/06/20	0.473	10.9	68.2	<0.100	6.53	52	252
	06/10/21	0.502	13.7	66.1	0.245 J	6.79	61	278
	10/04/21	0.409	12.1	72.8	<0.100	6.57	56	247
	10/04/21 DUP	0.412	12.6	75.6	<0.1	6.57	57	253
H-27	10/21/15	0.58	55.3	117	<0.1	6.24	328	800
	12/14/15	0.474	57.2	112	0.156 J	6.32	317	857
	02/23/16	0.523	53.8	113	0.101 J	5.82	344	811
	04/05/16	0.48	52.7	115	0.124 J	6.04	360	819
	06/07/16	0.319	10.6	40.5	<0.1	6.32	55	207
	08/09/16	0.462	54.3	124	<0.1	4.35	365	854
	10/18/16	0.477	56.5	114	0.144 J	6.87	336	868
	12/11/16	0.427	52.8	119	0.161 J	6.78	355	805
	09/21/17	0.48	61.1	122	<0.100	6.87	378	852
	06/13/18	0.404	57	110	0.208 J	6.52	372	850
	09/07/18	0.347	6.96	58.3	0.14 J	6.72	188	716
	05/14/19	0.35	61.8	132	0.159 J	6.78	406	897
	09/10/19	0.368	57.7	117	<0.1	6.77	365	841
	05/13/20	0.583	53.1	93	<0.100	6.92	274	786
	10/06/20	0.465	11.0	68.0	<0.100	6.55	52	253
	06/10/21	0.537	18	49.3	<0.100	6.74	46	219
	10/04/21	0.0511	39.5	84.7	<0.100	6.72	97	415
H-33	10/20/15	0.0462	17.9	60.5	<0.1	5.78	120	415
	12/14/15	0.0596	10.7	59.6	0.136 J	5.73	110	403
	02/23/16	0.0656	11.2	56.1	0.125 J	6.92	111	625
	04/05/16	0.0659	14.9	58.3	0.14 J	6.31	113	589
	06/07/16	0.0571	20.1	67.5	<0.1	6.04	121	515
	08/09/16	0.0431	11.2	64.9	<0.1	5.13	120	442
	10/18/16	0.0539	11.1	59.2	<0.1	6.86	114	398
	12/11/16	0.0594	12.1	63.2	0.132 J	6.85	112	395
	09/21/17	0.0452	13.7	67.9	<0.100	7.02	107	412
	06/13/18	0.114	24	65.5	0.105 J	6.72	94	447
	09/07/18	0.112	22.4	66.2	0.135 J	6.73	97	489
	05/14/19	0.0592	68.6	80.4	0.166 J	6.81	104	559
	09/10/19	0.0631	44.1	86.1	<0.1	6.75	119	495
	05/13/20	0.103	24	84.3	<0.100	6.63	113	439
	10/06/20	0.0763	19.7	83.0	<0.100	6.88	108	417
	06/10/21	0.072	81.6	86.8	0.272 J	6.64	112	569
	06/04/21 DUP	0.0605	81.3	85.0	0.265 J	6.64	113	563
	10/04/21	0.0557	49.1	99.8	<0.100	6.43	117	499

TABLE 3
APPENDIX III ANALYTICAL RESULTS
MLSES ASH POND AREA

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								
H-28	10/21/15	9.25	113	109	<0.1	5.92	1,010	1,830
	12/14/15	1.02	17.3	15.5	<0.1	6.02	113	299
	02/23/16	10.2	123	97.4	<0.1	4.45	1,070	1,910
	04/05/16	10.3	120	94.4	<0.1	5.97	1,080	1,890
	06/07/16	3.66	45.4	62.2	<0.1	6.16	465	817
	08/09/16	9.29	116	98.4	<0.1	3.83	1,080	2,100
	10/18/16	4.96	67.3	91.4	0.165 J	6.82	643	1,460
	12/11/16	3.94	45.7	56.7	0.114 J	6.64	445	766
	09/21/17	6.06	74.1	88.5	<0.100	6.77	702	1,220
	06/13/18	6.97	92.1	96.5	0.126 J	6.59	826	1,490
	09/07/18	4.54	60.5	93.4	<0.100	6.84	679	1,330
	05/14/19	8.51	99.7	98.9	<0.100	6.32	935	1,680
	09/10/19	5.69	68.9	95.9	<0.100	6.89	716	1,390
	05/13/20	7.03	88.9	86.7	<0.100	6.58	676	1,220
	10/06/20	5.14	70.8	88.7	<0.100	6.72	638	1,220
	06/10/21	7.07	88.7	90.9	<0.100	6.57	817	1,480
	10/04/21	5.24	71.3	93.7	<0.100	6.57	681	1,220
H-29	10/21/15	0.0788	16	65.2	<0.1	5.78	171	441
	12/14/15	0.29	165	8.68	0.56	5.92	178	990
	02/23/16	0.268	59.4	14.6	0.239 J	11.20	156	334
	04/05/16	0.361	80.8	14.2	0.363 J	6.04	181	489
	06/07/16	0.311	29.8	19.3	0.27 J	6.13	166	308
	08/09/16	0.172	64.6	53.1	<0.1	5.97	124	575
	10/18/16	0.953	150	4.33	1.15	6.63	346	607
	12/11/16	1.02	130	4.65	1.4	6.59	365	651
	09/21/17	1.4	147	42	0.304	6.78	170	782
	06/13/18	5.89	81.1	84.1	0.123 J	6.75	713	1,240
	09/07/18	3.21	46.7	78.6	<0.100	6.77	544	1,030
	05/14/19	8.12	95.9	81.8	0.104 J	6.52	780	1,400
	09/10/19	8.05	97.1	90.5	<0.1	6.62	930	1,600
	05/13/20	6.98	84.9	70.7	<0.100	6.72	769	1,340
	10/06/20	11.0	156	167	1.76	6.62	1,400	2,440
	06/10/21	7.28	89.7	80.2	<0.100	6.78	482	987
	10/04/21	17.9	241	201	0.223 J	6.40	2,330	3,690
H-31	10/20/15	17.2	194	179	0.889	6.57	1,930	3,270
	12/14/15	20.4	236	147	0.692	6.60	1,740	2,250
	02/23/16	22.3	252	199	0.921	5.33	2,510	4,180
	04/05/16	21.1	250	186	1.36	6.46	2,450	3,920
	06/07/16	22.2	244	241	0.783	6.42	2,720	4,570
	08/09/16	24.1	251	217	0.216 J	4.38	2,730	4,440
	10/18/16	20	236	187	0.298 J	6.82	1,960	3,690
	12/11/16	22.3	246	201	0.892	6.82	2,640	4,170
	09/21/17	23.8	260	227	0.308 J	6.87	2,870	4,570
	06/12/18	16.6	246	205	0.646	6.61	2,390	4,100
	09/07/18	0.838	12.2	17.7	<0.275	6.77	136	457
	05/14/19	20	234	225	0.96	6.42	2,470	4,230
	09/10/19	19.7	234	232	2.1	6.78	2,640	4,220
	05/13/20	22.9	235	223	0.231 J	6.81	2,340	4,150
	10/06/20	9.77	148	110	0.494	6.78	1,150	2,000
	06/10/21	18.3	224	230	0.806	6.72	2,760	4,270
	10/04/21	16.7	244	208	<0.100	6.52	2,110	3,400

TABLE 3
APPENDIX III ANALYTICAL RESULTS
MLSES ASH POND AREA

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)
H-32	10/20/15	1.22	42.2	120	0.374 J	6.18	309	797
	12/14/15	1.39	37.4	122	0.619	6.29	325	860
	02/23/16	1.48	45.3	123	0.701	4.82	323	842
	04/05/16	1.65	44.3	125	1.05	6.17	337	831
	06/07/16	1.82	45.6	137	0.858	6.05	350	829
	08/09/16	1.69	45.4	132	0.68	3.64	342	839
	10/18/16	1.72	50.5	121	0.904	6.75	319	888
	12/11/16	2.5 J	44.3	120	1.00	6.83	341	759
	09/21/17	2.07 J	52.8	129	0.519	6.82	337	807
	06/12/18	1.82 J	52.6	126	1.02	6.75	339	793
	09/07/18	0.292 J	10.9	17.8	0.551	6.79	54	283
	05/14/19	2.08	45.2	135	1.15	6.02	320	910
	09/10/19	1.87	45.9	127	0.923	6.68	365	810
	05/13/20	2.15	43.3	124	0.641	6.93	343	791
	10/06/20	1.79	49.0	116	0.814	6.59	336	777
	06/10/21	2.08	41.2	107	0.721 J	6.77	335	764
	10/04/21	1.93	49.3	118	0.656	6.56	359	765

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

TABLE 4
APPENDIX IV GROUNDWATER ANALYTICAL DATA
MARTIN LAKE STEAM ELECTRIC STATION
ASH POND AREA

Sample Location	Date Sampled	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	F (mg/L)	Pb (mg/L)	Li (mg/L)	Hg (mg/L)	Mo (mg/L)	Se (mg/L)	Tl (mg/L)	Ra 226 (pCi/L)	Ra 228 (pCi/L)	Ra 226/228 Comb.^ (pCi/L)
Upgradient Wells																		
H-26	10/21/15	<0.0008	0.00364 J	0.0785	0.000349 J	<0.0003	<0.002	0.0385	<0.1	<0.0003	0.0139	<0.00008	<0.002	<0.002	<0.0005	0.919	<1.64	2.56
	12/14/15	<0.0008	<0.002	0.0401	0.000458 J	<0.0003	<0.002	0.0244	<0.1	<0.0003	0.0769	<0.00008	<0.002	<0.002	<0.0005	0.619	<1.95	2.57
	02/23/16	<0.0008	<0.002	0.0423	<0.0003	<0.0003	0.0077	0.00813	0.151 J	0.000315 J	0.0124	<0.00008	0.00248 J	0.0022 J	<0.0005	0.37	<2.06	2.43
	04/05/16	<0.0008	<0.002	0.0408	<0.0003	<0.0003	0.00798	0.0125	0.199 J	<0.0003	0.0121	<0.00008	<0.002	<0.002	<0.0005	<0.243	<1.06	<1.303
	06/07/16	<0.0008	<0.002	0.0467	0.000721 J	<0.0003	<0.002	0.0217	<0.1	<0.0003	0.0132	<0.00008	<0.002	<0.002	<0.0005	0.245	1.67	1.92
	08/09/16	<0.0008	0.0029 J	0.0431	0.00136	<0.0003	<0.002	0.0352	<0.1	<0.0003	0.0155	<0.00008	<0.002	<0.002	<0.0005	<0.2	<0.932	<1.132
	10/18/16	<0.0008	<0.002	0.0497	0.000709 J	<0.0003	<0.002	0.0214	0.127 J	<0.0003	0.0136	<0.00008	<0.002	0.00265 J	<0.0005	0.243	<0.622	0.87
	12/11/16	<0.0008	<0.002	0.0468	0.00146	<0.0003	0.00311 J	0.0275	0.161 J	0.000358 J	0.014	<0.00008	<0.002	<0.002	<0.0005	0.248	1.82	2.07
	06/13/18	<0.0008	<0.002	0.0659	0.0016	<0.0003	0.00213 J	0.0261	<0.100	<0.0003	0.032	<0.00008	<0.002	<0.002	<0.0005	<0.297	3.72	4.017
	09/07/18	NA	<0.002	0.0470	0.00155	<0.0003	0.00319 J	0.0247	<0.100	<0.0003	0.0489	NA	NA	<0.002	NA	<0.473	<0.665	<1.138
	05/14/19	<0.0008	0.0041 J	0.1900	0.00147	<0.0003	0.0406	0.0795	0.140 J	0.000972 J	0.147	<0.00008	<0.002	0.00222 J	<0.0005	1.43	0.598	2.028
	09/10/19	NA	<0.002	0.046	0.00165	<0.0003	<0.002	0.0237	<0.1	0.000313 J	0.0141	NA	NA	0.0109	NA	0.115	2.74	2.85
	05/13/20	<0.0008	<0.002	0.129	0.00166	<0.0003	0.00314 J	0.0241	<0.100	0.000798	0.0218 J	<0.00008	<0.002	0.0147	<0.0005	0.295	0.585	0.88
	10/06/20	<0.000800	<0.00200	0.0528	0.00168	<0.000300	<0.00200	0.0231	<0.100	<0.000300	0.0152	<0.0000800	<0.00200	0.00909	<0.000500	0.898	0.293	1.19
	06/04/21	<0.000800	<0.00200	0.0629	0.00153	<0.000300	<0.00200	0.024	0.245 J	0.000621 J	0.0148	<0.000400	<0.00200	0.0201	<0.000500	0.263	1.13	1.39
	10/04/21	<0.000800	<0.00200	0.0491	0.00147	<0.000300	<0.00200	0.0227	<0.100	0.000408 J	0.0119	<0.0000800	<0.00200	0.00669	<0.000500	0.332	2.17	2.5
	10/04/21 DUP	<0.000800	<0.00200	0.0508	0.0017	<0.000300	<0.00200	0.0232	<0.100	0.000398 J	0.0131	<0.0000800	<0.00200	0.00727	<0.000500	0.140 J	1.050	1.19
H-27	10/21/15	<0.0008	<0.002	0.0378	<0.0003	<0.0003	<0.002	0.00432 J	<0.1	<0.0003	0.0607	<0.00008	<0.002	<0.002	<0.0005	<0.553	<1.67	<2.223
	12/14/15	<0.0008	0.0021 J	0.039	<0.0003	<0.0003	<0.002	0.00326 J	0.156 J	0.000339 J	0.0624	<0.00008	<0.002	<0.002	<0.0005	0.468	<1.68	2.15
	02/23/16	<0.0008	<0.002	0.0266	<0.0003	<0.0003	<0.002	<0.003	0.101 J	<0.0003	0.0601	<0.00008	<0.002	<0.002	<0.0005	0.921	<1.62	2.54
	04/05/16	<0.0008	<0.002	0.0245	<0.0003	<0.0003	<0.002	<0.003	0.124 J	<0.0003	0.0573	<0.00008	<0.002	<0.002	<0.0005	0.269	<2.05	2.32
	06/07/16	<0.0008	<0.002	0.0342	0.000609 J	<0.0003	<0.002	0.016	<0.1	<0.0003	0.0107	<0.00008	<0.002	<0.002	<0.0005	0.269	<0.658	0.927
	08/09/16	<0.0008	<0.002	0.0241	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0616	<0.00008	<0.002	<0.002	<0.0005	0.408	<0.632	1.04
	10/18/16	<0.0008	<0.002	0.0248	<0.0003	<0.0003	<0.002	<0.003	0.144J	<0.0003	0.0576	<0.00008	<0.002	<0.002	<0.0005	<0.178	1.07	1.25
	12/11/16	<0.0008	<0.002	0.0236	<0.0003	<0.0003	<0.002	<0.003	0.161 J	<0.0003	0.0606	<0.00008	<0.002	<0.002	<0.0005	0.143	1.54	1.68
	06/13/18	<0.0008	<0.002	0.0237	<0.0003	<0.0003	0.00964	<0.003	0.208 J	<0.0003	0.108	<0.00008	<0.002	<0.002	<0.0005	0.267	<1.4	1.667
	09/07/18	NA	<0.002	0.0196	<0.0003	<0.0003	0.0453	<0.003	0.140 J	<0.0003	0.306	NA	NA	0.00773	NA	<0.285	1.43	1.715
	05/14/19	<0.0008	<0.002	0.0208	<0.0003	<0.0003	<0.002	<0.003	0.159 J	<0.0003	0.0678	<0.00008	<0.002	<0.002	<0.0005	1.10	0.928	2.028
	09/10/19	NA	<0.002	0.384	<0.0003	<0.0003	0.00668	<0.003	<0.1	<0.0003	0.103	NA	NA	0.0027 J	NA	0.185	3.57	3.76
	05/13/20	<0.0008	<0.002	0.0668	<0.0003	<0.0003	0.0133	<0.003	<0.100	<0.0003	0.170	<0.00008	<0.002	0.00671	<0.0005	0.166	<0.9	0.166
	10/06/20	<0.000800	<0.00200	0.0519	0.00167	<0.000300	<0.00200	0.0233	<0.100	0.000390 J	0.0152	<0.0000800	<0.00200	0.00961	<0.000500	0.409	0.789	1.2
	06/04/21	<0.000800	<0.00200	0.0771	0.00149	<0.000300	0.0363	0.0254	<0.100	<0.000300	0.0165	<0.0000800	<0.00200	0.00414 J	<0.000500	0.226	1.15	1.38
	10/04/21	<0.000800	<0.00200	0.115	0.000461 J	<0.000300	0.00265 J	0.0295	<0.100	<0.000300	0.105	<0.0000800	<0.00200	<0.00200	<0.000500	0.571	1.65	2.22
H-33	10/20/15	<0.0008	0.00208 J	0.0586	0.000351 J	<0.0003	<0.002	0.0274	<0.1	<0.0003	0.0814	<0.00008	<0.002	<0.002	<0.0005	1.76	1.64	3.40
	12/14/15	<0.0008	0.00205 J	0.0473	0.000382 J	<0.0003	<0.002	0.0293	0.136 J	<0.0003	0.0903	<0.00008	<0.002	<0.002	<0.0005	1.94	<1.79	3.73
	02/23/16	<0.0008	<0.002	0.0529	0.000311 J	<0.0003	0.0194	0.0163	0.125 J	<0.0003	0.182	<0.00008	<0.002	<0.002	<0.0005	0.906	<2.32	3.23
	04/05/16	<0.0008	<0.002	0.0576	0.000302 J	<0.0003	0.0171	0.016	0.14 J	<0.0003	0.16	<0.00008	<0.002	<0.002	<0.0005	0.328	1.08	1.41
	06/07/16	<0.0008	<0.002	0.0774	0.000604 J	<0.0003	0.0153	0.0196	<0.1	<0.0003	0.163	<0.00008	<0.002	<0.002	<0.0005	0.276	0.897	1.17
	08/09/16	<0.0008	<0.002	0.0424	0.000519 J	<0.0003	0.00291 J	0.0284	<0.1	<0.0003	0.102	<0.00008	<0.002	<0.002	<0.0005	<0.149	0.649	0.80
	10/18/16	<0.0008	0.00347 J	0.0464	0.000617 J	<0.0003	0.0309	0.0644	<0.1	0.000329 J	0.118	<0.00008	<0.002	<0.002	<0.0005	0.096	<0.517	0.61
	12/11/16	<0.0008	0.00218 J	0.0537	0.000865 J	<0.0003	0.0368	0.0408	0.132 J	0.000495 J	0.115	<0.00008	<0.002	<0.002	<0.0005	0.159	1.29	1.45
	06/13/18	<0.0008	0.00283 J	0.0741	0.0004 J	<0.0003	0.0182	0.0266	0.105 J	0.0009 J	0.183	<0.00008	<0.002	<0.002	<0.0005	0.795	<0.712	1.507
	09/07/18	NA	0.00239 J	0.0757	0.0003 J	<0.0003	0.0105	0.0288	0.135 J	<0.0003	0.160	NA	NA	<0.002	NA	0.334	<0.645	0.979
	05/14/19	<0.0008	0.00355 J	0.158	0.00114	<0.0003	0.0342	0.0648	0.166 J	0.000772 J	0.161	<0.00008	<0.002	<0.002	<0.0005	0.850	1.35	2.200
	09/10/19	NA	<0.002	0.111	0.000518 J	<0.0003	0.00637	0.0347	<0.100	<0.0003	0.142	NA	NA	<0.002	NA	0.6	2.97	3.57
	05/13/20	<0.0008	<0.002	0.0784	0.00053 J	<0.0003	0.00755	0.0312	<0.100	0.00191	0.173	<0.00008	<0.002	0.00243 J	<0.0005	0.395	1.9	2.29
	10/06/20	<0.000800	<0.00200	0.068	0.000721 J	<0.000300	0.00317 J	0.0331	<0.100	0.000358 J	0.128	<0.0000800	<0.00200	<0.00200	<0.000500	0.33	0.737	1.07
	06/04/21	<0.000800	<0.00200	0.213	0.000342 J	<0.000300	0.00464 J	0.0258	0.272 J	<0.000300	0.155	<0.0000800	<0.00200	<0.00200	<0.000500	0.329	0.32	1.41
	06/4/21 DUP	<0.000800	<0.00200	0.208	0.000319 J	<0.000300	0.00458 J	0.0248	0.265	<0.000300	0.153	<0.0000800	<0.00200	<0.00200	<0.000500	0.869	1.14	2.01
	10/04/21	<0.000800	<0.00200	0.129	0.000583 J	<0.000300	0.00337	0.0340	<0.100	0.000347 J	0.131	<0.0000800	<0.00200	<0.00200	<0.000500	0.422	1.21	1.63

TABLE 4
APPENDIX IV GROUNDWATER ANALYTICAL DATA
MARTIN LAKE STEAM ELECTRIC STATION
ASH POND AREA

Sample Location	Date Sampled	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	F (mg/L)	Pb (mg/L)	Li (mg/L)	Hg (mg/L)	Mo (mg/L)	Se (mg/L)	Tl (mg/L)	Ra 226 (pCi/L)	Ra 228 (pCi/L)	Ra 226/228 Comb.^ (pCi/L)
Downgradient Wells																		
H-28	10/21/15	<0.0008	0.00278 J	0.0396	0.00148	0.00121	<0.002	0.188	<0.1	0.000491 J	0.154	<0.00008	<0.002	0.00682	<0.0005	<0.558	<1.65	<2.208
	12/14/15	<0.0008	<0.002	0.0224	<0.0003	0.000572 J	<0.002	0.0225	<0.1	<0.0003	0.021	<0.00008	<0.002	<0.002	<0.0005	0.707	<1.18	1.89
	02/23/16	<0.0008	0.00225 J	0.0202	0.00133	0.00151	<0.002	0.201	<0.1	0.00053 J	0.159	<0.00008	<0.002	0.00222 J	<0.0005	<0.396	2.24	2.64
	04/05/16	<0.0008	<0.002	0.0173	0.0011	0.00252	<0.002	0.199	<0.1	0.00087 J	0.15	<0.00008	<0.002	0.00237 J	<0.0005	<0.231	1.76	1.99
	06/07/16	<0.0008	<0.002	0.0468	0.000934 J	0.000664 J	<0.002	0.0944	<0.1	<0.0003	0.0959	<0.00008	<0.002	<0.002	<0.0005	0.310	1.48	1.79
	08/09/16	<0.0008	<0.002	0.0155	0.00275	0.0016	<0.002	0.195	<0.1	0.000774 J	0.155	<0.00008	<0.002	0.00286 J	<0.0005	<0.451	1.41	1.86
	10/18/16	<0.0008	0.00284J	0.0174	0.00685	0.000744 J	<0.002	0.169	0.165J	0.00108	0.155	<0.00008	<0.002	0.00273 J	<0.0005	<0.228	0.645	0.87
	12/11/16	<0.0008	<0.002	0.0471	0.000698 J	0.000668 J	<0.002	0.0924	0.114 J	<0.0003	0.0869	<0.00008	<0.002	<0.002	<0.0005	<0.149	1.13	1.28
	06/13/18	<0.0008	<0.002	0.0186	0.00393	0.0038	<0.002	0.169	0.126 J	0.000448 J	0.18	<0.00008	<0.002	<0.002	<0.0005	0.327	<1.56	1.887
	09/07/18	NA	<0.002	0.0192	0.00704	0.00115	<0.002	0.162	<0.100	0.00118 J	0.203	NA	NA	0.00281 J	NA	<0.243	0.845	1.088
	05/14/19	<0.0008	<0.002	0.0141	0.00281	0.00212	<0.002	0.187	<0.100	0.000595 J	0.172	<0.00008	<0.002	0.00619	<0.0005	0.444	0.615	1.059
	09/10/19	NA	<0.002	0.145	0.0058	0.000951	<0.002	0.146	<0.1	0.00132	0.169	NA	NA	0.00461	NA	0.205	4.26	4.47
	05/13/20	<0.0008	<0.002	0.0149	0.00252	0.00126	<0.002	0.159	<0.100	0.00751 J	0.171	<0.00008	<0.002	0.0032 J	<0.0005	0.151	0.984	1.13
	10/06/20	<0.000800	<0.00200	0.0166	0.00563	0.000835 J	<0.00200	0.145	<0.100	0.00106	0.173	<0.0000800	<0.00200	0.00468 J	<0.000500	0.898	0.293	1.19
	06/04/21	<0.000800	<0.00200	0.0167	0.00353	0.00121	<0.00200	0.164	<0.100	0.000812 J	0.159	0.000101 J	<0.00200	<0.00200	<0.000500	0.229	0.796 J	1.03
	10/04/21	<0.000800	<0.00200	0.0135	0.00627	0.000763 J	<0.00200	0.148	<0.100	0.00127	0.163	<0.0000800	<0.00200	0.00477 J	<0.000500	0.119 J	0.798	0.917
H-29	10/21/15	<0.0008	<0.002	0.159	0.000359 J	<0.0003	<0.002	0.0301	<0.1	<0.0003	0.0156	<0.00008	<0.002	<0.002	<0.0005	0.464	1.82	2.28
	12/14/15	<0.0008	<0.002	0.277	<0.0003	<0.0003	0.062	<0.003	0.56	0.000542 J	0.0202	<0.00008	0.00819	0.0282	<0.0005	<0.53	<1.25	<1.78
	02/23/16	<0.0008	0.00203 J	0.151	<0.0003	<0.0003	0.019	<0.003	0.239 J	<0.0003	0.0135	<0.00008	0.00603	0.0148	<0.0005	<0.374	<2.22	<2.594
	04/05/16	<0.0008	<0.002	0.167	<0.0003	<0.0003	0.042	<0.003	0.363 J	<0.0003	0.0175	<0.00008	0.00697	0.0232	<0.0005	<0.228	<0.897	<1.125
	06/07/16	<0.0008	<0.002	0.136	<0.0003	<0.0003	0.0274	<0.003	0.27 J	<0.0003	0.0188	<0.00008	0.00551	0.0152	<0.0005	0.173	<0.834	1.01
	08/09/16	<0.0008	0.00995	0.315	<0.0003	<0.0003	0.00297 J	0.00473 J	<0.1	<0.0003	0.0143	<0.00008	<0.002	<0.002	<0.0005	0.261	<0.578	0.84
	10/18/16	<0.0008	<0.002	0.118	<0.0003	<0.0003	0.00412 J	<0.003	1.15	0.000427J	0.0056 J	<0.00008	0.00305 J	0.0681	<0.0005	0.155	<0.439	0.59
	12/11/16	<0.0008	<0.002	0.0779	<0.0003	<0.0003	<0.002	<0.003	1.4	<0.0003	<0.005	<0.00008	0.00307 J	0.0642	<0.0005	<0.113	<0.599	<0.712
	06/13/18	<0.0008	<0.002	0.0157	0.00345	0.00318	<0.002	0.153	0.123 J	0.000779 J	0.153	<0.00008	<0.002	<0.002	<0.0005	<0.274	<1.62	<1.894
	09/07/18	NA	<0.002	0.0374	0.00513	0.000938	<0.002	0.119	<0.100	0.00172	0.145	NA	NA	0.00374 J	NA	<0.371	<0.71	<1.081
	05/14/19	<0.0008	<0.002	0.0138	0.00341	0.00219	<0.002	0.183	0.104 J	0.000543 J	0.173	<0.00008	<0.002	0.00616	<0.0005	<0.339	<0.707	<1.046
	09/10/19	NA	<0.002	0.0135	0.00233	0.00127	<0.002	0.164	<0.1	0.000916 J	0.157	NA	NA	0.00395 J	NA	0.364	4.99	5.35
	05/13/20	<0.0008	<0.002	0.0117	0.0013	0.00129	<0.002	0.142	<0.100	0.000684 J	0.134	<0.00008	<0.002	0.00281 J	<0.0005	0.246	0.545	0.791
	10/06/20	<0.000800	0.00696	0.0165	0.0256	<0.000300	0.00205 J	0.377	1.76	0.000438	0.164	<0.0000800	<0.00200	0.0513	<0.000500	0.0273	0.741	0.769
	06/04/21	<0.000800	<0.00200	0.0168	0.0032	0.00126	<0.00200	0.168	<0.100	0.000554 J	0.159	0.000118 J	<0.00200	<0.00200	<0.000500	0.136 J	0.853	0.989
	10/04/21	<0.000800	0.0130	0.0222	0.0340	0.000847 J	0.00477 J	0.430	0.223 J	0.00235	0.159	<0.0000800	<0.00200	0.117	<0.000500	0.155 J	1.82	1.97
H-31	10/20/15	<0.0008	0.0168	0.0732	0.0126	0.0032	0.00687	0.434	0.889	<0.0003	0.137	<0.00008	<0.002	0.116	<0.0005	0.943	<1.88	2.82
	12/14/15	<0.0008	0.00513	0.0388	0.00702	<0.0003	0.00456 J	0.0651	0.692	<0.0003	0.149	<0.00008	<0.002	0.0231	<0.0005	1.61	<1.29	2.90
	02/23/16	<0.0008	0.00436 J	0.0243	0.0101	<0.0003	<0.002	0.0594	0.921	<0.0003	0.146	<0.00008	<0.002	0.0209	<0.0005	<0.419	<1.64	<2.059
	04/05/16	<0.0008	0.00514	0.0241	0.00925	<0.0003	0.00435 J	0.0685	1.36	<0.0003	0.146	<0.00008	<0.002	0.0226	<0.0005	<0.334	<0.897	<1.231
	06/07/16	<0.0008	0.0038 J	0.0242	0.00789	<0.0003	<0.002	0.0406	0.783	<0.0003	0.157	<0.00008	<0.002	0.0307	<0.0005	0.257	<0.555	0.81
	08/09/16	<0.0008	0.00886	0.0191	0.00734	<0.0003	<0.002	0.286	0.216 J	<0.0003	0.17	<0.00008	<0.002	0.0202	<0.0005	1.31	0.900	2.21
	10/18/16	<0.0008	0.00351 J	0.0215	0.00167 J	<0.0003	<0.002	0.0304 J	0.298 J	<0.0003	0.165	<0.00008	<0.002	0.00567 J	<0.0005	0.169	1.18	1.35
	12/11/16	<0.0008	0.00875 J	0.0189	0.0197	<0.0003	0.00386 J	0.23 J	0.892	<0.0003	0.198	<0.00008	<0.002	0.0365	<0.0005	0.195	<0.754	0.95
	06/12/18	<0.0008	0.00532	0.0194	0.00545	<0.0003	0.003 J	0.236	0.646	<0.0003	0.214	<0.00008	<0.002	0.00475 J	<0.0005	<0.26	<0.597	<0.857
	09/07/18	NA	<0.002	0.0287	<0.0003	<0.0003	<0.002	0.00353 J	0.275 J	<0.0003	0.0187	NA	NA	0.00424 J	NA	<0.261	<0.567	<0.828
	05/14/19	<0.0008	0.00675	0.0163	0.00928	<0.0003	0.00315 J	0.389	0.96	<0.0003	0.219	<0.0004	<0.002	0.0261	<0.0005	2.62	<0.789	3.409
	09/10/19	NA	0.00845	0.0158	0.0312	<0.0003	0.00305 J	0.41	2.1	<0.0003	0.225	NA	NA	0.0642	NA	0.247	2.92	3.17
	05/13/20	<0.0008	0.011	0.0159	0.0331	<0.0003	0.00367 J	0.449	0.231 J	<0.0003	0.249	<0.00008	<0.002	0.0792	<0.0005	0.0808	1.7	1.78
	10/06/20	<0.000800	0.00440 J	0.0345	0.00923	<0.000300	<0.00200	0.208	0.494	<0.000300	0.120	<0.0000800	<0.00200	0.0313	<0.000500	0.000	0.992	0.992
	06/04/21	<0.000800	0.00756	0.0159	0.014	<0.000300	0.0021 J	0.427	0.806	<0.000300	0.225	<0.0000800	<0.00200	0.00423 J	<0.000500	0.248 J	0.808	1.06 J
	10/04/21	<0.000800	0.00819	0.0160	0.0260	<0.000300	<0.00200	0.483	<0.100	<0.000300	0.202	<0.0000800	<0.00200	0.0767	<0.000500	0.182 J	1.42	1.61

TABLE 4
APPENDIX IV GROUNDWATER ANALYTICAL DATA
MARTIN LAKE STEAM ELECTRIC STATION
ASH POND AREA

Sample Location	Date Sampled	Sb (mg/L)	As (mg/L)	Ba (mg/L)	Be (mg/L)	Cd (mg/L)	Cr (mg/L)	Co (mg/L)	F (mg/L)	Pb (mg/L)	Li (mg/L)	Hg (mg/L)	Mo (mg/L)	Se (mg/L)	Tl (mg/L)	Ra 226 (pCi/L)	Ra 228 (pCi/L)	Ra 226/228 Comb.^ (pCi/L)
H-32	10/20/15	<0.0008	0.0028 J	0.16	0.00266	<0.0003	<0.002	0.163	0.374 J	<0.0003	0.0788	<0.00008	<0.002	0.00303 J	<0.0005	1.05	<1.90	2.95
	12/14/15	<0.0008	0.0123	0.0384	0.00313	<0.0003	<0.002	0.155	0.619	<0.0003	0.0733	<0.00008	<0.002	<0.002	<0.0005	0.712	<2.21	2.92
	02/23/16	<0.0008	0.00712	0.0277	0.00452	<0.0003	<0.002	0.188	0.701	0.000326 J	0.0821	<0.00008	<0.002	<0.002	<0.0005	1.12	1.60	2.72
	04/05/16	<0.0008	0.00648	0.0237	0.00527	0.00128	<0.002	0.208	1.05	0.00182	0.0818	<0.00008	<0.002	<0.002	<0.0005	<0.364	<1.15	<1.514
	06/07/16	<0.0008	0.00446 J	0.0238	0.00583	0.000997 J	<0.002	0.207	0.858	0.00168	0.087	<0.00008	<0.002	0.00298 J	<0.0005	<0.165	0.613	0.778
	08/09/16	<0.0008	0.00344 J	0.0234	0.00548	0.000713 J	<0.002	0.19	0.68	0.00115	0.0774	<0.00008	<0.002	0.00281 J	<0.0005	2.56	<0.446	3.01
	10/18/16	<0.0008	0.00289 J	0.02	0.00567	0.00254	<0.002	0.204	0.904	0.00332	0.0834	<0.00008	<0.002	0.00267 J	<0.0005	<0.139	0.683	0.82
	12/11/16	<0.0008	0.00246 J	0.0205	0.00609	0.00108	<0.002	0.208	1	0.00137	0.0838	<0.00008	<0.002	0.00237 J	<0.0005	<0.163	<0.753	<0.916
	06/12/18	<0.0008	<0.002	0.0175	0.00681	0.000586 J	<0.002	0.215	1.02	0.000701 J	0.0957	<0.00008	<0.002	<0.002	<0.0005	<0.275	0.917	1.192
	09/07/18	NA	<0.002	0.0404	<0.0003	<0.0003	<0.002	0.00347 J	0.551	<0.0003	0.0195	NA	NA	0.0157	NA	0.343	1.25	1.593
	05/14/19	<0.0008	0.002 J	0.0162	0.00713	0.000366 J	<0.002	0.202	1.15	0.000574 J	0.0978	<0.00008	<0.002	0.00675	<0.0005	0.303	<0.546	<0.849
	09/10/19	NA	<0.002	0.016	0.00678	0.000467 J	<0.002	0.185	0.923	0.00056 J	0.0935	NA	NA	0.00492 J	NA	0.0404	4.74	4.78
	05/13/20	<0.0008	0.00214 J	0.0166	0.00725	0.000389 J	<0.00200	0.195	0.641	0.000743 J	0.0978	<0.00008	<0.002	0.00401 J	<0.0005	<0.304	1.15	1.15
	10/06/20	<0.000800	<0.00200	0.0160	0.00676	0.000380 J	<0.00200	0.179	0.814	0.000633	0.0946	<0.0000800	<0.00200	0.00378 J	<0.000500	0.0686	0.348	0.417
	06/04/21	<0.000800	<0.00200	0.0161	0.0067	0.000395 J	<0.00200	0.179	0.721 J	0.000591 J	0.09	<0.0000800	<0.00200	<0.00200	<0.000500	0.000	0.497 J	0.497 J
	10/04/21	<0.000800	<0.00200	0.0166	0.00667	0.000418 J	<0.00200	0.174	0.656	0.000709 J	0.0888	<0.0000800	<0.00200	0.00502	<0.000500	0.0968	1.770	1.860

Notes:
1. Abbreviations: mg/L - milligrams per liter; pCi/L - picocuries per liter.
2. ^ - Sum of Ra 226 and Ra 228 concentrations.
3. J - concentration is below method quantitation limit; result is an estimate.
4. NA = Not analyzed.

ATTACHMENT 1

LABORATORY ANALYTICAL REPORTS

July 09, 2021

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

Order No.: 2106039

RE: Luminant - MLSES Ash Ponds CCR

Dear Will Vienne:

DHL Analytical, Inc. received 16 sample(s) on 6/7/2021 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: T104704211-21-27

Table of Contents

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

CHAIN-OF-CUSTODY

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

PO#:
PROJECT LOCATION OR NAME: LUMINANT - MLSES ASH PONDS CCR
CLIENT PROJECT # 19122262
COLLECTOR: JOHN BRAYTON

LABORATORY USE ONLY
DHL WORKORDER #: 2106039

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

PRESERVATION: HCL | HNO_3 | H_2SO_4 | NaOH ☐ Zn Acetate ☐ | ICE ☒ UNPRESERVED ☐

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

Field Sample I.D.	DHL Lab #	Collection Date	Collection Time	Matrix	Container Type	# of Containers	HCL	HNO_3	H_2SO_4	NaOH/Zn Acetate	ICE/UNPRES	APPENDIX III	APPENDIX IV	FIELD NOTES
H-28	01	6-4-21	0900	W	P	4		X			X	X	X	
H-29	02	6-4-21	0955	W	P	4		X			X	X	X	
H-31	03	6-4-21	1045	W	P	4		X			X	X	X	
H-32	04	6-4-21	1130	W	P	4		X			X	X	X	
H-33	05	6-4-21	1225	W	P	4		X			X	X	X	
DUP-1	06	6-4-21	1225	W	P	4		X			X	X	X	
H-26	07	6-4-21	1320	W	P	4		X			X	X	X	
H-27	08	6-4-21	1410	W	P	4		X			X	X	X	

Relinquished By: (Sign) — DATE/TIME 6-4-21 1730 — Received by: FedEx
Relinquished By: (Sign) FedEx — DATE/TIME 6/7/21 0932 — Received by:
Relinquished By: (Sign) — DATE/TIME — Received by:

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

LABORATORY USE ONLY
RECEIVING TEMP (°C): 9.3°C/12.0°C THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LSO ☒ FEDEX ☐ UPS ☐ COURIER ☐ OTHER ☐ HAND DELIVERED

☐ DHL DISPOSAL @ 5.00 each ☐ Return

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

CHAIN-OF-CUSTODY

CLIENT: GOLDER
ADDRESS: 2201 DOUBLE CREEK DR #4004 ROUND ROCK TX 78664
PHONE: 512-671-3434 EMAIL:
DATA REPORTED TO: WILL VIENNE
ADDITIONAL REPORT COPIES TO:
PO#:
PROJECT LOCATION OR NAME: LUMINANT - MLSES ASH PONDS
CLIENT PROJECT # 19122262
COLLECTOR: JOHN BRAXTON

LABORATORY USE ONLY
DHL WORKORDER #: 2106039

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

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

Field Sample I.D.	DHL Lab #	Collection Date	Collection Time	Matrix	Container Type	# of Containers	PRESERVATION: HCl	HNO_3	H_2SO_4	NaOH ☐ Zn Acetate ☐	ICE ☒ UNPRESERVED ☒	ANALYSES	APPENDIX III BGA SAMPLE	FIELD NOTES
H-28	09	6-10-21	0750	W	P	1					X		X	
H-29	10	6-10-21	0835	W	P	1					X		X	
H-31	11	6-10-21	0915	W	P	1					X		X	
H-32	12	6-10-21	1000	W	P	1					X		X	
H-33	13	6-10-21	1040	W	P	1					X		X	
DUP-1	14	6-10-21	1040	W	P	1					X		X	
H-27	15	6-10-21	1125	W	P	1					X		X	
H-26	16	6-10-21	1210	W	P	1					X		X	

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

Relinquished By: (Sign) John Braxton	DATE/TIME 6-10-21 1800	Received by: FedEx
Relinquished By: (Sign) FedEx	DATE/TIME 6/11/21 0930	Received by:
Relinquished By: (Sign)	DATE/TIME	Received by:

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

LABORATORY USE ONLY
RECEIVING TEMP (°C): 1.0 °C THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ~~☒ NOT USED~~ (FA) 6/11/21
CARRIER: ☐ LSO ☒ FEDEX ☐ UPS ☐ COURIER ☐ OTHER ☐ HAND DELIVERED

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

Eric Lau

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

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

Appendix IV Parameters:

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

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

ORIGIN ID:FWHA (512) 671-3434
GOLDER ASSOCIATES
2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 04JUN21
ACTWGT: 55.80 LB
CAD: 6991003/SSFO2201
DIMS: 25x14x13 IN

BILL THIRD PARTY

TO DHL ANALYTICAL LABS
DHL ANALYTICAL LABS
2300 DOUBLE CREEK DR

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

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Express
E

SATURDAY 12:00P
PRIORITY OVERNIGHT
AHS
78664
TX-US AUS

2 of 2
MPS# 2800 3467 6230
0263
Mstr# 2800 3467 6220
0201

X0 BSMA

1 of 1

CUSTODY SEAL
DATE 6-4-21
SIGNATURE [signature]

ANALY

0 280034676230

ORIGIN ID:FWHA (512) 671-3434
GOLDER ASSOCIATES
2201 DOUBLE CREEK DR STE 4004
ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 04JUN21
ACTWGT: 54.35 LB
CAD: 6991003/SSF02201
DIMS: 25x14x13 IN
BILL THIRD PARTY

TO **DHL ANALYTICAL LABS**
DHL ANALYTICAL LABS
2300 DOUBLE CREEK DR

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

Part # 156297-434 RRDB EXP 05/22

FedEx
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E

J211321033101uv

1 of 2
TRK# 0201 **2800 3467 6220**
MASTER
X0 BSMA

SATURDAY 12:00P
PRIORITY OVERNIGHT
AHS
78664
TX-US **AUS**

FZ
RT 197
1
12:00

M DHL ANALYTICAL 2 /

CU
DATE_
SIGNAT

ORIGIN ID:GGGA (512) 671-3434

GOLDER ASSOCIATES
2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 10JUN21
ACTWGT: 21.25 LB
CAD: 6994166/SSFE2202
DIMS: 18x10x15 IN

BILL THIRD PARTY

Part # 156287-495 RRDB EXP 11/21
56DJ3/B3B7/FE44

TO **DHL ANALYTICAL LABS**
DHL ANALYTICAL LABS
2300 DOUBLE CREEK DR

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

FedEx Express

J211321033101uv

TRK# 0201 **2802 5837 8731**

FRI - 11 JUN 10:30A
PRIORITY OVERNIGHT

A8 BSMA

AHS
78664
TX-US **AUS**

CUSTODY SEAL

DATE 6-10-21

SIGNATURE John Brown

DHL ANALYTICAL

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name **Golder** Date Received: **6/7/2021**

Work Order Number **2106039** Received by: **RA**

Checklist completed by: _____ 6/7/2021 Reviewed by DL 6/7/2021
Signature | Date | Initials | Date

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☐	No ☑	9.3 °C / 12.0°C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 13171
	Adjusted? no		Checked by EL
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by

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

Client contacted: Golder Date contacted: 6/7/21 Person contacted Will V.

Contacted by: John D. Regarding: Sample temps.

Comments: Samples received out of temp for Sulfate and TDS analyses.

Corrective Action: Per Client, hold Sulfate and TDS and proceed with analyses within temp.

DHL Analytical, Inc.

re-Sample

Sample Receipt Checklist

Client Name **Golder**

Date Received: **6/7/2021**

Work Order Number **2106039**

Received by: **RA**

Checklist completed by: _____ 6/11/2021
Signature | Date

Reviewed by _____ 6/11/2021
Initials | Date

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	**1.0** °C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH<2 acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted? _____		Checked by _____

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

Client contacted: _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: Luminant - MLSES Ash Ponds CCR	**LRC Date:** 7/9/21
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2106039
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**				**R10-01**
		2) Was applicable and available technology used to lower the SDL to minimize the matrix interference affects on the sample results?	**X**				
		3) Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	**X**				

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: Luminant - MLSES Ash Ponds CCR	**LRC Date:** 7/9/21
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2106039
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

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

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

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

This data package consists of:

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

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

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

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

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

Name: John DuPont
Official Title: General Manager

Signature

07/09/21
Date

Name: Dr. Derhsing Luu
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *09-Jul-21*

CLIENT: Golder
Project: Luminant - MLSES Ash Ponds CCR
Lab Order: 2106039

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 and SM 7500 Ra B M. Analyzed at Pace Analytical.

Exception Report R1-01

The samples were received and log-in performed on 6/7/21 and 6/11/21. A total of 16 samples were received. For the samples that arrived on 6/7/21 the samples arrived outside of the temperature control limit (6°) at 9.3°C/12.0°C). Please refer to the Sample Receipt Checklist for further login notes regarding these samples. The samples arrived in good condition and were properly packaged.

Exception Report R7-03

For Anions analysis performed on 6/14/21 the matrix spikes and/or matrix spike duplicate recoveries (2106039-11 MSD & 2106088-01 MS/MSD) were out of control limits for Fluoride or Sulfate. These are flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate (2106088-01 MS/MSD) was not from this work order. The sample selected for the matrix spike and matrix spike duplicate (2106039-11 MS/MSD) was from this work order. The LCS was within control limits for these analytes. No further corrective actions were taken.

Exception Report R10-01

For Mercury analysis sample H-26 was diluted prior to analysis due to the nature of the sample (matrix).

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT: Golder
Project: Luminant - MLSES Ash Ponds CCR
Lab Order: 2106039

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2106039-01	H-28		06/04/21 09:00 AM	6/7/2021
2106039-02	H-29		06/04/21 09:55 AM	6/7/2021
2106039-03	H-31		06/04/21 10:45 AM	6/7/2021
2106039-04	H-32		06/04/21 11:30 AM	6/7/2021
2106039-05	H-33		06/04/21 12:25 PM	6/7/2021
2106039-06	DUP-1		06/04/21 12:25 PM	6/7/2021
2106039-07	H-26		06/04/21 01:20 PM	6/7/2021
2106039-08	H-27		06/04/21 02:10 PM	6/7/2021
2106039-09	H-28		06/10/21 07:50 AM	6/11/2021
2106039-10	H-29		06/10/21 08:35 AM	6/11/2021
2106039-11	H-31		06/10/21 09:15 AM	6/11/2021
2106039-12	H-32		06/10/21 10:00 AM	6/11/2021
2106039-13	H-33		06/10/21 10:40 AM	6/11/2021
2106039-14	DUP-1		06/10/21 10:40 AM	6/11/2021
2106039-15	H-27		06/10/21 11:25 AM	6/11/2021
2106039-16	H-26		06/10/21 12:10 PM	6/11/2021

Lab Order: 2106039
Client: Golder
Project: Luminant - MLSES Ash Ponds CC

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2106039-01A	H-28	06/04/21 09:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-28	06/04/21 09:00 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-28	06/04/21 09:00 AM	Aqueous	SW7470A	Mercury Aq Prep	06/08/21 02:43 PM	100857
2106039-02A	H-29	06/04/21 09:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-29	06/04/21 09:55 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-29	06/04/21 09:55 AM	Aqueous	SW7470A	Mercury Aq Prep	06/08/21 02:43 PM	100857
2106039-03A	H-31	06/04/21 10:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-31	06/04/21 10:45 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-31	06/04/21 10:45 AM	Aqueous	SW7470A	Mercury Aq Prep	06/08/21 02:43 PM	100857
2106039-04A	H-32	06/04/21 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-32	06/04/21 11:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-32	06/04/21 11:30 AM	Aqueous	SW7470A	Mercury Aq Prep	06/08/21 02:43 PM	100857
2106039-05A	H-33	06/04/21 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-33	06/04/21 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-33	06/04/21 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-33	06/04/21 12:25 PM	Aqueous	SW7470A	Mercury Aq Prep	06/08/21 02:43 PM	100857
2106039-06A	DUP-1	06/04/21 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	DUP-1	06/04/21 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	DUP-1	06/04/21 12:25 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	DUP-1	06/04/21 12:25 PM	Aqueous	SW7470A	Mercury Aq Prep	06/08/21 02:43 PM	100857
2106039-07A	H-26	06/04/21 01:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-26	06/04/21 01:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-26	06/04/21 01:20 PM	Aqueous	SW7470A	Mercury Aq Prep	06/08/21 02:43 PM	100857
	H-26	06/04/21 01:20 PM	Aqueous	SW7470A	Mercury Aq Prep	06/08/21 02:43 PM	100857
2106039-08A	H-27	06/04/21 02:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-27	06/04/21 02:10 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	06/08/21 08:36 AM	100848
	H-27	06/04/21 02:10 PM	Aqueous	SW7470A	Mercury Aq Prep	06/08/21 02:43 PM	100857
2106039-09A	H-28	06/10/21 07:50 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908

Lab Order: 2106039
Client: Golder
Project: Luminant - MLSES Ash Ponds CC

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2106039-09A	H-28	06/10/21 07:50 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-28	06/10/21 07:50 AM	Aqueous	M2540C	TDS Preparation	06/14/21 08:35 AM	100893
2106039-10A	H-29	06/10/21 08:35 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-29	06/10/21 08:35 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-29	06/10/21 08:35 AM	Aqueous	M2540C	TDS Preparation	06/14/21 08:35 AM	100893
2106039-11A	H-31	06/10/21 09:15 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-31	06/10/21 09:15 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-31	06/10/21 09:15 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-31	06/10/21 09:15 AM	Aqueous	M2540C	TDS Preparation	06/14/21 08:35 AM	100893
2106039-12A	H-32	06/10/21 10:00 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-32	06/10/21 10:00 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-32	06/10/21 10:00 AM	Aqueous	M2540C	TDS Preparation	06/14/21 08:35 AM	100893
2106039-13A	H-33	06/10/21 10:40 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-33	06/10/21 10:40 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-33	06/10/21 10:40 AM	Aqueous	M2540C	TDS Preparation	06/14/21 08:35 AM	100893
2106039-14A	DUP-1	06/10/21 10:40 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	DUP-1	06/10/21 10:40 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	DUP-1	06/10/21 10:40 AM	Aqueous	M2540C	TDS Preparation	06/14/21 08:35 AM	100893
2106039-15A	H-27	06/10/21 11:25 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-27	06/10/21 11:25 AM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-27	06/10/21 11:25 AM	Aqueous	M2540C	TDS Preparation	06/14/21 08:35 AM	100893
2106039-16A	H-26	06/10/21 12:10 PM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-26	06/10/21 12:10 PM	Aqueous	E300	Anion Preparation	06/14/21 09:37 AM	100908
	H-26	06/10/21 12:10 PM	Aqueous	M2540C	TDS Preparation	06/14/21 08:35 AM	100893

Lab Order: 2106039
Client: Golder
Project: Luminant - MLSES Ash Ponds CC

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2106039-01A	H-28	Aqueous	SW7470A	Mercury Total: Aqueous	100857	1	06/09/21 04:07 PM	CETAC2_HG_210609B
	H-28	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	20	06/09/21 11:45 AM	ICP-MS4_210609A
	H-28	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	1	06/09/21 10:57 AM	ICP-MS5_210609A
2106039-02A	H-29	Aqueous	SW7470A	Mercury Total: Aqueous	100857	1	06/09/21 04:09 PM	CETAC2_HG_210609B
	H-29	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	20	06/09/21 11:47 AM	ICP-MS4_210609A
	H-29	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	1	06/09/21 11:00 AM	ICP-MS5_210609A
2106039-03A	H-31	Aqueous	SW7470A	Mercury Total: Aqueous	100857	1	06/09/21 04:12 PM	CETAC2_HG_210609B
	H-31	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	50	06/09/21 11:49 AM	ICP-MS4_210609A
	H-31	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	1	06/09/21 11:02 AM	ICP-MS5_210609A
2106039-04A	H-32	Aqueous	SW7470A	Mercury Total: Aqueous	100857	1	06/09/21 04:14 PM	CETAC2_HG_210609B
	H-32	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	10	06/09/21 11:51 AM	ICP-MS4_210609A
	H-32	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	1	06/09/21 11:05 AM	ICP-MS5_210609A
2106039-05A	H-33	Aqueous	SW7470A	Mercury Total: Aqueous	100857	1	06/09/21 04:16 PM	CETAC2_HG_210609B
	H-33	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	1	06/09/21 11:07 AM	ICP-MS5_210609A
	H-33	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	5	06/09/21 11:53 AM	ICP-MS4_210609A
	H-33	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	1	06/09/21 12:38 PM	ICP-MS4_210609A
2106039-06A	DUP-1	Aqueous	SW7470A	Mercury Total: Aqueous	100857	1	06/09/21 04:18 PM	CETAC2_HG_210609B
	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	5	06/09/21 11:55 AM	ICP-MS4_210609A
	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	1	06/09/21 12:40 PM	ICP-MS4_210609A
	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	1	06/09/21 11:10 AM	ICP-MS5_210609A
2106039-07A	H-26	Aqueous	SW7470A	Mercury Total: Aqueous	100857	1	06/09/21 04:21 PM	CETAC2_HG_210609B
	H-26	Aqueous	SW7470A	Mercury Total: Aqueous	100857	5	06/09/21 04:26 PM	CETAC2_HG_210609B
	H-26	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	5	06/09/21 11:57 AM	ICP-MS4_210609A
	H-26	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	1	06/09/21 11:13 AM	ICP-MS5_210609A

Lab Order: 2106039
Client: Golder
Project: Luminant - MLSES Ash Ponds CC

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2106039-08A	H-27	Aqueous	SW7470A	Mercury Total: Aqueous	100857	1	06/09/21 04:23 PM	CETAC2_HG_210609B
	H-27	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	1	06/09/21 11:15 AM	ICP-MS5_210609A
	H-27	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	100848	5	06/09/21 11:59 AM	ICP-MS4_210609A
2106039-09A	H-28	Aqueous	E300	Anions by IC method - Water	100908	10	06/14/21 06:50 PM	IC2_210614A
	H-28	Aqueous	E300	Anions by IC method - Water	100908	1	06/14/21 10:34 PM	IC2_210614A
	H-28	Aqueous	M2540C	Total Dissolved Solids	100893	1	06/14/21 12:10 PM	WC_210614B
2106039-10A	H-29	Aqueous	E300	Anions by IC method - Water	100908	10	06/14/21 07:06 PM	IC2_210614A
	H-29	Aqueous	E300	Anions by IC method - Water	100908	1	06/14/21 10:50 PM	IC2_210614A
	H-29	Aqueous	M2540C	Total Dissolved Solids	100893	1	06/14/21 12:10 PM	WC_210614B
2106039-11A	H-31	Aqueous	E300	Anions by IC method - Water	100908	100	06/14/21 03:38 PM	IC2_210614A
	H-31	Aqueous	E300	Anions by IC method - Water	100908	10	06/14/21 08:42 PM	IC2_210614A
	H-31	Aqueous	E300	Anions by IC method - Water	100908	1	06/14/21 11:06 PM	IC2_210614A
	H-31	Aqueous	M2540C	Total Dissolved Solids	100893	1	06/14/21 12:10 PM	WC_210614B
2106039-12A	H-32	Aqueous	E300	Anions by IC method - Water	100908	1	06/15/21 12:42 AM	IC2_210614A
	H-32	Aqueous	E300	Anions by IC method - Water	100908	10	06/14/21 08:58 PM	IC2_210614A
	H-32	Aqueous	M2540C	Total Dissolved Solids	100893	1	06/14/21 12:10 PM	WC_210614B
2106039-13A	H-33	Aqueous	E300	Anions by IC method - Water	100908	1	06/15/21 12:58 AM	IC2_210614A
	H-33	Aqueous	E300	Anions by IC method - Water	100908	10	06/14/21 09:14 PM	IC2_210614A
	H-33	Aqueous	M2540C	Total Dissolved Solids	100893	1	06/14/21 12:10 PM	WC_210614B
2106039-14A	DUP-1	Aqueous	E300	Anions by IC method - Water	100908	10	06/14/21 09:30 PM	IC2_210614A
	DUP-1	Aqueous	E300	Anions by IC method - Water	100908	1	06/15/21 01:14 AM	IC2_210614A
	DUP-1	Aqueous	M2540C	Total Dissolved Solids	100893	1	06/14/21 12:10 PM	WC_210614B
2106039-15A	H-27	Aqueous	E300	Anions by IC method - Water	100908	10	06/14/21 09:46 PM	IC2_210614A
	H-27	Aqueous	E300	Anions by IC method - Water	100908	1	06/15/21 01:30 AM	IC2_210614A
	H-27	Aqueous	M2540C	Total Dissolved Solids	100893	1	06/14/21 12:10 PM	WC_210614B
2106039-16A	H-26	Aqueous	E300	Anions by IC method - Water	100908	10	06/14/21 10:02 PM	IC2_210614A
	H-26	Aqueous	E300	Anions by IC method - Water	100908	1	06/15/21 01:46 AM	IC2_210614A

Lab Order: 2106039
Client: Golder
Project: Luminant - MLSES Ash Ponds CC

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2106039-16A	H-26	Aqueous	M2540C	Total Dissolved Solids	100893	1	06/14/21 12:10 PM	WC_210614B

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-28
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-01
Project No:	19122262	**Collection Date:**	06/04/21 09:00 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/21 10:57 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 10:57 AM
Barium	0.0167	0.00300	0.0100		mg/L	1	06/09/21 10:57 AM
Beryllium	0.00353	0.000300	0.00100		mg/L	1	06/09/21 10:57 AM
Boron	7.07	0.200	0.600		mg/L	20	06/09/21 11:45 AM
Cadmium	0.00121	0.000300	0.00100		mg/L	1	06/09/21 10:57 AM
Calcium	88.7	2.00	6.00		mg/L	20	06/09/21 11:45 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 10:57 AM
Cobalt	0.164	0.00300	0.00500		mg/L	1	06/09/21 10:57 AM
Lead	0.000812	0.000300	0.00100	J	mg/L	1	06/09/21 10:57 AM
Lithium	0.159	0.00500	0.0100		mg/L	1	06/09/21 10:57 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 10:57 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 10:57 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/21 10:57 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	0.000101	0.0000800	0.000200	J	mg/L	1	06/09/21 04:07 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: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-29
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-02
Project No:	19122262	**Collection Date:**	06/04/21 09:55 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/21 11:00 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:00 AM
Barium	0.0168	0.00300	0.0100		mg/L	1	06/09/21 11:00 AM
Beryllium	0.00320	0.000300	0.00100		mg/L	1	06/09/21 11:00 AM
Boron	7.28	0.200	0.600		mg/L	20	06/09/21 11:47 AM
Cadmium	0.00126	0.000300	0.00100		mg/L	1	06/09/21 11:00 AM
Calcium	89.7	2.00	6.00		mg/L	20	06/09/21 11:47 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:00 AM
Cobalt	0.168	0.00300	0.00500		mg/L	1	06/09/21 11:00 AM
Lead	0.000554	0.000300	0.00100	J	mg/L	1	06/09/21 11:00 AM
Lithium	0.159	0.00500	0.0100		mg/L	1	06/09/21 11:00 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:00 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:00 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/21 11:00 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	0.000118	0.0000800	0.000200	J	mg/L	1	06/09/21 04:09 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-31
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-03
Project No:	19122262	**Collection Date:**	06/04/21 10:45 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/21 11:02 AM
Arsenic	0.00756	0.00200	0.00500		mg/L	1	06/09/21 11:02 AM
Barium	0.0159	0.00300	0.0100		mg/L	1	06/09/21 11:02 AM
Beryllium	0.0140	0.000300	0.00100		mg/L	1	06/09/21 11:02 AM
Boron	18.3	0.500	1.50		mg/L	50	06/09/21 11:49 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/21 11:02 AM
Calcium	224	5.00	15.0		mg/L	50	06/09/21 11:49 AM
Chromium	0.00210	0.00200	0.00500	J	mg/L	1	06/09/21 11:02 AM
Cobalt	0.427	0.00300	0.00500		mg/L	1	06/09/21 11:02 AM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/09/21 11:02 AM
Lithium	0.225	0.00500	0.0100		mg/L	1	06/09/21 11:02 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:02 AM
Selenium	0.00423	0.00200	0.00500	J	mg/L	1	06/09/21 11:02 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/21 11:02 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/09/21 04:12 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: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-32
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-04
Project No:	19122262	**Collection Date:**	06/04/21 11:30 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/21 11:05 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:05 AM
Barium	0.0161	0.00300	0.0100		mg/L	1	06/09/21 11:05 AM
Beryllium	0.00670	0.000300	0.00100		mg/L	1	06/09/21 11:05 AM
Boron	2.08	0.100	0.300		mg/L	10	06/09/21 11:51 AM
Cadmium	0.000395	0.000300	0.00100	J	mg/L	1	06/09/21 11:05 AM
Calcium	41.2	1.00	3.00		mg/L	10	06/09/21 11:51 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:05 AM
Cobalt	0.179	0.00300	0.00500		mg/L	1	06/09/21 11:05 AM
Lead	0.000591	0.000300	0.00100	J	mg/L	1	06/09/21 11:05 AM
Lithium	0.0900	0.00500	0.0100		mg/L	1	06/09/21 11:05 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:05 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:05 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/21 11:05 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/09/21 04:14 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-33
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-05
Project No:	19122262	**Collection Date:**	06/04/21 12:25 PM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/21 11:07 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:07 AM
Barium	0.213	0.00300	0.0100		mg/L	1	06/09/21 11:07 AM
Beryllium	0.000342	0.000300	0.00100	J	mg/L	1	06/09/21 11:07 AM
Boron	0.0720	0.0100	0.0300		mg/L	1	06/09/21 12:38 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/21 11:07 AM
Calcium	81.6	0.500	1.50		mg/L	5	06/09/21 11:53 AM
Chromium	0.00464	0.00200	0.00500	J	mg/L	1	06/09/21 11:07 AM
Cobalt	0.0258	0.00300	0.00500		mg/L	1	06/09/21 11:07 AM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/09/21 11:07 AM
Lithium	0.155	0.00500	0.0100		mg/L	1	06/09/21 11:07 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:07 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:07 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/21 11:07 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/09/21 04:16 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: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	DUP-1
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-06
Project No:	19122262	**Collection Date:**	06/04/21 12:25 PM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/21 11:10 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:10 AM
Barium	0.208	0.00300	0.0100		mg/L	1	06/09/21 11:10 AM
Beryllium	0.000319	0.000300	0.00100	J	mg/L	1	06/09/21 11:10 AM
Boron	0.0605	0.0100	0.0300		mg/L	1	06/09/21 12:40 PM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/21 11:10 AM
Calcium	81.3	0.500	1.50		mg/L	5	06/09/21 11:55 AM
Chromium	0.00458	0.00200	0.00500	J	mg/L	1	06/09/21 11:10 AM
Cobalt	0.0248	0.00300	0.00500		mg/L	1	06/09/21 11:10 AM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/09/21 11:10 AM
Lithium	0.153	0.00500	0.0100		mg/L	1	06/09/21 11:10 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:10 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:10 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/21 11:10 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/09/21 04:18 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: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-26
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-07
Project No:	19122262	**Collection Date:**	06/04/21 01:20 PM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/21 11:13 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:13 AM
Barium	0.0629	0.00300	0.0100		mg/L	1	06/09/21 11:13 AM
Beryllium	0.00153	0.000300	0.00100		mg/L	1	06/09/21 11:13 AM
Boron	0.502	0.0500	0.150		mg/L	5	06/09/21 11:57 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/21 11:13 AM
Calcium	13.7	0.100	0.300		mg/L	1	06/09/21 11:13 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:13 AM
Cobalt	0.0240	0.00300	0.00500		mg/L	1	06/09/21 11:13 AM
Lead	0.000621	0.000300	0.00100	J	mg/L	1	06/09/21 11:13 AM
Lithium	0.0148	0.00500	0.0100		mg/L	1	06/09/21 11:13 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:13 AM
Selenium	0.0201	0.00200	0.00500		mg/L	1	06/09/21 11:13 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/21 11:13 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.000400	0.000400	0.00100		mg/L	5	06/09/21 04:26 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: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-27
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-08
Project No:	19122262	**Collection Date:**	06/04/21 02:10 PM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	06/09/21 11:15 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:15 AM
Barium	0.0771	0.00300	0.0100		mg/L	1	06/09/21 11:15 AM
Beryllium	0.00149	0.000300	0.00100		mg/L	1	06/09/21 11:15 AM
Boron	0.537	0.0500	0.150		mg/L	5	06/09/21 11:59 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	06/09/21 11:15 AM
Calcium	18.0	0.100	0.300		mg/L	1	06/09/21 11:15 AM
Chromium	0.0363	0.00200	0.00500		mg/L	1	06/09/21 11:15 AM
Cobalt	0.0254	0.00300	0.00500		mg/L	1	06/09/21 11:15 AM
Lead	<0.000300	0.000300	0.00100		mg/L	1	06/09/21 11:15 AM
Lithium	0.0165	0.00500	0.0100		mg/L	1	06/09/21 11:15 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	06/09/21 11:15 AM
Selenium	0.00414	0.00200	0.00500	J	mg/L	1	06/09/21 11:15 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	06/09/21 11:15 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	06/09/21 04:23 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: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-28
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-09
Project No:	19122262	**Collection Date:**	06/10/21 07:50 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	90.9	3.00	10.0		mg/L	10	06/14/21 06:50 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/14/21 10:34 PM
Sulfate	817	10.0	30.0		mg/L	10	06/14/21 06:50 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1480	50.0	50.0		mg/L	1	06/14/21 12:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-29
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-10
Project No:	19122262	**Collection Date:**	06/10/21 08:35 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	80.2	3.00	10.0		mg/L	10	06/14/21 07:06 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/14/21 10:50 PM
Sulfate	482	10.0	30.0		mg/L	10	06/14/21 07:06 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	987	10.0	10.0		mg/L	1	06/14/21 12:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-31
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-11
Project No:	19122262	**Collection Date:**	06/10/21 09:15 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	230	3.00	10.0		mg/L	10	06/14/21 08:42 PM
Fluoride	0.806	0.100	0.400		mg/L	1	06/14/21 11:06 PM
Sulfate	2760	100	300		mg/L	100	06/14/21 03:38 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	4270	50.0	50.0		mg/L	1	06/14/21 12:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-32
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-12
Project No:	19122262	**Collection Date:**	06/10/21 10:00 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	107	3.00	10.0		mg/L	10	06/14/21 08:58 PM
Fluoride	0.721	0.100	0.400		mg/L	1	06/15/21 12:42 AM
Sulfate	335	10.0	30.0		mg/L	10	06/14/21 08:58 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	764	10.0	10.0		mg/L	1	06/14/21 12:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-33
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-13
Project No:	19122262	**Collection Date:**	06/10/21 10:40 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	86.8	3.00	10.0		mg/L	10	06/14/21 09:14 PM
Fluoride	0.272	0.100	0.400	J	mg/L	1	06/15/21 12:58 AM
Sulfate	112	1.00	3.00		mg/L	1	06/15/21 12:58 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	569	10.0	10.0		mg/L	1	06/14/21 12:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	DUP-1
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-14
Project No:	19122262	**Collection Date:**	06/10/21 10:40 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	85.0	3.00	10.0		mg/L	10	06/14/21 09:30 PM
Fluoride	0.265	0.100	0.400	J	mg/L	1	06/15/21 01:14 AM
Sulfate	113	1.00	3.00		mg/L	1	06/15/21 01:14 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	563	10.0	10.0		mg/L	1	06/14/21 12:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-27
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-15
Project No:	19122262	**Collection Date:**	06/10/21 11:25 AM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	49.3	3.00	10.0		mg/L	10	06/14/21 09:46 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	06/15/21 01:30 AM
Sulfate	46.4	1.00	3.00		mg/L	1	06/15/21 01:30 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	219	10.0	10.0		mg/L	1	06/14/21 12:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *09-Jul-21*

CLIENT:	Golder	**Client Sample ID:**	H-26
Project:	Luminant - MLSES Ash Ponds CCR	**Lab ID:**	2106039-16
Project No:	19122262	**Collection Date:**	06/10/21 12:10 PM
Lab Order:	2106039	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **BM**
Chloride	66.1	3.00	10.0		mg/L	10	06/14/21 10:02 PM
Fluoride	0.245	0.100	0.400	J	mg/L	1	06/15/21 01:46 AM
Sulfate	61.2	1.00	3.00		mg/L	1	06/15/21 01:46 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	278	10.0	10.0		mg/L	1	06/14/21 12:10 PM

Qualifiers:

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

CLIENT: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_210511A

Sample ID: **DCS-100518**	Batch ID: **100518**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **DCS**	Run ID: **CETAC2_HG_210511A**	Analysis Date: **5/11/2021 1:32:27 PM**	Prep Date: **5/10/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.000165	0.000200	0.000200	0	82.5	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_210609B

The QC data in batch 100857 applies to the following samples: 2106039-01A, 2106039-02A, 2106039-03A, 2106039-04A, 2106039-05A, 2106039-06A, 2106039-07A, 2106039-08A

Sample ID: **MB-100857** Batch ID: **100857** TestNo: **SW7470A** Units: **mg/L**
SampType: **MBLK** Run ID: **CETAC2_HG_210609B** Analysis Date: **6/9/2021 3:09:04 PM** Prep Date: **6/8/2021**

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

Sample ID: **LCS-100857** Batch ID: **100857** TestNo: **SW7470A** Units: **mg/L**
SampType: **LCS** Run ID: **CETAC2_HG_210609B** Analysis Date: **6/9/2021 3:13:36 PM** Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00207	0.000200	0.00200	0	104	85	115			

Sample ID: **LCSD-100857** Batch ID: **100857** TestNo: **SW7470A** Units: **mg/L**
SampType: **LCSD** Run ID: **CETAC2_HG_210609B** Analysis Date: **6/9/2021 3:15:52 PM** Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00205	0.000200	0.00200	0	103	85	115	0.971	15	

Sample ID: **2106029-02C MS** Batch ID: **100857** TestNo: **SW7470A** Units: **mg/L**
SampType: **MS** Run ID: **CETAC2_HG_210609B** Analysis Date: **6/9/2021 3:31:44 PM** Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0103	0.00100	0.0100	0	103	80	120			

Sample ID: **2106029-02C MSD** Batch ID: **100857** TestNo: **SW7470A** Units: **mg/L**
SampType: **MSD** Run ID: **CETAC2_HG_210609B** Analysis Date: **6/9/2021 3:33:59 PM** Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0103	0.00100	0.0100	0	103	80	120	0	15	

Sample ID: **2106029-02C SD** Batch ID: **100857** TestNo: **SW7470A** Units: **mg/L**
SampType: **SD** Run ID: **CETAC2_HG_210609B** Analysis Date: **6/9/2021 3:36:15 PM** Prep Date: **6/8/2021**

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

Sample ID: **2106029-02C PDS** Batch ID: **100857** TestNo: **SW7470A** Units: **mg/L**
SampType: **PDS** Run ID: **CETAC2_HG_210609B** Analysis Date: **6/9/2021 3:38:31 PM** Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0122	0.00100	0.0125	0	98.0	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_210609B

Sample ID: **ICV-210609**	Batch ID: **R115747**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **ICV**	Run ID: **CETAC2_HG_210609B**	Analysis Date: **6/9/2021 3:04:30 PM**	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: **CCV1-210609**	Batch ID: **R115747**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_210609B**	Analysis Date: **6/9/2021 4:00:43 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00200	0.000200	0.00200	0	100	90	110			

Sample ID: **CCV2-210609**	Batch ID: **R115747**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_210609B**	Analysis Date: **6/9/2021 4:28:53 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00202	0.000200	0.00200	0	101	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_210428A**

Sample ID: **DCS2-100323**	Batch ID: **100323**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS2**	Run ID: **ICP-MS4_210428A**	Analysis Date: **4/28/2021 10:34:00 AM**	Prep Date: **4/27/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.302	0.300	0.300	0	101	70	130	0	0	

Sample ID: **DCS4-100323**	Batch ID: **100323**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS4**	Run ID: **ICP-MS4_210428A**	Analysis Date: **4/28/2021 10:39:00 AM**	Prep Date: **4/27/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0310	0.0300	0.0300	0	103	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_210609A**

The QC data in batch 100848 applies to the following samples: 2106039-01A, 2106039-02A, 2106039-03A, 2106039-04A, 2106039-05A, 2106039-06A, 2106039-07A, 2106039-08A

Sample ID: **MB-100848**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MBLK**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 11:33:00 AM**	Prep Date: **6/8/2021**

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

Sample ID: **LCS-100848**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCS**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 11:35:00 AM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.201	0.0300	0.200	0	100	80	120			

Sample ID: **LCSD-100848**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCSD**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 11:37:00 AM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.200	0.0300	0.200	0	99.9	80	120	0.390	15	

Sample ID: **2106027-04A SD**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **SD**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 11:43:00 AM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0606	0.150	0	0.0516				16.0	20	

Sample ID: **2106027-04A PDS**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **PDS**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 12:03:00 PM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.259	0.0300	0.200	0.0516	104	75	125			

Sample ID: **2106027-04A MS**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MS**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 12:05:00 PM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.262	0.0300	0.200	0.0516	105	75	125			

Sample ID: **2106027-04A MSD**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MSD**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 12:07:00 PM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.262	0.0300	0.200	0.0516	105	75	125	0.115	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_210609A**

Sample ID: **ICV-210609**	Batch ID: **R115738**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 10:34:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.102	0.0300	0.100	0	102	90	110			
Calcium	2.34	0.300	2.50	0	93.5	90	110			

Sample ID: **LCVL-210609**	Batch ID: **R115738**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 10:48:00 AM**	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	0.0810	0.300	0.100	0	81.0	80	120			

Sample ID: **CCV1-210609**	Batch ID: **R115738**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 12:09:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.207	0.0300	0.200	0	104	90	110			
Calcium	4.78	0.300	5.00	0	95.6	90	110			

Sample ID: **CCV2-210609**	Batch ID: **R115738**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 12:32:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.207	0.0300	0.200	0	103	90	110			

Sample ID: **CCV3-210609**	Batch ID: **R115738**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_210609A**	Analysis Date: **6/9/2021 12:44:00 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.214	0.0300	0.200	0	107	90	110			

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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS5_210428A**

Sample ID: **DCS1-100323**	Batch ID: **100323**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS**	Run ID: **ICP-MS5_210428A**	Analysis Date: **4/28/2021 10:49:00 AM**	Prep Date: **4/27/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00105	0.00250	0.00100	0	105	70	130	0	0	
Beryllium	0.000505	0.00100	0.000500	0	101	70	130	0	0	
Cadmium	0.000461	0.00100	0.000500	0	92.2	70	130	0	0	
Lead	0.000474	0.00100	0.000500	0	94.8	70	130	0	0	
Thallium	0.000452	0.00150	0.000500	0	90.4	70	130	0	0	

Sample ID: **DCS2-100323**	Batch ID: **100323**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS2**	Run ID: **ICP-MS5_210428A**	Analysis Date: **4/28/2021 10:53:00 AM**	Prep Date: **4/27/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.302	0.300	0.300	0	101	70	130	0	0	

Sample ID: **DCS3-100323**	Batch ID: **100323**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS3**	Run ID: **ICP-MS5_210428A**	Analysis Date: **4/28/2021 10:56:00 AM**	Prep Date: **4/27/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00467	0.00500	0.00500	0	93.3	70	130	0	0	
Barium	0.00472	0.0100	0.00500	0	94.4	70	130	0	0	
Chromium	0.00490	0.00500	0.00500	0	97.9	70	130	0	0	
Cobalt	0.00473	0.00500	0.00500	0	94.5	70	130	0	0	
Lithium	0.00495	0.0100	0.00500	0	99.0	70	130	0	0	
Molybdenum	0.00482	0.00500	0.00500	0	96.4	70	130	0	0	
Selenium	0.00498	0.00500	0.00500	0	99.5	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS5_210609A**

The QC data in batch 100848 applies to the following samples: 2106039-01A, 2106039-02A, 2106039-03A, 2106039-04A, 2106039-05A, 2106039-06A, 2106039-07A, 2106039-08A

Sample ID: **MB-100848** Batch ID: **100848** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS5_210609A** Analysis Date: **6/9/2021 10:42:00 AM** Prep Date: **6/8/2021**

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-100848** Batch ID: **100848** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS5_210609A** Analysis Date: **6/9/2021 10:44:00 AM** Prep Date: **6/8/2021**

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	0.202	0.00500	0.200	0	101	80	120			
Barium	0.200	0.0100	0.200	0	100	80	120			
Beryllium	0.193	0.00100	0.200	0	96.6	80	120			
Cadmium	0.202	0.00100	0.200	0	101	80	120			
Calcium	4.96	0.300	5.00	0	99.3	80	120			
Chromium	0.202	0.00500	0.200	0	101	80	120			
Cobalt	0.201	0.00500	0.200	0	100	80	120			
Lead	0.193	0.00100	0.200	0	96.5	80	120			
Lithium	0.195	0.0100	0.200	0	97.6	80	120			
Molybdenum	0.202	0.00500	0.200	0	101	80	120			
Selenium	0.200	0.00500	0.200	0	100	80	120			
Thallium	0.192	0.00150	0.200	0	96.2	80	120			

Sample ID: **LCSD-100848** Batch ID: **100848** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS5_210609A** Analysis Date: **6/9/2021 10:47:00 AM** Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	101	80	120	0.772	15	
Arsenic	0.204	0.00500	0.200	0	102	80	120	1.01	15	
Barium	0.198	0.0100	0.200	0	98.9	80	120	1.22	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_210609A

Sample ID: **LCSD-100848**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCSD**	Run ID: **ICP-MS5_210609A**	Analysis Date: **6/9/2021 10:47:00 AM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.193	0.00100	0.200	0	96.3	80	120	0.249	15	
Cadmium	0.203	0.00100	0.200	0	101	80	120	0.421	15	
Calcium	4.88	0.300	5.00	0	97.5	80	120	1.78	15	
Chromium	0.201	0.00500	0.200	0	100	80	120	0.430	15	
Cobalt	0.201	0.00500	0.200	0	101	80	120	0.385	15	
Lead	0.193	0.00100	0.200	0	96.4	80	120	0.154	15	
Lithium	0.195	0.0100	0.200	0	97.5	80	120	0.146	15	
Molybdenum	0.200	0.00500	0.200	0	100	80	120	0.692	15	
Selenium	0.199	0.00500	0.200	0	99.3	80	120	0.933	15	
Thallium	0.193	0.00150	0.200	0	96.5	80	120	0.329	15	

Sample ID: **2106027-04A SD**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **SD**	Run ID: **ICP-MS5_210609A**	Analysis Date: **6/9/2021 10:55:00 AM**	Prep Date: **6/8/2021**

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	0.0228	0.0500	0	0.0227				0.434	20	
Beryllium	<0.00150	0.00500	0	0				0	20	
Cadmium	<0.00150	0.00500	0	0				0	20	
Calcium	2.45	1.50	0	2.37				3.47	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	<0.0250	0.0500	0	0.0118				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: **2106027-04A PDS**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **PDS**	Run ID: **ICP-MS5_210609A**	Analysis Date: **6/9/2021 11:20:00 AM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.159	0.00250	0.200	0	79.3	75	125			
Arsenic	0.189	0.00500	0.200	0	94.7	75	125			
Barium	0.226	0.0100	0.200	0.0227	102	75	125			
Beryllium	0.189	0.00100	0.200	0	94.3	75	125			
Cadmium	0.208	0.00100	0.200	0	104	75	125			
Calcium	7.04	0.300	5.00	2.37	93.5	75	125			
Chromium	0.207	0.00500	0.200	0	104	75	125			
Cobalt	0.195	0.00500	0.200	0	97.4	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_210609A

Sample ID: **2106027-04A PDS**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **PDS**	Run ID: **ICP-MS5_210609A**	Analysis Date: **6/9/2021 11:20:00 AM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.197	0.00100	0.200	0	98.3	75	125			
Lithium	0.199	0.0100	0.200	0.0118	93.4	75	125			
Molybdenum	0.199	0.00500	0.200	0	99.7	75	125			
Selenium	0.198	0.00500	0.200	0	99.2	75	125			
Thallium	0.194	0.00150	0.200	0	97.1	75	125			

Sample ID: **2106027-04A MS**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MS**	Run ID: **ICP-MS5_210609A**	Analysis Date: **6/9/2021 11:23:00 AM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.202	0.00250	0.200	0	101	75	125			
Arsenic	0.193	0.00500	0.200	0	96.7	75	125			
Barium	0.225	0.0100	0.200	0.0227	101	75	125			
Beryllium	0.187	0.00100	0.200	0	93.6	75	125			
Cadmium	0.204	0.00100	0.200	0	102	75	125			
Calcium	7.17	0.300	5.00	2.37	96.0	75	125			
Chromium	0.203	0.00500	0.200	0	101	75	125			
Cobalt	0.194	0.00500	0.200	0	96.8	75	125			
Lead	0.193	0.00100	0.200	0	96.7	75	125			
Lithium	0.201	0.0100	0.200	0.0118	94.8	75	125			
Molybdenum	0.201	0.00500	0.200	0	101	75	125			
Selenium	0.197	0.00500	0.200	0	98.4	75	125			
Thallium	0.193	0.00150	0.200	0	96.5	75	125			

Sample ID: **2106027-04A MSD**	Batch ID: **100848**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MSD**	Run ID: **ICP-MS5_210609A**	Analysis Date: **6/9/2021 11:26:00 AM**	Prep Date: **6/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.202	0.00250	0.200	0	101	75	125	0.345	15	
Arsenic	0.191	0.00500	0.200	0	95.4	75	125	1.39	15	
Barium	0.223	0.0100	0.200	0.0227	100	75	125	0.936	15	
Beryllium	0.186	0.00100	0.200	0	93.2	75	125	0.406	15	
Cadmium	0.204	0.00100	0.200	0	102	75	125	0.160	15	
Calcium	7.39	0.300	5.00	2.37	101	75	125	3.11	15	
Chromium	0.205	0.00500	0.200	0	102	75	125	1.03	15	
Cobalt	0.191	0.00500	0.200	0	95.7	75	125	1.08	15	
Lead	0.194	0.00100	0.200	0	97.1	75	125	0.417	15	
Lithium	0.202	0.0100	0.200	0.0118	95.2	75	125	0.432	15	
Molybdenum	0.203	0.00500	0.200	0	101	75	125	0.634	15	
Selenium	0.200	0.00500	0.200	0	99.9	75	125	1.49	15	
Thallium	0.193	0.00150	0.200	0	96.6	75	125	0.054	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_210609A

Sample ID: **ICV-210609**	Batch ID: **R115743**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS5_210609A**	Analysis Date: **6/9/2021 10:28:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0996	0.00250	0.100	0	99.6	90	110			
Arsenic	0.0994	0.00500	0.100	0	99.4	90	110			
Barium	0.0991	0.0100	0.100	0	99.1	90	110			
Beryllium	0.0921	0.00100	0.100	0	92.1	90	110			
Cadmium	0.0985	0.00100	0.100	0	98.5	90	110			
Calcium	2.37	0.300	2.50	0	94.9	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	0.0962	0.00100	0.100	0	96.2	90	110			
Lithium	0.0934	0.0100	0.100	0	93.4	90	110			
Molybdenum	0.0963	0.00500	0.100	0	96.3	90	110			
Selenium	0.0969	0.00500	0.100	0	96.9	90	110			
Thallium	0.0946	0.00150	0.100	0	94.6	90	110			

Sample ID: **LCVL-210609**	Batch ID: **R115743**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS5_210609A**	Analysis Date: **6/9/2021 10:34:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00188	0.00250	0.00200	0	94.2	80	120			
Arsenic	0.00520	0.00500	0.00500	0	104	80	120			
Barium	0.00489	0.0100	0.00500	0	97.8	80	120			
Beryllium	0.00103	0.00100	0.00100	0	103	80	120			
Cadmium	0.00112	0.00100	0.00100	0	112	80	120			
Calcium	0.105	0.300	0.100	0	105	80	120			
Chromium	0.00492	0.00500	0.00500	0	98.4	80	120			
Cobalt	0.00466	0.00500	0.00500	0	93.3	80	120			
Lead	0.00102	0.00100	0.00100	0	102	80	120			
Lithium	0.00965	0.0100	0.0100	0	96.5	80	120			
Molybdenum	0.00514	0.00500	0.00500	0	103	80	120			
Selenium	0.00495	0.00500	0.00500	0	99.1	80	120			
Thallium	0.000954	0.00150	0.00100	0	95.4	80	120			

Sample ID: **CCV1-210609**	Batch ID: **R115743**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS5_210609A**	Analysis Date: **6/9/2021 11:28:00 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.201	0.00250	0.200	0	100	90	110			
Arsenic	0.201	0.00500	0.200	0	100	90	110			
Barium	0.201	0.0100	0.200	0	101	90	110			
Beryllium	0.187	0.00100	0.200	0	93.4	90	110			
Cadmium	0.203	0.00100	0.200	0	101	90	110			

Qualifiers:

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

CLIENT: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS5_210609A

Sample ID: **CCV1-210609** Batch ID: **R115743** TestNo: **SW6020B** Units: **mg/L**
SampType: **CCV** Run ID: **ICP-MS5_210609A** Analysis Date: **6/9/2021 11:28:00 AM** Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	4.94	0.300	5.00	0	98.7	90	110			
Chromium	0.202	0.00500	0.200	0	101	90	110			
Cobalt	0.201	0.00500	0.200	0	100	90	110			
Lead	0.197	0.00100	0.200	0	98.7	90	110			
Lithium	0.192	0.0100	0.200	0	95.8	90	110			
Molybdenum	0.204	0.00500	0.200	0	102	90	110			
Selenium	0.198	0.00500	0.200	0	99.2	90	110			
Thallium	0.195	0.00150	0.200	0	97.4	90	110			

Qualifiers:

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

CLIENT: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: **IC2_210527A**

Sample ID: **DCS3-100738** Batch ID: **100738** TestNo: **E300** Units: **mg/L**
SampType: **DCS3** Run ID: **IC2_210527A** Analysis Date: **5/27/2021 4:13:05 PM** Prep Date: **5/27/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	1.25	1.00	1.000	0	125	70	130	0	0	
Fluoride	0.408	0.400	0.4000	0	102	70	130	0	0	
Sulfate	3.03	3.00	3.000	0	101	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_210614A

The QC data in batch 100908 applies to the following samples: 2106039-09A, 2106039-10A, 2106039-11A, 2106039-12A, 2106039-13A, 2106039-14A, 2106039-15A, 2106039-16A

Sample ID: **MB-100908**	Batch ID: **100908**	TestNo: **E300**	Units: **mg/L**
SampType: **MBLK**	Run ID: **IC2_210614A**	Analysis Date: **6/14/2021 11:51:44 AM**	Prep Date: **6/14/2021**

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-100908**	Batch ID: **100908**	TestNo: **E300**	Units: **mg/L**
SampType: **LCS**	Run ID: **IC2_210614A**	Analysis Date: **6/14/2021 12:07:44 PM**	Prep Date: **6/14/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.25	1.00	10.00	0	92.5	90	110			
Fluoride	3.91	0.400	4.000	0	97.6	90	110			
Sulfate	29.7	3.00	30.00	0	99.0	90	110			

Sample ID: **LCSD-100908**	Batch ID: **100908**	TestNo: **E300**	Units: **mg/L**
SampType: **LCSD**	Run ID: **IC2_210614A**	Analysis Date: **6/14/2021 12:23:44 PM**	Prep Date: **6/14/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.26	1.00	10.00	0	92.6	90	110	0.117	20	
Fluoride	3.89	0.400	4.000	0	97.2	90	110	0.418	20	
Sulfate	29.6	3.00	30.00	0	98.5	90	110	0.489	20	

Sample ID: **2106039-11AMS**	Batch ID: **100908**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_210614A**	Analysis Date: **6/14/2021 3:54:01 PM**	Prep Date: **6/14/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2410	100	2000	226.9	109	90	110			
Fluoride	2200	40.0	2000	0	110	90	110			
Sulfate	4550	300	2000	2758	89.7	90	110			

Sample ID: **2106039-11AMSD**	Batch ID: **100908**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_210614A**	Analysis Date: **6/14/2021 4:10:01 PM**	Prep Date: **6/14/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2420	100	2000	226.9	109	90	110	0.456	20	
Fluoride	2210	40.0	2000	0	111	90	110	0.356	20	S
Sulfate	4560	300	2000	2758	90.0	90	110	0.115	20	

Qualifiers:

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

CLIENT: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_210614A

Sample ID: **2106088-01BMS**	Batch ID: **100908**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_210614A**	Analysis Date: **6/14/2021 4:42:02 PM**	Prep Date: **6/14/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2320	100	2000	354.9	98.4	90	110			
Fluoride	1990	40.0	2000	0	99.3	90	110			
Sulfate	2210	300	2000	475.1	86.9	90	110			S

Sample ID: **2106088-01BMSD**	Batch ID: **100908**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_210614A**	Analysis Date: **6/14/2021 4:58:02 PM**	Prep Date: **6/14/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	2330	100	2000	354.9	98.7	90	110	0.286	20	
Fluoride	1990	40.0	2000	0	99.4	90	110	0.120	20	
Sulfate	2210	300	2000	475.1	86.5	90	110	0.329	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_210614A

Sample ID: **ICV-210614**	Batch ID: **R115795**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_210614A**	Analysis Date: **6/14/2021 11:19:44 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	24.7	1.00	25.00	0	98.7	90	110			
Fluoride	10.1	0.400	10.00	0	101	90	110			
Sulfate	77.8	3.00	75.00	0	104	90	110			

Sample ID: **CCV1-210614**	Batch ID: **R115795**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_210614A**	Analysis Date: **6/14/2021 8:10:01 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.33	1.00	10.00	0	93.3	90	110			
Fluoride	4.03	0.400	4.000	0	101	90	110			
Sulfate	30.1	3.00	30.00	0	100	90	110			

Sample ID: **CCV2-210614**	Batch ID: **R115795**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_210614A**	Analysis Date: **6/15/2021 12:10:01 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	9.29	1.00	10.00	0	92.9	90	110			
Fluoride	3.97	0.400	4.000	0	99.3	90	110			
Sulfate	29.8	3.00	30.00	0	99.2	90	110			

Sample ID: **CCV3-210614**	Batch ID: **R115795**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_210614A**	Analysis Date: **6/15/2021 4:10:01 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.00	0.400	4.000	0	100	90	110			
Sulfate	29.8	3.00	30.00	0	99.3	90	110			

Qualifiers:

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

CLIENT: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds CCR

ANALYTICAL QC SUMMARY REPORT

RunID: WC_210614B

The QC data in batch 100893 applies to the following samples: 2106039-09A, 2106039-10A, 2106039-11A, 2106039-12A, 2106039-13A, 2106039-14A, 2106039-15A, 2106039-16A

Sample ID: **MB-100893** Batch ID: **100893** TestNo: **M2540C** Units: **mg/L**
SampType: **MBLK** Run ID: **WC_210614B** Analysis Date: **6/14/2021 12:10:00 PM** Prep Date: **6/14/2021**

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-100893** Batch ID: **100893** TestNo: **M2540C** Units: **mg/L**
SampType: **LCS** Run ID: **WC_210614B** Analysis Date: **6/14/2021 12:10:00 PM** Prep Date: **6/14/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	759	10.0	745.6	0	102	90	113			

Sample ID: **2106088-01B-DUP** Batch ID: **100893** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_210614B** Analysis Date: **6/14/2021 12:10:00 PM** Prep Date: **6/14/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	2010	50.0	0	2015				0.248	5	

Sample ID: **2106088-02B-DUP** Batch ID: **100893** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_210614B** Analysis Date: **6/14/2021 12:10:00 PM** Prep Date: **6/14/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	2460	50.0	0	2550				3.59	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: Golder
Work Order: 2106039
Project: Luminant - MLSES Ash Ponds 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 09, 2021

DHL Analytical, Inc.

Sample Delivery Group:	L1363700
Samples Received:	06/09/2021
Project Number:	2106039
Description:	

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

Entire Report Reviewed By:

Donna Eidson
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

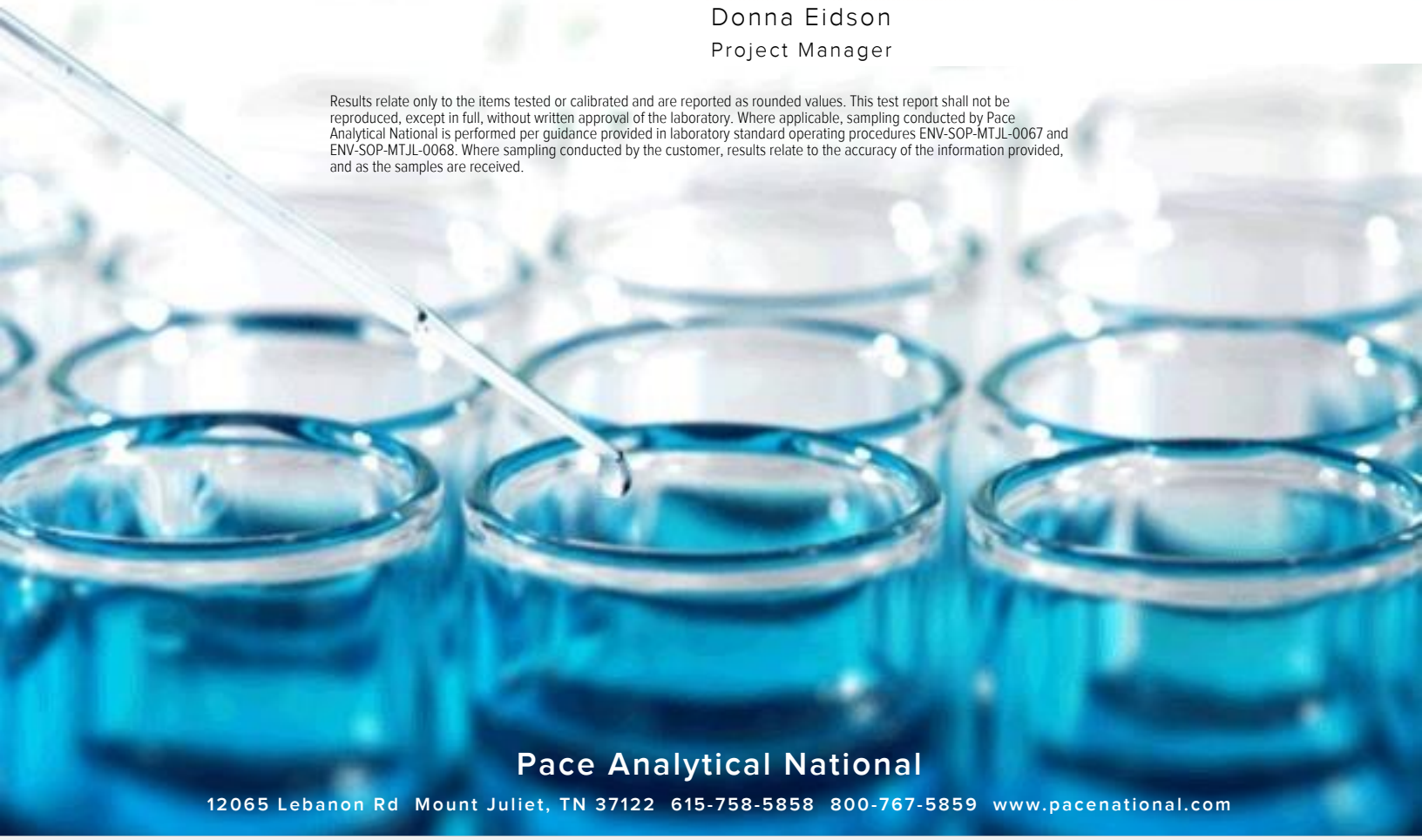


TABLE OF CONTENTS

H-28 L1363700-01 Non-Potable Water

Collected by | Collected date/time 06/04/21 09:00 | Received date/time 06/09/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1695760	1	06/28/21 12:32	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1688248	1	07/02/21 09:34	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1688248	1	07/02/21 09:34	07/05/21 11:46	RGT	Mt. Juliet, TN

H-29 L1363700-02 Non-Potable Water

Collected by | Collected date/time 06/04/21 09:55 | Received date/time 06/09/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1695760	1	06/28/21 12:32	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1688248	1	07/02/21 09:34	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1688248	1	07/02/21 09:34	07/05/21 11:46	RGT	Mt. Juliet, TN

H-31 L1363700-03 Non-Potable Water

Collected by | Collected date/time 06/04/21 10:45 | Received date/time 06/09/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1695760	1	06/28/21 12:32	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1688248	1	07/02/21 09:34	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1688248	1	07/02/21 09:34	07/05/21 11:46	RGT	Mt. Juliet, TN

H-32 L1363700-04 Non-Potable Water

Collected by | Collected date/time 06/04/21 11:30 | Received date/time 06/09/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1695760	1	06/28/21 12:32	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1688248	1	07/02/21 09:34	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1688248	1	07/02/21 09:34	07/05/21 11:46	RGT	Mt. Juliet, TN

H-33 L1363700-05 Non-Potable Water

Collected by | Collected date/time 06/04/21 12:25 | Received date/time 06/09/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1695760	1	06/28/21 12:32	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1688248	1	07/02/21 09:34	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1688248	1	07/02/21 09:34	07/05/21 11:46	RGT	Mt. Juliet, TN

DUP-1 L1363700-06 Non-Potable Water

Collected by | Collected date/time 06/04/21 12:25 | Received date/time 06/09/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1695760	1	06/28/21 12:32	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1688248	1	07/02/21 09:34	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1688248	1	07/02/21 09:34	07/05/21 11:46	RGT	Mt. Juliet, TN

H-26 L1363700-07 Non-Potable Water

Collected by	Collected date/time	Received date/time
	06/04/21 13:20	06/09/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1695760	1	06/28/21 12:32	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1688248	1	07/02/21 09:34	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1688248	1	07/02/21 09:34	07/05/21 11:46	RGT	Mt. Juliet, TN

H-27 L1363700-08 Non-Potable Water

Collected by	Collected date/time	Received date/time
	06/04/21 14:10	06/09/21 10:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method 904	WG1695760	1	06/28/21 12:32	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method Calculation	WG1688248	1	07/02/21 09:34	07/06/21 15:05	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1688248	1	07/02/21 09:34	07/05/21 11:46	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

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.796	J	0.444	0.808	07/06/2021 15:05	WG1695760
(T) Barium	*97.5*			*62.0-143*	*07/06/2021 15:05*	WG1695760
(T) Yttrium	*97.9*			*79.0-136*	*07/06/2021 15:05*	WG1695760

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.03		0.629	0.991	07/06/2021 15:05	WG1688248

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.229		0.185	0.183	07/05/2021 11:46	WG1688248
(T) Barium-133	*94.2*			*30.0-143*	*07/05/2021 11:46*	WG1688248

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.853		0.380	0.686	07/06/2021 15:05	WG1695760
(T) Barium	*96.6*			*62.0-143*	*07/06/2021 15:05*	WG1695760
(T) Yttrium	*105*			*79.0-136*	*07/06/2021 15:05*	WG1695760

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	0.989		0.533	0.887	07/06/2021 15:05	WG1688248

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.136	J	0.153	0.201	07/05/2021 11:46	WG1688248
(T) Barium-133	*83.2*			*30.0-143*	*07/05/2021 11:46*	WG1688248

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.808		0.383	0.692	07/06/2021 15:05	WG1695760
(T) Barium	*100*			*62.0-143*	*07/06/2021 15:05*	WG1695760
(T) Yttrium	*93.7*			*79.0-136*	*07/06/2021 15:05*	WG1695760

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.06	J	0.660	1.07	07/06/2021 15:05	WG1688248

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.248	J	0.277	0.376	07/05/2021 11:46	WG1688248
(T) Barium-133	*84.7*			*30.0-143*	*07/05/2021 11:46*	WG1688248

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.497	J	0.457	0.843	07/06/2021 15:05	WG1695760
(T) Barium	*97.2*			*62.0-143*	*07/06/2021 15:05*	WG1695760
(T) Yttrium	*99.3*			*79.0-136*	*07/06/2021 15:05*	WG1695760

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.497	U	0.587	1.11	07/06/2021 15:05	WG1688248

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.000	U	0.130	0.269	07/05/2021 11:46	WG1688248
(T) Barium-133	*97.7*			*30.0-143*	*07/05/2021 11:46*	WG1688248

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	0.649		0.320	0.58	07/06/2021 15:05	WG1695760
(T) Barium	*112*			*62.0-143*	*07/06/2021 15:05*	WG1695760
(T) Yttrium	*99.1*			*79.0-136*	*07/06/2021 15:05*	WG1695760

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.41		0.649	0.89	07/06/2021 15:05	WG1688248

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.760		0.329	0.31	07/05/2021 11:46	WG1688248
(T) Barium-133	*91.4*			*30.0-143*	*07/05/2021 11:46*	WG1688248

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.14		0.293	0.513	07/06/2021 15:05	WG1695760
(T) Barium	*115*			*62.0-143*	*07/06/2021 15:05*	WG1695760
(T) Yttrium	*99.7*			*79.0-136*	*07/06/2021 15:05*	WG1695760

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.01		0.618	0.657	07/06/2021 15:05	WG1688248

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.869		0.325	0.144	07/05/2021 11:46	WG1688248
(T) Barium-133	*100*			*30.0-143*	*07/05/2021 11:46*	WG1688248

Radiochemistry by Method 904

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.13		0.351	0.624	07/06/2021 15:05	WG1695760
(T) Barium	*107*			*62.0-143*	*07/06/2021 15:05*	WG1695760
(T) Yttrium	*92.3*			*79.0-136*	*07/06/2021 15:05*	WG1695760

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.39		0.553	0.846	07/06/2021 15:05	WG1688248

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.263		0.202	0.222	07/05/2021 11:46	WG1688248
(T) Barium-133	*97.2*			*30.0-143*	*07/05/2021 11:46*	WG1688248

Radiochemistry by Method 904

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.15		0.340	0.601	07/06/2021 15:05	WG1695760
(T) Barium	*106*			*62.0-143*	*07/06/2021 15:05*	WG1695760
(T) Yttrium	*96.0*			*79.0-136*	*07/06/2021 15:05*	WG1695760

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.38		0.523	0.797	07/06/2021 15:05	WG1688248

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.226		0.183	0.196	07/05/2021 11:46	WG1688248
(T) Barium-133	*104*			*30.0-143*	*07/05/2021 11:46*	WG1688248

Method Blank (MB)

(MB) R3677006-1 07/06/21 15:05

Analyte	MB Result pCi/l	MB Qualifier	MB MDA pCi/l
Radium-228	0.000	U	0.498
(T) Barium	*111*		
(T) Yttrium	*88.1*		

L1363700-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1363700-05 07/06/21 15:05 • (DUP) R3677006-5 07/06/21 15:05

Analyte	Original Result pCi/l	DUP Result pCi/l	Dilution	DUP RPD %	DUP RER	DUP Qualifier	DUP RPD Limits %	DUP RER Limit
Radium-228	0.649	0.0636	1	164	0.892	U	20	3
(T) Barium	*112*	*104*						
(T) Yttrium	*99.1*	*95.5*						

Laboratory Control Sample (LCS)

(LCS) R3677006-2 07/06/21 15:05

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-228	5.00	5.47	109	80.0-120	
(T) Barium			*109*		
(T) Yttrium			*95.6*		

L1369855-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1369855-03 07/06/21 15:05 • (MS) R3677006-3 07/06/21 15:05 • (MSD) R3677006-4 07/06/21 15:05

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	0.367	19.8	17.6	117	103	1	70.0-130			11.9		20
(T) Barium		*98.1*			*102*	*112*							
(T) Yttrium		*92.1*			*88.4*	*89.1*							

Method Blank (MB)

(MB) R3676622-1 07/05/21 11:46

Analyte	MB Result	MB Qualifier	MB MDA
	pCi/l		pCi/l
Radium-226	-0.0128	U	0.0705
(T) Barium-133	*101*		

L1363700-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1363700-08 07/05/21 11:46 • (DUP) R3676622-5 07/05/21 11:46

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP RER	DUP Qualifier	DUP RPD Limits	DUP RER Limit
	pCi/l	pCi/l		%			%	
Radium-226	0.226	0.466	1	69.3	0.753		20	3
(T) Barium-133	*104*	*97.2*						

Laboratory Control Sample (LCS)

(LCS) R3676622-2 07/05/21 11:46

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-226	5.02	4.97	99.0	80.0-120	
(T) Barium-133			*98.9*		

L1363700-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1363700-01 07/05/21 11:46 • (MS) R3676622-3 07/05/21 11:46 • (MSD) R3676622-4 07/05/21 11:46

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	20.1	0.229	18.4	18.4	90.6	90.4	1	75.0-125			0.272		20
(T) Barium-133		*94.2*			*96.3*	*83.1*							

GLOSSARY OF TERMS

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	LAO000356
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: (512) 388-8229

CHAIN-OF-CUSTODY RECORD

Work Order: 2106039

A110

U363700

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

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

07-Jun-21

Sample ID	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests: Ra-228 E904.0	Ra-226 M7500 Ra B M				
H-28	Aqueous	01C	06/04/21 09:00 AM	1LHDPE		1				-01
H-28	Aqueous	01D	06/04/21 09:00 AM	1LHDPE	1					-01
H-29	Aqueous	02C	06/04/21 09:55 AM	1LHDPE		1				-02
H-29	Aqueous	02D	06/04/21 09:55 AM	1LHDPE	1					-02
H-31	Aqueous	03C	06/04/21 10:45 AM	1LHDPE		1				-03
H-31	Aqueous	03D	06/04/21 10:45 AM	1LHDPE	1					-03
H-32	Aqueous	04C	06/04/21 11:30 AM	1LHDPE		1				-04
H-32	Aqueous	04D	06/04/21 11:30 AM	1LHDPE	1					-04
H-33	Aqueous	05C	06/04/21 12:25 PM	1LHDPE		1				-05
H-33	Aqueous	05D	06/04/21 12:25 PM	1LHDPE	1					-05
DUP-1	Aqueous	06C	06/04/21 12:25 PM	1LHDPE		1				-06
DUP-1	Aqueous	06D	06/04/21 12:25 PM	1LHDPE	1					-06
H-26	Aqueous	07C	06/04/21 01:20 PM	1LHDPE		1				-07
H-26	Aqueous	07D	06/04/21 01:20 PM	1LHDPE	1					-09
H-27	Aqueous	08C	06/04/21 02:10 PM	1LHDPE		1				-08
H-27	Aqueous	08D	06/04/21 02:10 PM	1LHDPE	1					-08

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	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		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

	Date/Time		Date/Time
Relinquished by:	6/7/21 1700	Received by:	6/8/21 1000
Relinquished by:		Received by:	

November 10, 2021

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

Order No.: 2110028

RE: Luminant - MLSES Ash Ponds

Dear Will Vienne:

DHL Analytical, Inc. received 8 sample(s) on 10/6/2021 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: T104704211-21-27

Table of Contents

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

CHAIN-OF-CUSTODY

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

DATE: 10-4-21
PO#:

LABORATORY USE ONLY
DHL WORKORDER #: 2110028

PROJECT LOCATION OR NAME: LUMINANT - MLSES ASH PONDS
CLIENT PROJECT # 19122262 COLLECTOR: JOHN BRAYTON

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

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

Field Sample I.D.	DHL Lab #	Collection Date	Collection Time	Matrix	Container Type	# of Containers	PRESERVATION: HCL	HNO3	H2SO4	NaOH ☐ Zn Acetate ☐	ICE ☒ UNPRESERVED ☒	ANALYSES	APPENDIX III	APPENDIX IV	FIELD NOTES
H-26	01	10-4-21	1535	W	P	4		X			X		X	X	
H-27	02	"	1420	W	P	4		X			X		X	X	
H-33	03	"	1305	W	P	4		X			X		X	X	
H-29	04	"	1150	W	P	4		X			X		X	X	
H-28	05	"	1040	W	P	4		X			X		X	X	
H-32	06	"	0930	W	P	4		X			X		X	X	
H-31	07	"	0815	W	P	4		X			X		X	X	
DUP-1	08	"	1535	W	P	4		X			X		X	X	

Relinquished By: (Sign) — DATE/TIME: 10-5-21 1800 — Received by: FedEx
Relinquished By: (Sign) FedEx — DATE/TIME: 10/6/21 1010 — Received by:
Relinquished By: (Sign) — DATE/TIME — Received by:

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

LABORATORY USE ONLY
RECEIVING TEMP (°C): 2.0°C/0.3°C THERM #: 78
CUSTODY SEALS: ☐ BROKEN ☒ INTACT ☐ NOT USED
CARRIER: ☐ LSO ☒ FEDEX ☐ UPS ☐ COURIER ☐ OTHER ☐ HAND DELIVERED

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

DHL COC REV 3 | MAR 2021

Eric Lau

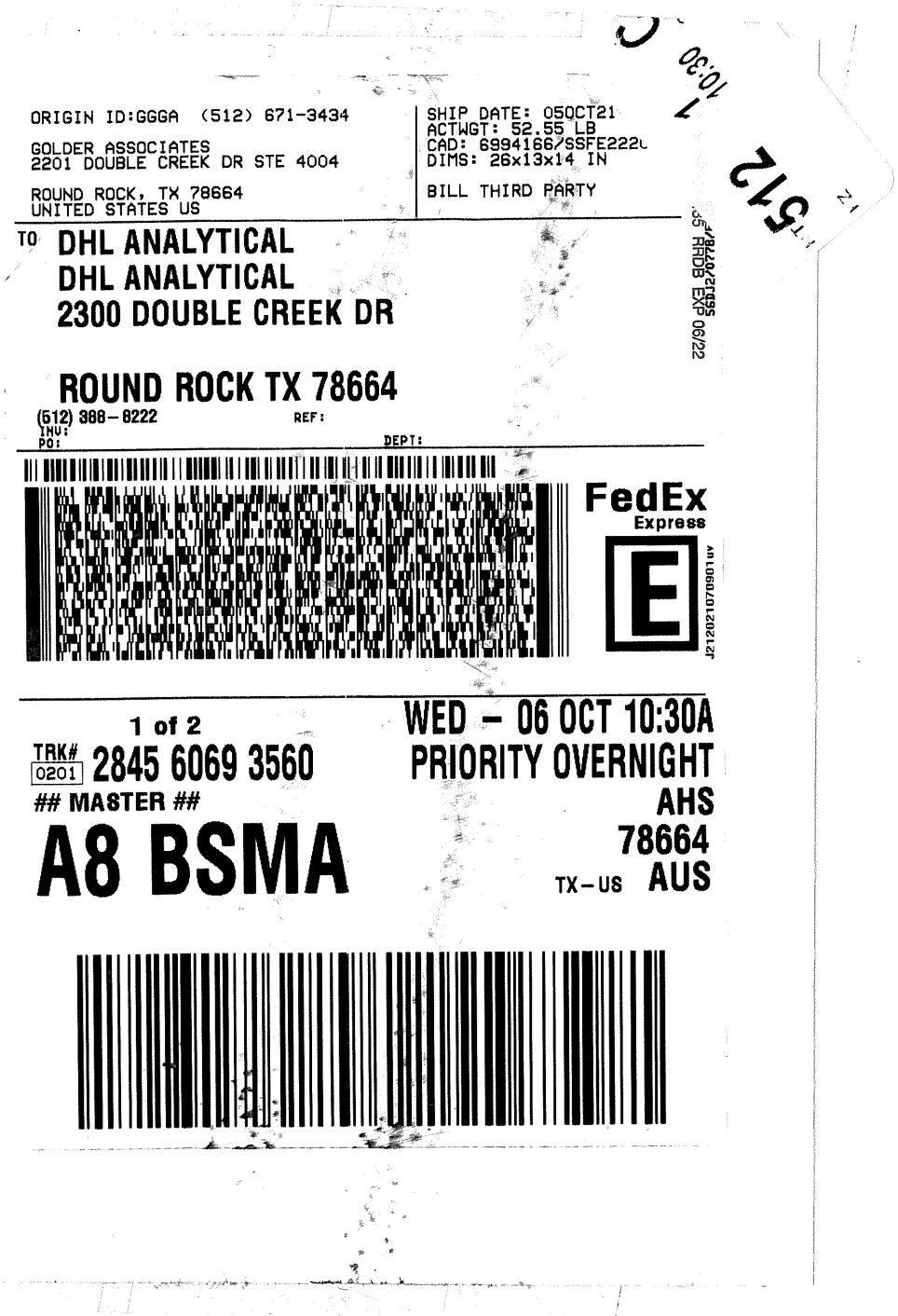
From: John DuPont
Sent: Tuesday, May 28, 2019 11:35 AM
To: Eric Lau
Subject: FW: CCR Analysis

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

Appendix IV Parameters:

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

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



ORIGIN ID:GGGA (512) 671-3434

GOLDER ASSOCIATES
2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP DATE: 05OCT21
ACTWGT: 52.55 LB
CAD: 6994166/SSFE2220
DIMS: 26x13x14 IN

BILL THIRD PARTY

TO DHL ANALYTICAL
DHL ANALYTICAL
2300 DOUBLE CREEK DR

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

FedEx Express

1 of 2
TRK# 0201 2845 6069 3560
MASTER
A8 BSMA

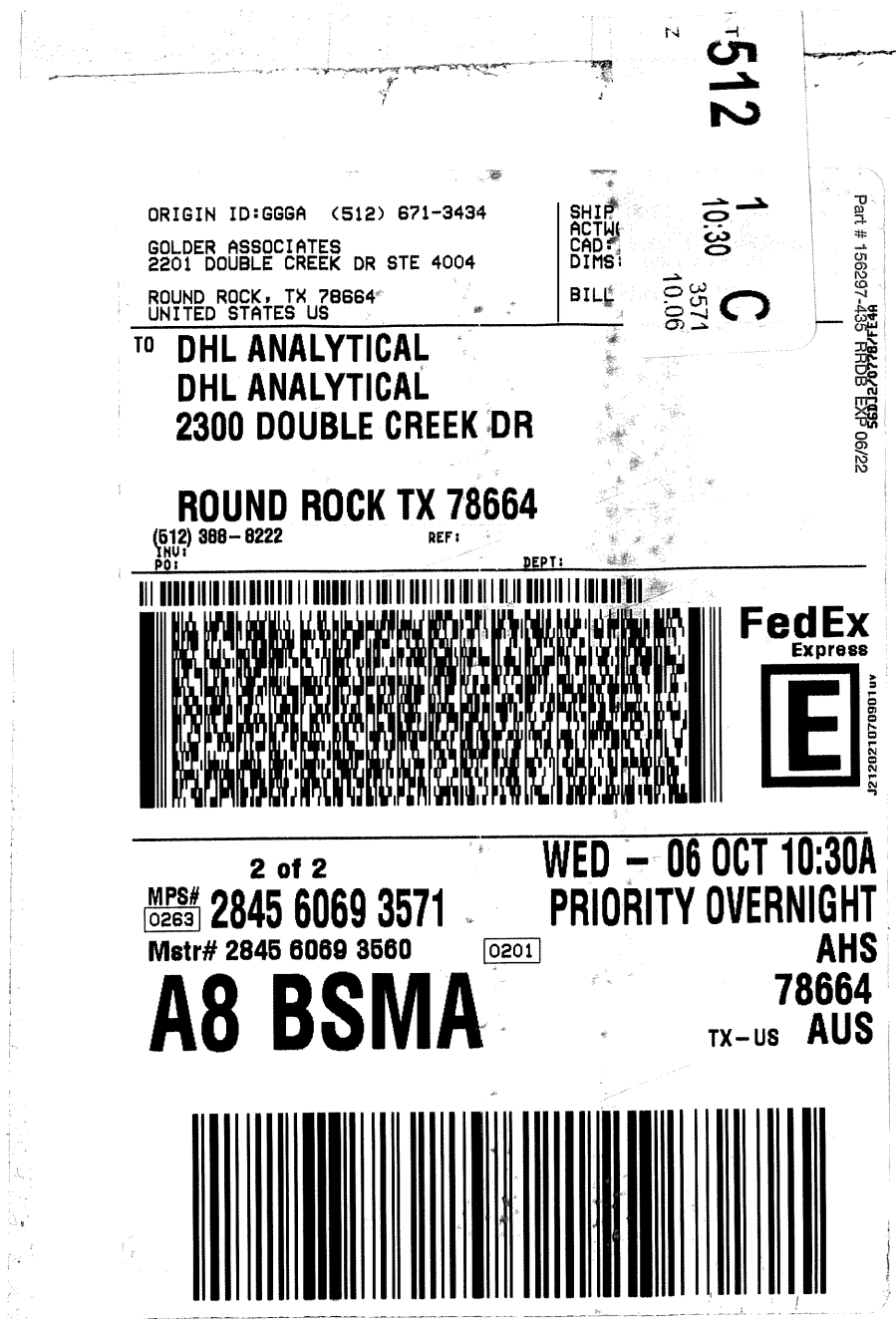
WED - 06 OCT 10:30A
PRIORITY OVERNIGHT
AHS
78664
TX-US AUS

CUSTODY SEAL

DATE 10-5-21

SIGNATURE

DHL ANALYTICAL



ORIGIN ID:GGGA (512) 671-3434

GOLDER ASSOCIATES
2201 DOUBLE CREEK DR STE 4004

ROUND ROCK, TX 78664
UNITED STATES US

SHIP
ACTW
CAD:
DIMS:

BILL

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3571
10.06

Part # 156297-435 RRDB EXP 06/22

TO DHL ANALYTICAL
DHL ANALYTICAL
2300 DOUBLE CREEK DR

ROUND ROCK TX 78664
(512) 388-8222

INV:
PO:

REF:

DEPT:

FedEx
Express

2 of 2

MPS# 0263 2845 6069 3571

Mstr# 2845 6069 3560

0201

WED - 06 OCT 10:30A
PRIORITY OVERNIGHT
AHS
78664
TX-US AUS

A8 BSMA

CUSTODY SEA

DATE 10.5.21

SIGNATURE

DHL
ANALYTICAL

DHL Analytical, Inc.

Sample Receipt Checklist

Client Name **Golder** Date Received: **10/6/2021**

Work Order Number **2110028** Received by: **RA**

Checklist completed by: EL (Signature) 10/6/2021 (Date) Reviewed by (Initials) 10/6/2021 (Date)

Carrier name: FedEx 1day

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shippping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	**2.0** °C / 0.3°C
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH<2 acceptable upon receipt?	Yes ☑	No ☐	NA ☐ LOT # 13171
	Adjusted? no		Checked by EL
Water - ph>9 (S) or ph>10 (CN) acceptable upon receipt?	Yes ☐	No ☐	NA ☑ LOT #
	Adjusted?		Checked by

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

Client contacted: _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action: _____

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist: Reportable Data

Project Name: Luminant - MLSES Ash Ponds	**LRC Date:** 11/10/21
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2110028
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

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

Laboratory Name: DHL Analytical, Inc.

Laboratory Review Checklist (continued): Supporting Data

Project Name: Luminant - MLSES Ash Ponds	**LRC Date:** 11/10/21
Reviewer Name: Carlos Castro	**Laboratory Work Order:** 2110028
Prep Batch Number(s): See Prep Dates Report	**Run Batch:** See Analytical Dates Report

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

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

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

This data package consists of:

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

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

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

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

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

Name: John DuPont
Official Title: General Manager

Signature

11/10/21

Date

Name: Dr. Derhsing Luu
Official Title: Technical Director

DHL Analytical, Inc. **Date:** *10-Nov-21*

CLIENT: Golder
Project: Luminant - MLSES Ash Ponds
Lab Order: 2110028

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 10/6/21. A total of 8 samples were received. The samples arrived in good condition and were properly packaged.

Exception Report R7-03

For Anions analysis performed on 10/12/21 (batch 102364) the matrix spike duplicate recovery (2110037-02 MSD) was slightly below control limits for Sulfate. This is flagged accordingly in the QC summary report. The sample selected for the matrix spike and matrix spike duplicate (2110037-02 MSD) was not from this work order. The LCS was within control limits for this analyte. No further corrective actions were taken.

DHL Analytical, Inc.

Date: *10-Nov-21*

CLIENT: Golder
Project: Luminant - MLSES Ash Ponds
Lab Order: 2110028

Work Order Sample Summary

Lab Smp ID	Client Sample ID	Tag Number	Date Collected	Date Recved
2110028-01	H-26		10/04/21 03:35 PM	10/6/2021
2110028-02	H-27		10/04/21 02:20 PM	10/6/2021
2110028-03	H-33		10/04/21 01:05 PM	10/6/2021
2110028-04	H-29		10/04/21 11:50 AM	10/6/2021
2110028-05	H-28		10/04/21 10:40 AM	10/6/2021
2110028-06	H-32		10/04/21 09:30 AM	10/6/2021
2110028-07	H-31		10/04/21 08:15 AM	10/6/2021
2110028-08	DUP-1		10/04/21 03:35 PM	10/6/2021

Lab Order: 2110028
Client: Golder
Project: Luminant - MLSES Ash Ponds

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2110028-01A	H-26	10/04/21 03:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-26	10/04/21 03:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-26	10/04/21 03:35 PM	Aqueous	SW7470A	Mercury Aq Prep	10/08/21 12:15 PM	102332
2110028-01B	H-26	10/04/21 03:35 PM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-26	10/04/21 03:35 PM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-26	10/04/21 03:35 PM	Aqueous	M2540C	TDS Preparation	10/08/21 10:12 AM	102327
2110028-02A	H-27	10/04/21 02:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-27	10/04/21 02:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-27	10/04/21 02:20 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-27	10/04/21 02:20 PM	Aqueous	SW7470A	Mercury Aq Prep	10/08/21 12:15 PM	102332
2110028-02B	H-27	10/04/21 02:20 PM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-27	10/04/21 02:20 PM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-27	10/04/21 02:20 PM	Aqueous	M2540C	TDS Preparation	10/08/21 10:12 AM	102327
2110028-03A	H-33	10/04/21 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-33	10/04/21 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-33	10/04/21 01:05 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-33	10/04/21 01:05 PM	Aqueous	SW7470A	Mercury Aq Prep	10/08/21 12:15 PM	102332
2110028-03B	H-33	10/04/21 01:05 PM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-33	10/04/21 01:05 PM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-33	10/04/21 01:05 PM	Aqueous	M2540C	TDS Preparation	10/08/21 10:12 AM	102327
2110028-04A	H-29	10/04/21 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-29	10/04/21 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-29	10/04/21 11:50 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-29	10/04/21 11:50 AM	Aqueous	SW7470A	Mercury Aq Prep	10/08/21 12:15 PM	102332
2110028-04B	H-29	10/04/21 11:50 AM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-29	10/04/21 11:50 AM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-29	10/04/21 11:50 AM	Aqueous	E300	Anion Preparation	10/12/21 10:00 AM	102364
	H-29	10/04/21 11:50 AM	Aqueous	M2540C	TDS Preparation	10/08/21 10:12 AM	102327

Lab Order: 2110028
Client: Golder
Project: Luminant - MLSES Ash Ponds

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2110028-05A	H-28	10/04/21 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-28	10/04/21 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-28	10/04/21 10:40 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-28	10/04/21 10:40 AM	Aqueous	SW7470A	Mercury Aq Prep	10/08/21 12:15 PM	102332
2110028-05B	H-28	10/04/21 10:40 AM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-28	10/04/21 10:40 AM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-28	10/04/21 10:40 AM	Aqueous	M2540C	TDS Preparation	10/08/21 10:12 AM	102327
2110028-06A	H-32	10/04/21 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-32	10/04/21 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-32	10/04/21 09:30 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-32	10/04/21 09:30 AM	Aqueous	SW7470A	Mercury Aq Prep	10/08/21 12:15 PM	102332
2110028-06B	H-32	10/04/21 09:30 AM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-32	10/04/21 09:30 AM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-32	10/04/21 09:30 AM	Aqueous	M2540C	TDS Preparation	10/08/21 10:12 AM	102327
2110028-07A	H-31	10/04/21 08:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-31	10/04/21 08:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-31	10/04/21 08:15 AM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	H-31	10/04/21 08:15 AM	Aqueous	SW7470A	Mercury Aq Prep	10/08/21 12:15 PM	102332
2110028-07B	H-31	10/04/21 08:15 AM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-31	10/04/21 08:15 AM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-31	10/04/21 08:15 AM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	H-31	10/04/21 08:15 AM	Aqueous	M2540C	TDS Preparation	10/08/21 10:12 AM	102327
2110028-08A	DUP-1	10/04/21 03:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	DUP-1	10/04/21 03:35 PM	Aqueous	SW3005A	Aq Prep Metals : ICP-MS	10/11/21 10:12 AM	102343
	DUP-1	10/04/21 03:35 PM	Aqueous	SW7470A	Mercury Aq Prep	10/08/21 12:15 PM	102332
2110028-08B	DUP-1	10/04/21 03:35 PM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	DUP-1	10/04/21 03:35 PM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348
	DUP-1	10/04/21 03:35 PM	Aqueous	E300	Anion Preparation	10/11/21 10:26 AM	102348

Lab Order: 2110028
Client: Golder
Project: Luminant - MLSES Ash Ponds

PREP DATES REPORT

Sample ID	Client Sample ID	Collection Date	Matrix	Test Number	Test Name	Prep Date	Batch ID
2110028-08B	DUP-1	10/04/21 03:35 PM	Aqueous	M2540C	TDS Preparation	10/08/21 10:12 AM	102327

Lab Order: 2110028
Client: Golder
Project: Luminant - MLSES Ash Ponds

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2110028-01A	H-26	Aqueous	SW7470A	Mercury Total: Aqueous	102332	1	10/11/21 10:55 AM	CETAC2_HG_211011C
	H-26	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/12/21 11:05 AM	ICP-MS4_211012B
	H-26	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/13/21 11:04 AM	ICP-MS4_211013A
2110028-01B	H-26	Aqueous	E300	Anions by IC method - Water	102348	10	10/11/21 05:05 PM	IC2_211011A
	H-26	Aqueous	E300	Anions by IC method - Water	102348	1	10/11/21 10:57 PM	IC2_211011A
	H-26	Aqueous	M2540C	Total Dissolved Solids	102327	1	10/08/21 04:10 PM	WC_211008B
2110028-02A	H-27	Aqueous	SW7470A	Mercury Total: Aqueous	102332	1	10/11/21 10:58 AM	CETAC2_HG_211011C
	H-27	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/12/21 11:01 AM	ICP-MS4_211012B
	H-27	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	10	10/12/21 12:11 PM	ICP-MS4_211012B
	H-27	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/13/21 11:00 AM	ICP-MS4_211013A
2110028-02B	H-27	Aqueous	E300	Anions by IC method - Water	102348	10	10/11/21 05:53 PM	IC2_211011A
	H-27	Aqueous	E300	Anions by IC method - Water	102348	1	10/11/21 11:13 PM	IC2_211011A
	H-27	Aqueous	M2540C	Total Dissolved Solids	102327	1	10/08/21 04:10 PM	WC_211008B
2110028-03A	H-33	Aqueous	SW7470A	Mercury Total: Aqueous	102332	1	10/11/21 11:00 AM	CETAC2_HG_211011C
	H-33	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/13/21 11:06 AM	ICP-MS4_211013A
	H-33	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/12/21 11:07 AM	ICP-MS4_211012B
	H-33	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	10	10/12/21 12:15 PM	ICP-MS4_211012B
2110028-03B	H-33	Aqueous	E300	Anions by IC method - Water	102348	10	10/11/21 06:09 PM	IC2_211011A
	H-33	Aqueous	E300	Anions by IC method - Water	102348	1	10/11/21 11:29 PM	IC2_211011A
	H-33	Aqueous	M2540C	Total Dissolved Solids	102327	1	10/08/21 04:10 PM	WC_211008B
2110028-04A	H-29	Aqueous	SW7470A	Mercury Total: Aqueous	102332	1	10/11/21 11:02 AM	CETAC2_HG_211011C
	H-29	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/12/21 11:09 AM	ICP-MS4_211012B
	H-29	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	50	10/12/21 12:17 PM	ICP-MS4_211012B
	H-29	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	50	10/13/21 11:08 AM	ICP-MS4_211013A
2110028-04B	H-29	Aqueous	E300	Anions by IC method - Water	102348	10	10/11/21 06:25 PM	IC2_211011A
	H-29	Aqueous	E300	Anions by IC method - Water	102348	1	10/11/21 11:45 PM	IC2_211011A

Lab Order: 2110028
Client: Golder
Project: Luminant - MLSES Ash Ponds

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2110028-04B	H-29	Aqueous	E300	Anions by IC method - Water	102364	100	10/12/21 03:57 PM	IC4_211012A
	H-29	Aqueous	M2540C	Total Dissolved Solids	102327	1	10/08/21 04:10 PM	WC_211008B
2110028-05A	H-28	Aqueous	SW7470A	Mercury Total: Aqueous	102332	1	10/11/21 11:05 AM	CETAC2_HG_211011C
	H-28	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/12/21 11:11 AM	ICP-MS4_211012B
	H-28	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	10	10/12/21 12:19 PM	ICP-MS4_211012B
	H-28	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	10	10/13/21 11:10 AM	ICP-MS4_211013A
2110028-05B	H-28	Aqueous	E300	Anions by IC method - Water	102348	10	10/11/21 06:41 PM	IC2_211011A
	H-28	Aqueous	E300	Anions by IC method - Water	102348	1	10/12/21 01:05 AM	IC2_211011A
	H-28	Aqueous	M2540C	Total Dissolved Solids	102327	1	10/08/21 04:10 PM	WC_211008B
2110028-06A	H-32	Aqueous	SW7470A	Mercury Total: Aqueous	102332	1	10/11/21 11:11 AM	CETAC2_HG_211011C
	H-32	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/12/21 11:13 AM	ICP-MS4_211012B
	H-32	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	10	10/12/21 12:21 PM	ICP-MS4_211012B
	H-32	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	10	10/13/21 11:12 AM	ICP-MS4_211013A
2110028-06B	H-32	Aqueous	E300	Anions by IC method - Water	102348	10	10/11/21 06:57 PM	IC2_211011A
	H-32	Aqueous	E300	Anions by IC method - Water	102348	1	10/12/21 01:21 AM	IC2_211011A
	H-32	Aqueous	M2540C	Total Dissolved Solids	102327	1	10/08/21 04:10 PM	WC_211008B
2110028-07A	H-31	Aqueous	SW7470A	Mercury Total: Aqueous	102332	1	10/11/21 11:14 AM	CETAC2_HG_211011C
	H-31	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	50	10/12/21 12:23 PM	ICP-MS4_211012B
	H-31	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	50	10/13/21 11:14 AM	ICP-MS4_211013A
	H-31	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/12/21 11:15 AM	ICP-MS4_211012B
2110028-07B	H-31	Aqueous	E300	Anions by IC method - Water	102348	100	10/11/21 04:33 PM	IC2_211011A
	H-31	Aqueous	E300	Anions by IC method - Water	102348	10	10/11/21 07:13 PM	IC2_211011A
	H-31	Aqueous	E300	Anions by IC method - Water	102348	1	10/12/21 01:37 AM	IC2_211011A
	H-31	Aqueous	M2540C	Total Dissolved Solids	102327	1	10/08/21 04:10 PM	WC_211008B
2110028-08A	DUP-1	Aqueous	SW7470A	Mercury Total: Aqueous	102332	1	10/11/21 11:16 AM	CETAC2_HG_211011C
	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/12/21 11:17 AM	ICP-MS4_211012B

Lab Order: 2110028
Client: Golder
Project: Luminant - MLSES Ash Ponds

ANALYTICAL DATES REPORT

Sample ID	Client Sample ID	Matrix	Test Number	Test Name	Batch ID	Dilution	Analysis Date	Run ID
2110028-08A	DUP-1	Aqueous	SW6020B	Trace Metals: ICP-MS - Water	102343	1	10/13/21 11:16 AM	ICP-MS4_211013A
2110028-08B	DUP-1	Aqueous	E300	Anions by IC method - Water	102348	100	10/11/21 04:49 PM	IC2_211011A
	DUP-1	Aqueous	E300	Anions by IC method - Water	102348	10	10/11/21 07:29 PM	IC2_211011A
	DUP-1	Aqueous	E300	Anions by IC method - Water	102348	1	10/12/21 01:53 AM	IC2_211011A
	DUP-1	Aqueous	M2540C	Total Dissolved Solids	102327	1	10/08/21 04:10 PM	WC_211008B

DHL Analytical, Inc.

Date: *10-Nov-21*

CLIENT:	Golder	**Client Sample ID:**	H-26
Project:	Luminant - MLSES Ash Ponds	**Lab ID:**	2110028-01
Project No:	19122262	**Collection Date:**	10/04/21 03:35 PM
Lab Order:	2110028	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/12/21 11:05 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:05 AM
Barium	0.0491	0.00300	0.0100		mg/L	1	10/12/21 11:05 AM
Beryllium	0.00147	0.000300	0.00100		mg/L	1	10/12/21 11:05 AM
Boron	0.409	0.0100	0.0300		mg/L	1	10/13/21 11:04 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/12/21 11:05 AM
Calcium	12.1	0.100	0.300		mg/L	1	10/12/21 11:05 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:05 AM
Cobalt	0.0227	0.00300	0.00500		mg/L	1	10/12/21 11:05 AM
Lead	0.000408	0.000300	0.00100	J	mg/L	1	10/12/21 11:05 AM
Lithium	0.0119	0.00500	0.0100		mg/L	1	10/12/21 11:05 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:05 AM
Selenium	0.00669	0.00200	0.00500		mg/L	1	10/12/21 11:05 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/12/21 11:05 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/21 10:55 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **SNM**
Chloride	72.8	3.00	10.0		mg/L	10	10/11/21 05:05 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/11/21 10:57 PM
Sulfate	56.2	1.00	3.00		mg/L	1	10/11/21 10:57 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	247	10.0	10.0		mg/L	1	10/08/21 04:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *10-Nov-21*

CLIENT:	Golder	**Client Sample ID:**	H-27
Project:	Luminant - MLSES Ash Ponds	**Lab ID:**	2110028-02
Project No:	19122262	**Collection Date:**	10/04/21 02:20 PM
Lab Order:	2110028	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/12/21 11:01 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:01 AM
Barium	0.115	0.00300	0.0100		mg/L	1	10/12/21 11:01 AM
Beryllium	0.000461	0.000300	0.00100	J	mg/L	1	10/12/21 11:01 AM
Boron	0.0511	0.0100	0.0300		mg/L	1	10/13/21 11:00 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/12/21 11:01 AM
Calcium	39.5	1.00	3.00		mg/L	10	10/12/21 12:11 PM
Chromium	0.00265	0.00200	0.00500	J	mg/L	1	10/12/21 11:01 AM
Cobalt	0.0295	0.00300	0.00500		mg/L	1	10/12/21 11:01 AM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/12/21 11:01 AM
Lithium	0.105	0.00500	0.0100		mg/L	1	10/12/21 11:01 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:01 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:01 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/12/21 11:01 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/21 10:58 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **SNM**
Chloride	84.7	3.00	10.0		mg/L	10	10/11/21 05:53 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/11/21 11:13 PM
Sulfate	96.9	1.00	3.00		mg/L	1	10/11/21 11:13 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	415	10.0	10.0		mg/L	1	10/08/21 04:10 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: *10-Nov-21*

CLIENT:	Golder	**Client Sample ID:**	H-33
Project:	Luminant - MLSES Ash Ponds	**Lab ID:**	2110028-03
Project No:	19122262	**Collection Date:**	10/04/21 01:05 PM
Lab Order:	2110028	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/12/21 11:07 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:07 AM
Barium	0.129	0.00300	0.0100		mg/L	1	10/12/21 11:07 AM
Beryllium	0.000583	0.000300	0.00100	J	mg/L	1	10/12/21 11:07 AM
Boron	0.0557	0.0100	0.0300		mg/L	1	10/13/21 11:06 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/12/21 11:07 AM
Calcium	49.1	1.00	3.00		mg/L	10	10/12/21 12:15 PM
Chromium	0.00337	0.00200	0.00500	J	mg/L	1	10/12/21 11:07 AM
Cobalt	0.0340	0.00300	0.00500		mg/L	1	10/12/21 11:07 AM
Lead	0.000347	0.000300	0.00100	J	mg/L	1	10/12/21 11:07 AM
Lithium	0.131	0.00500	0.0100		mg/L	1	10/12/21 11:07 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:07 AM
Selenium	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:07 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/12/21 11:07 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/21 11:00 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **SNM**
Chloride	99.8	3.00	10.0		mg/L	10	10/11/21 06:09 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/11/21 11:29 PM
Sulfate	117	1.00	3.00		mg/L	1	10/11/21 11:29 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	499	10.0	10.0		mg/L	1	10/08/21 04:10 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: *10-Nov-21*

CLIENT:	Golder	**Client Sample ID:**	H-29
Project:	Luminant - MLSES Ash Ponds	**Lab ID:**	2110028-04
Project No:	19122262	**Collection Date:**	10/04/21 11:50 AM
Lab Order:	2110028	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/12/21 11:09 AM
Arsenic	0.0130	0.00200	0.00500		mg/L	1	10/12/21 11:09 AM
Barium	0.0222	0.00300	0.0100		mg/L	1	10/12/21 11:09 AM
Beryllium	0.0340	0.000300	0.00100		mg/L	1	10/12/21 11:09 AM
Boron	17.9	0.500	1.50		mg/L	50	10/13/21 11:08 AM
Cadmium	0.000847	0.000300	0.00100	J	mg/L	1	10/12/21 11:09 AM
Calcium	241	5.00	15.0		mg/L	50	10/12/21 12:17 PM
Chromium	0.00477	0.00200	0.00500	J	mg/L	1	10/12/21 11:09 AM
Cobalt	0.430	0.00300	0.00500		mg/L	1	10/12/21 11:09 AM
Lead	0.00235	0.000300	0.00100		mg/L	1	10/12/21 11:09 AM
Lithium	0.159	0.00500	0.0100		mg/L	1	10/12/21 11:09 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:09 AM
Selenium	0.117	0.00200	0.00500		mg/L	1	10/12/21 11:09 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/12/21 11:09 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/21 11:02 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **SNM**
Chloride	201	3.00	10.0		mg/L	10	10/11/21 06:25 PM
Fluoride	0.223	0.100	0.400	J	mg/L	1	10/11/21 11:45 PM
Sulfate	2330	100	300		mg/L	100	10/12/21 03:57 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	3690	50.0	50.0		mg/L	1	10/08/21 04:10 PM

Qualifiers:

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C - Sample Result or QC discussed in Case Narrative
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SDL - Sample Detection Limit
E - TPH pattern not Gas or Diesel Range Pattern

DHL Analytical, Inc.

Date: *10-Nov-21*

CLIENT:	Golder	**Client Sample ID:**	H-28
Project:	Luminant - MLSES Ash Ponds	**Lab ID:**	2110028-05
Project No:	19122262	**Collection Date:**	10/04/21 10:40 AM
Lab Order:	2110028	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/12/21 11:11 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:11 AM
Barium	0.0135	0.00300	0.0100		mg/L	1	10/12/21 11:11 AM
Beryllium	0.00627	0.000300	0.00100		mg/L	1	10/12/21 11:11 AM
Boron	5.24	0.100	0.300		mg/L	10	10/13/21 11:10 AM
Cadmium	0.000763	0.000300	0.00100	J	mg/L	1	10/12/21 11:11 AM
Calcium	71.3	1.00	3.00		mg/L	10	10/12/21 12:19 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:11 AM
Cobalt	0.148	0.00300	0.00500		mg/L	1	10/12/21 11:11 AM
Lead	0.00127	0.000300	0.00100		mg/L	1	10/12/21 11:11 AM
Lithium	0.163	0.00500	0.0100		mg/L	1	10/12/21 11:11 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:11 AM
Selenium	0.00477	0.00200	0.00500	J	mg/L	1	10/12/21 11:11 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/12/21 11:11 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/21 11:05 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **SNM**
Chloride	93.7	3.00	10.0		mg/L	10	10/11/21 06:41 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/12/21 01:05 AM
Sulfate	681	10.0	30.0		mg/L	10	10/11/21 06:41 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	1220	50.0	50.0		mg/L	1	10/08/21 04:10 PM

Qualifiers:

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J - Analyte detected between SDL and RL
B - Analyte detected in the associated Method Blank
DF- Dilution Factor
N - Parameter not NELAP certified
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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: *10-Nov-21*

CLIENT:	Golder	**Client Sample ID:**	H-32
Project:	Luminant - MLSES Ash Ponds	**Lab ID:**	2110028-06
Project No:	19122262	**Collection Date:**	10/04/21 09:30 AM
Lab Order:	2110028	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/12/21 11:13 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:13 AM
Barium	0.0166	0.00300	0.0100		mg/L	1	10/12/21 11:13 AM
Beryllium	0.00667	0.000300	0.00100		mg/L	1	10/12/21 11:13 AM
Boron	1.93	0.100	0.300		mg/L	10	10/13/21 11:12 AM
Cadmium	0.000418	0.000300	0.00100	J	mg/L	1	10/12/21 11:13 AM
Calcium	49.3	1.00	3.00		mg/L	10	10/12/21 12:21 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:13 AM
Cobalt	0.174	0.00300	0.00500		mg/L	1	10/12/21 11:13 AM
Lead	0.000709	0.000300	0.00100	J	mg/L	1	10/12/21 11:13 AM
Lithium	0.0888	0.00500	0.0100		mg/L	1	10/12/21 11:13 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:13 AM
Selenium	0.00502	0.00200	0.00500		mg/L	1	10/12/21 11:13 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/12/21 11:13 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/21 11:11 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **SNM**
Chloride	118	3.00	10.0		mg/L	10	10/11/21 06:57 PM
Fluoride	0.656	0.100	0.400		mg/L	1	10/12/21 01:21 AM
Sulfate	359	10.0	30.0		mg/L	10	10/11/21 06:57 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	765	10.0	10.0		mg/L	1	10/08/21 04:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *10-Nov-21*

CLIENT:	Golder	**Client Sample ID:**	H-31
Project:	Luminant - MLSES Ash Ponds	**Lab ID:**	2110028-07
Project No:	19122262	**Collection Date:**	10/04/21 08:15 AM
Lab Order:	2110028	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/12/21 11:15 AM
Arsenic	0.00819	0.00200	0.00500		mg/L	1	10/12/21 11:15 AM
Barium	0.0160	0.00300	0.0100		mg/L	1	10/12/21 11:15 AM
Beryllium	0.0260	0.000300	0.00100		mg/L	1	10/12/21 11:15 AM
Boron	16.7	0.500	1.50		mg/L	50	10/13/21 11:14 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/12/21 11:15 AM
Calcium	244	5.00	15.0		mg/L	50	10/12/21 12:23 PM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:15 AM
Cobalt	0.483	0.00300	0.00500		mg/L	1	10/12/21 11:15 AM
Lead	<0.000300	0.000300	0.00100		mg/L	1	10/12/21 11:15 AM
Lithium	0.202	0.00500	0.0100		mg/L	1	10/12/21 11:15 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:15 AM
Selenium	0.0767	0.00200	0.00500		mg/L	1	10/12/21 11:15 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/12/21 11:15 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/21 11:14 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **SNM**
Chloride	208	3.00	10.0		mg/L	10	10/11/21 07:13 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/12/21 01:37 AM
Sulfate	2110	100	300		mg/L	100	10/11/21 04:33 PM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	3400	50.0	50.0		mg/L	1	10/08/21 04:10 PM

Qualifiers:

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

DHL Analytical, Inc.

Date: *10-Nov-21*

CLIENT:	Golder	**Client Sample ID:**	DUP-1
Project:	Luminant - MLSES Ash Ponds	**Lab ID:**	2110028-08
Project No:	19122262	**Collection Date:**	10/04/21 03:35 PM
Lab Order:	2110028	**Matrix:**	AQUEOUS

Analyses	Result	SDL	RL	Qual	Units	DF	Date Analyzed
TRACE METALS: ICP-MS - WATER		**SW6020B**					Analyst: **SP**
Antimony	<0.000800	0.000800	0.00250		mg/L	1	10/12/21 11:17 AM
Arsenic	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:17 AM
Barium	0.0508	0.00300	0.0100		mg/L	1	10/12/21 11:17 AM
Beryllium	0.00170	0.000300	0.00100		mg/L	1	10/12/21 11:17 AM
Boron	0.412	0.0100	0.0300		mg/L	1	10/13/21 11:16 AM
Cadmium	<0.000300	0.000300	0.00100		mg/L	1	10/12/21 11:17 AM
Calcium	12.6	0.100	0.300		mg/L	1	10/12/21 11:17 AM
Chromium	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:17 AM
Cobalt	0.0232	0.00300	0.00500		mg/L	1	10/12/21 11:17 AM
Lead	0.000398	0.000300	0.00100	J	mg/L	1	10/12/21 11:17 AM
Lithium	0.0131	0.00500	0.0100		mg/L	1	10/12/21 11:17 AM
Molybdenum	<0.00200	0.00200	0.00500		mg/L	1	10/12/21 11:17 AM
Selenium	0.00727	0.00200	0.00500		mg/L	1	10/12/21 11:17 AM
Thallium	<0.000500	0.000500	0.00150		mg/L	1	10/12/21 11:17 AM
MERCURY TOTAL: AQUEOUS		**SW7470A**					Analyst: **JVR**
Mercury	<0.0000800	0.0000800	0.000200		mg/L	1	10/11/21 11:16 AM
ANIONS BY IC METHOD - WATER		**E300**					Analyst: **SNM**
Chloride	75.6	3.00	10.0		mg/L	10	10/11/21 07:29 PM
Fluoride	<0.100	0.100	0.400		mg/L	1	10/12/21 01:53 AM
Sulfate	56.8	1.00	3.00		mg/L	1	10/12/21 01:53 AM
TOTAL DISSOLVED SOLIDS		**M2540C**					Analyst: **JS**
Total Dissolved Solids (Residue, Filterable)	253	10.0	10.0		mg/L	1	10/08/21 04:10 PM

Qualifiers:

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

CLIENT: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_210728C

Sample ID: **DCS-101411** Batch ID: **101411** TestNo: **SW7470A** Units: **mg/L**
SampType: **DCS** Run ID: **CETAC2_HG_210728C** Analysis Date: **7/28/2021 1:24:11 PM** Prep Date: **7/27/2021**

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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_211011C

The QC data in batch 102332 applies to the following samples: 2110028-01A, 2110028-02A, 2110028-03A, 2110028-04A, 2110028-05A, 2110028-06A, 2110028-07A, 2110028-08A

Sample ID: **MB-102332** Batch ID: **102332** TestNo: **SW7470A** Units: **mg/L**
SampType: **MBLK** Run ID: **CETAC2_HG_211011C** Analysis Date: **10/11/2021 10:30:59 A** Prep Date: **10/8/2021**

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

Sample ID: **LCS-102332** Batch ID: **102332** TestNo: **SW7470A** Units: **mg/L**
SampType: **LCS** Run ID: **CETAC2_HG_211011C** Analysis Date: **10/11/2021 10:35:30 A** Prep Date: **10/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00207	0.000200	0.00200	0	104	85	115			

Sample ID: **LCSD-102332** Batch ID: **102332** TestNo: **SW7470A** Units: **mg/L**
SampType: **LCSD** Run ID: **CETAC2_HG_211011C** Analysis Date: **10/11/2021 10:37:46 A** Prep Date: **10/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00206	0.000200	0.00200	0	103	85	115	0.484	15	

Sample ID: **2110026-01B MS** Batch ID: **102332** TestNo: **SW7470A** Units: **mg/L**
SampType: **MS** Run ID: **CETAC2_HG_211011C** Analysis Date: **10/11/2021 10:46:50 A** Prep Date: **10/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0103	0.00100	0.0100	0	103	80	120			

Sample ID: **2110026-01B MSD** Batch ID: **102332** TestNo: **SW7470A** Units: **mg/L**
SampType: **MSD** Run ID: **CETAC2_HG_211011C** Analysis Date: **10/11/2021 10:49:06 A** Prep Date: **10/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0104	0.00100	0.0100	0	104	80	120	0.484	15	

Sample ID: **2110026-01B SD** Batch ID: **102332** TestNo: **SW7470A** Units: **mg/L**
SampType: **SD** Run ID: **CETAC2_HG_211011C** Analysis Date: **10/11/2021 10:51:22 A** Prep Date: **10/8/2021**

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

Sample ID: **2110026-01B PDS** Batch ID: **102332** TestNo: **SW7470A** Units: **mg/L**
SampType: **PDS** Run ID: **CETAC2_HG_211011C** Analysis Date: **10/11/2021 10:53:38 A** Prep Date: **10/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0124	0.00100	0.0125	0	99.2	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: CETAC2_HG_211011C

Sample ID: **ICV-211011**	Batch ID: **R117461**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **ICV**	Run ID: **CETAC2_HG_211011C**	Analysis Date: **10/11/2021 10:06:01 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00403	0.000200	0.00400	0	101	90	110			

Sample ID: **CCV1-211011**	Batch ID: **R117461**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_211011C**	Analysis Date: **10/11/2021 11:07:18 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00202	0.000200	0.00200	0	101	90	110			

Sample ID: **CCV2-211011**	Batch ID: **R117461**	TestNo: **SW7470A**	Units: **mg/L**
SampType: **CCV**	Run ID: **CETAC2_HG_211011C**	Analysis Date: **10/11/2021 11:41:33 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.00202	0.000200	0.00200	0	101	90	110			

Qualifiers:

B	Analyte detected in the associated Method Blank	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_210803A

Sample ID: **DCS1-101483**	Batch ID: **101483**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS**	Run ID: **ICP-MS4_210803A**	Analysis Date: **8/3/2021 1:18:00 PM**	Prep Date: **8/2/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00114	0.00250	0.00100	0	114	70	130	0	0	
Beryllium	0.000608	0.00100	0.000500	0	122	70	130	0	0	
Cadmium	0.000587	0.00100	0.000500	0	117	70	130	0	0	
Lead	0.000537	0.00100	0.000500	0	107	70	130	0	0	
Thallium	0.000524	0.00150	0.000500	0	105	70	130	0	0	

Sample ID: **DCS2-101483**	Batch ID: **101483**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS2**	Run ID: **ICP-MS4_210803A**	Analysis Date: **8/3/2021 1:21:00 PM**	Prep Date: **8/2/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	0.278	0.300	0.300	0	92.6	70	130	0	0	

Sample ID: **DCS3-101483**	Batch ID: **101483**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS3**	Run ID: **ICP-MS4_210803A**	Analysis Date: **8/3/2021 1:24:00 PM**	Prep Date: **8/2/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.00522	0.00500	0.00500	0	104	70	130	0	0	
Barium	0.00522	0.0100	0.00500	0	104	70	130	0	0	
Chromium	0.00527	0.00500	0.00500	0	105	70	130	0	0	
Cobalt	0.00534	0.00500	0.00500	0	107	70	130	0	0	
Lithium	0.00475	0.0100	0.00500	0	95.0	70	130	0	0	
Molybdenum	0.00509	0.00500	0.00500	0	102	70	130	0	0	
Selenium	0.00500	0.00500	0.00500	0	100	70	130	0	0	

Sample ID: **DCS4-101483**	Batch ID: **101483**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **DCS4**	Run ID: **ICP-MS4_210803A**	Analysis Date: **8/3/2021 1:27:00 PM**	Prep Date: **8/2/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0315	0.0300	0.0300	0	105	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_211012B**

The QC data in batch 102343 applies to the following samples: 2110028-01A, 2110028-02A, 2110028-03A, 2110028-04A, 2110028-05A, 2110028-06A, 2110028-07A, 2110028-08A

Sample ID: **MB-102343** Batch ID: **102343** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS4_211012B** Analysis Date: **10/12/2021 10:53:00 A** Prep Date: **10/11/2021**

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-102343** Batch ID: **102343** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS4_211012B** Analysis Date: **10/12/2021 10:55:00 A** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.3	80	120			
Arsenic	0.200	0.00500	0.200	0	99.9	80	120			
Barium	0.198	0.0100	0.200	0	98.9	80	120			
Beryllium	0.196	0.00100	0.200	0	97.8	80	120			
Cadmium	0.198	0.00100	0.200	0	99.2	80	120			
Calcium	5.13	0.300	5.00	0	103	80	120			
Chromium	0.202	0.00500	0.200	0	101	80	120			
Cobalt	0.193	0.00500	0.200	0	96.4	80	120			
Lead	0.198	0.00100	0.200	0	99.2	80	120			
Lithium	0.197	0.0100	0.200	0	98.3	80	120			
Molybdenum	0.190	0.00500	0.200	0	94.9	80	120			
Selenium	0.199	0.00500	0.200	0	99.4	80	120			
Thallium	0.202	0.00150	0.200	0	101	80	120			

Sample ID: **LCSD-102343** Batch ID: **102343** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS4_211012B** Analysis Date: **10/12/2021 10:57:00 A** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.195	0.00250	0.200	0	97.5	80	120	0.139	15	
Arsenic	0.201	0.00500	0.200	0	100	80	120	0.452	15	
Barium	0.199	0.0100	0.200	0	99.6	80	120	0.644	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_211012B

Sample ID: **LCSD-102343**	Batch ID: **102343**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCSD**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 10:57:00 A**	Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.197	0.00100	0.200	0	98.6	80	120	0.815	15	
Cadmium	0.198	0.00100	0.200	0	99.1	80	120	0.094	15	
Calcium	5.23	0.300	5.00	0	105	80	120	1.78	15	
Chromium	0.203	0.00500	0.200	0	102	80	120	0.842	15	
Cobalt	0.195	0.00500	0.200	0	97.5	80	120	1.12	15	
Lead	0.203	0.00100	0.200	0	101	80	120	2.30	15	
Lithium	0.198	0.0100	0.200	0	98.8	80	120	0.458	15	
Molybdenum	0.192	0.00500	0.200	0	95.8	80	120	0.927	15	
Selenium	0.203	0.00500	0.200	0	101	80	120	2.03	15	
Thallium	0.206	0.00150	0.200	0	103	80	120	1.89	15	

Sample ID: **2110028-02A SD**	Batch ID: **102343**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **SD**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 11:03:00 A**	Prep Date: **10/11/2021**

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	0.115	0.0500	0	0.115				0.045	20	
Beryllium	<0.00150	0.00500	0	0.000461				0	20	
Cadmium	<0.00150	0.00500	0	0				0	20	
Chromium	<0.0100	0.0250	0	0.00265				0	20	
Cobalt	0.0298	0.0250	0	0.0296				0.698	20	
Lead	<0.00150	0.00500	0	0				0	20	
Lithium	0.114	0.0500	0	0.105				8.37	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: **2110028-02A PDS**	Batch ID: **102343**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **PDS**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 11:23:00 A**	Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	99.2	75	125			
Arsenic	0.195	0.00500	0.200	0	97.4	75	125			
Barium	0.310	0.0100	0.200	0.115	97.3	75	125			
Beryllium	0.193	0.00100	0.200	0.000461	96.2	75	125			
Cadmium	0.197	0.00100	0.200	0	98.4	75	125			
Chromium	0.204	0.00500	0.200	0.00265	101	75	125			
Cobalt	0.217	0.00500	0.200	0.0295	93.8	75	125			
Lead	0.204	0.00100	0.200	0	102	75	125			
Lithium	0.282	0.0100	0.200	0.105	88.2	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_211012B

Sample ID: **2110028-02A PDS**	Batch ID: **102343**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **PDS**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 11:23:00 A**	Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Molybdenum	0.189	0.00500	0.200	0	94.7	75	125			
Selenium	0.192	0.00500	0.200	0	96.0	75	125			
Thallium	0.204	0.00150	0.200	0	102	75	125			

Sample ID: **2110028-02A MS**	Batch ID: **102343**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MS**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 11:25:00 A**	Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.199	0.00250	0.200	0	99.3	75	125			
Arsenic	0.201	0.00500	0.200	0	101	75	125			
Barium	0.315	0.0100	0.200	0.115	99.9	75	125			
Beryllium	0.198	0.00100	0.200	0.000461	99.0	75	125			
Cadmium	0.196	0.00100	0.200	0	98.1	75	125			
Calcium	43.0	0.300	5.00	38.6	88.5	75	125			
Chromium	0.202	0.00500	0.200	0.00265	99.5	75	125			
Cobalt	0.219	0.00500	0.200	0.0295	94.7	75	125			
Lead	0.203	0.00100	0.200	0	101	75	125			
Lithium	0.288	0.0100	0.200	0.105	91.2	75	125			
Molybdenum	0.192	0.00500	0.200	0	95.8	75	125			
Selenium	0.197	0.00500	0.200	0	98.6	75	125			
Thallium	0.206	0.00150	0.200	0	103	75	125			

Sample ID: **2110028-02A MSD**	Batch ID: **102343**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **MSD**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 11:27:00 A**	Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.198	0.00250	0.200	0	99.1	75	125	0.233	15	
Arsenic	0.203	0.00500	0.200	0	101	75	125	0.751	15	
Barium	0.316	0.0100	0.200	0.115	101	75	125	0.433	15	
Beryllium	0.200	0.00100	0.200	0.000461	99.9	75	125	0.933	15	
Cadmium	0.200	0.00100	0.200	0	99.8	75	125	1.75	15	
Calcium	43.3	0.300	5.00	38.6	93.8	75	125	0.612	15	
Chromium	0.205	0.00500	0.200	0.00265	101	75	125	1.44	15	
Cobalt	0.220	0.00500	0.200	0.0295	95.2	75	125	0.402	15	
Lead	0.207	0.00100	0.200	0	104	75	125	2.22	15	
Lithium	0.289	0.0100	0.200	0.105	92.2	75	125	0.664	15	
Molybdenum	0.195	0.00500	0.200	0	97.7	75	125	1.93	15	
Selenium	0.199	0.00500	0.200	0	99.4	75	125	0.862	15	
Thallium	0.209	0.00150	0.200	0	104	75	125	1.57	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_211012B

Sample ID: **2110028-02A SD**	Batch ID: **102343**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **SD**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 12:13:00 P**	Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	41.2	15.0	0	39.5				4.24	20	

Sample ID: **2110028-02A PDS**	Batch ID: **102343**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **PDS**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 12:33:00 P**	Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	89.0	3.00	50.0	39.5	99.1	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_211012B

Sample ID: **ICV-211012**	Batch ID: **R117484**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 10:43:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.0996	0.00250	0.100	0	99.6	90	110			
Arsenic	0.0988	0.00500	0.100	0	98.8	90	110			
Barium	0.101	0.0100	0.100	0	101	90	110			
Beryllium	0.0994	0.00100	0.100	0	99.4	90	110			
Cadmium	0.0997	0.00100	0.100	0	99.7	90	110			
Calcium	2.64	0.300	2.50	0	106	90	110			
Chromium	0.104	0.00500	0.100	0	104	90	110			
Cobalt	0.0985	0.00500	0.100	0	98.5	90	110			
Lead	0.104	0.00100	0.100	0	104	90	110			
Lithium	0.0971	0.0100	0.100	0	97.1	90	110			
Molybdenum	0.0948	0.00500	0.100	0	94.8	90	110			
Selenium	0.0971	0.00500	0.100	0	97.1	90	110			
Thallium	0.105	0.00150	0.100	0	105	90	110			

Sample ID: **LCVL-211012**	Batch ID: **R117484**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 10:47:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.00199	0.00250	0.00200	0	99.6	80	120			
Arsenic	0.00490	0.00500	0.00500	0	98.0	80	120			
Barium	0.00498	0.0100	0.00500	0	99.7	80	120			
Beryllium	0.000848	0.00100	0.00100	0	84.8	80	120			
Cadmium	0.00102	0.00100	0.00100	0	102	80	120			
Calcium	0.118	0.300	0.100	0	118	80	120			
Chromium	0.00522	0.00500	0.00500	0	104	80	120			
Cobalt	0.00493	0.00500	0.00500	0	98.6	80	120			
Lead	0.00109	0.00100	0.00100	0	109	80	120			
Lithium	0.00917	0.0100	0.0100	0	91.7	80	120			
Molybdenum	0.00482	0.00500	0.00500	0	96.3	80	120			
Selenium	0.00490	0.00500	0.00500	0	97.9	80	120			
Thallium	0.00107	0.00150	0.00100	0	107	80	120			

Sample ID: **CCV1-211012**	Batch ID: **R117484**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 11:29:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.205	0.00250	0.200	0	102	90	110			
Arsenic	0.203	0.00500	0.200	0	102	90	110			
Barium	0.206	0.0100	0.200	0	103	90	110			
Beryllium	0.201	0.00100	0.200	0	101	90	110			
Cadmium	0.203	0.00100	0.200	0	102	90	110			

Qualifiers:

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

CLIENT: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_211012B

Sample ID: **CCV1-211012**	Batch ID: **R117484**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 11:29:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.30	0.300	5.00	0	106	90	110			
Chromium	0.207	0.00500	0.200	0	104	90	110			
Cobalt	0.198	0.00500	0.200	0	99.2	90	110			
Lead	0.209	0.00100	0.200	0	104	90	110			
Lithium	0.201	0.0100	0.200	0	101	90	110			
Molybdenum	0.197	0.00500	0.200	0	98.4	90	110			
Selenium	0.205	0.00500	0.200	0	102	90	110			
Thallium	0.212	0.00150	0.200	0	106	90	110			

Sample ID: **CCV2-211012**	Batch ID: **R117484**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 11:53:00 A**	Prep Date:

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

Sample ID: **CCV3-211012**	Batch ID: **R117484**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_211012B**	Analysis Date: **10/12/2021 12:35:00 P**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	5.34	0.300	5.00	0	107	90	110			

Qualifiers:

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

CLIENT: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: **ICP-MS4_211013A**

The QC data in batch 102343 applies to the following samples: 2110028-01A, 2110028-02A, 2110028-03A, 2110028-04A, 2110028-05A, 2110028-06A, 2110028-07A, 2110028-08A

Sample ID: **MB-102343** Batch ID: **102343** TestNo: **SW6020B** Units: **mg/L**
SampType: **MBLK** Run ID: **ICP-MS4_211013A** Analysis Date: **10/13/2021 10:52:00 A** Prep Date: **10/11/2021**

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

Sample ID: **LCS-102343** Batch ID: **102343** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCS** Run ID: **ICP-MS4_211013A** Analysis Date: **10/13/2021 10:54:00 A** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.197	0.0300	0.200	0	98.7	80	120			

Sample ID: **LCSD-102343** Batch ID: **102343** TestNo: **SW6020B** Units: **mg/L**
SampType: **LCSD** Run ID: **ICP-MS4_211013A** Analysis Date: **10/13/2021 10:56:00 A** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.200	0.0300	0.200	0	99.8	80	120	1.12	15	

Sample ID: **2110028-02A SD** Batch ID: **102343** TestNo: **SW6020B** Units: **mg/L**
SampType: **SD** Run ID: **ICP-MS4_211013A** Analysis Date: **10/13/2021 11:02:00 A** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0514	0.150	0	0.0510				0.685	20	

Sample ID: **2110028-02A PDS** Batch ID: **102343** TestNo: **SW6020B** Units: **mg/L**
SampType: **PDS** Run ID: **ICP-MS4_211013A** Analysis Date: **10/13/2021 11:22:00 A** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.240	0.0300	0.200	0.0511	94.3	75	125			

Sample ID: **2110028-02A MS** Batch ID: **102343** TestNo: **SW6020B** Units: **mg/L**
SampType: **MS** Run ID: **ICP-MS4_211013A** Analysis Date: **10/13/2021 11:24:00 A** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.249	0.0300	0.200	0.0511	98.9	75	125			

Sample ID: **2110028-02A MSD** Batch ID: **102343** TestNo: **SW6020B** Units: **mg/L**
SampType: **MSD** Run ID: **ICP-MS4_211013A** Analysis Date: **10/13/2021 11:26:00 A** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.245	0.0300	0.200	0.0511	97.2	75	125	1.43	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: ICP-MS4_211013A

Sample ID: **ICV-211013**	Batch ID: **R117501**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **ICV**	Run ID: **ICP-MS4_211013A**	Analysis Date: **10/13/2021 10:32:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.110	0.0300	0.100	0	110	90	110			

Sample ID: **LCVL-211013**	Batch ID: **R117501**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **LCVL**	Run ID: **ICP-MS4_211013A**	Analysis Date: **10/13/2021 10:46:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.0233	0.0300	0.0200	0	116	80	120			

Sample ID: **CCV1-211013**	Batch ID: **R117501**	TestNo: **SW6020B**	Units: **mg/L**
SampType: **CCV**	Run ID: **ICP-MS4_211013A**	Analysis Date: **10/13/2021 11:30:00 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Boron	0.194	0.0300	0.200	0	97.2	90	110			

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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_210928A

Sample ID: **DCS2-102216** Batch ID: **102216** TestNo: **E300** Units: **mg/L**
SampType: **DCS2** Run ID: **IC2_210928A** Analysis Date: **9/28/2021 1:38:01 PM** Prep Date: **9/28/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	0.533	1.00	0.5000	0	107	70	130	0	0	
Fluoride	0.179	0.400	0.2000	0	89.5	70	130	0	0	
Sulfate	1.55	3.00	1.500	0	104	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_211011A

The QC data in batch 102348 applies to the following samples: 2110028-01B, 2110028-02B, 2110028-03B, 2110028-04B, 2110028-05B, 2110028-06B, 2110028-07B, 2110028-08B

Sample ID: **MB-102348** Batch ID: **102348** TestNo: **E300** Units: **mg/L**
SampType: **MBLK** Run ID: **IC2_211011A** Analysis Date: **10/11/2021 11:12:24 A** Prep Date: **10/11/2021**

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-102348** Batch ID: **102348** TestNo: **E300** Units: **mg/L**
SampType: **LCS** Run ID: **IC2_211011A** Analysis Date: **10/11/2021 11:28:24 A** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.0	1.00	10.00	0	100	90	110			
Fluoride	3.92	0.400	4.000	0	98.0	90	110			
Sulfate	31.0	3.00	30.00	0	103	90	110			

Sample ID: **LCSD-102348** Batch ID: **102348** TestNo: **E300** Units: **mg/L**
SampType: **LCSD** Run ID: **IC2_211011A** Analysis Date: **10/11/2021 11:44:24 A** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.7	1.00	10.00	0	107	90	110	6.72	20	
Fluoride	4.24	0.400	4.000	0	106	90	110	7.87	20	
Sulfate	33.0	3.00	30.00	0	110	90	110	6.48	20	

Sample ID: **2110028-01BMS** Batch ID: **102348** TestNo: **E300** Units: **mg/L**
SampType: **MS** Run ID: **IC2_211011A** Analysis Date: **10/11/2021 5:21:27 PM** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	256	10.0	200.0	72.77	91.5	90	110			
Fluoride	209	4.00	200.0	0	104	90	110			
Sulfate	232	30.0	200.0	52.79	89.7	90	110			

Sample ID: **2110028-01BMSD** Batch ID: **102348** TestNo: **E300** Units: **mg/L**
SampType: **MSD** Run ID: **IC2_211011A** Analysis Date: **10/11/2021 5:37:27 PM** Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	255	10.0	200.0	72.77	91.3	90	110	0.109	20	
Fluoride	209	4.00	200.0	0	105	90	110	0.264	20	
Sulfate	232	30.0	200.0	52.79	89.7	90	110	0.001	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_211011A

Sample ID: **2110030-01CMS**	Batch ID: **102348**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC2_211011A**	Analysis Date: **10/11/2021 9:05:27 PM**	Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	237	10.0	200.0	45.88	95.3	90	110			
Fluoride	224	4.00	200.0	21.55	101	90	110			
Sulfate	543	30.0	200.0	349.7	96.8	90	110			

Sample ID: **2110030-01CMSD**	Batch ID: **102348**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC2_211011A**	Analysis Date: **10/11/2021 9:21:27 PM**	Prep Date: **10/11/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	235	10.0	200.0	45.88	94.6	90	110	0.641	20	
Fluoride	223	4.00	200.0	21.55	101	90	110	0.398	20	
Sulfate	539	30.0	200.0	349.7	94.9	90	110	0.710	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: IC2_211011A

Sample ID: **ICV-211011**	Batch ID: **R117453**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC2_211011A**	Analysis Date: **10/11/2021 10:40:24 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	26.2	1.00	25.00	0	105	90	110			
Fluoride	10.5	0.400	10.00	0	105	90	110			
Sulfate	80.4	3.00	75.00	0	107	90	110			

Sample ID: **CCV1-211011**	Batch ID: **R117453**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_211011A**	Analysis Date: **10/11/2021 3:55:19 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.1	1.00	10.00	0	101	90	110			
Fluoride	3.92	0.400	4.000	0	98.0	90	110			
Sulfate	31.1	3.00	30.00	0	104	90	110			

Sample ID: **CCV2-211011**	Batch ID: **R117453**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_211011A**	Analysis Date: **10/11/2021 8:17:27 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.1	1.00	10.00	0	101	90	110			
Fluoride	3.91	0.400	4.000	0	97.9	90	110			
Sulfate	31.0	3.00	30.00	0	103	90	110			

Sample ID: **CCV3-211011**	Batch ID: **R117453**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_211011A**	Analysis Date: **10/12/2021 12:33:27 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10.2	1.00	10.00	0	102	90	110			
Fluoride	3.94	0.400	4.000	0	98.6	90	110			
Sulfate	31.2	3.00	30.00	0	104	90	110			

Sample ID: **CCV4-211011**	Batch ID: **R117453**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC2_211011A**	Analysis Date: **10/12/2021 2:41:27 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	4.20	0.400	4.000	0	105	90	110			
Sulfate	33.0	3.00	30.00	0	110	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_210930A

Sample ID: **DCS3-102243**	Batch ID: **102243**	TestNo: **E300**	Units: **mg/L**
SampType: **DCS3**	Run ID: **IC4_210930A**	Analysis Date: **9/30/2021 4:30:30 PM**	Prep Date: **9/30/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	3.08	3.00	3.000	0	103	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_211012A

The QC data in batch 102364 applies to the following samples: 2110028-04B

Sample ID: **MB-102364**	Batch ID: **102364**	TestNo: **E300**	Units: **mg/L**
SampType: **MBLK**	Run ID: **IC4_211012A**	Analysis Date: **10/12/2021 11:20:41 A**	Prep Date: **10/12/2021**

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

Sample ID: **LCS-102364**	Batch ID: **102364**	TestNo: **E300**	Units: **mg/L**
SampType: **LCS**	Run ID: **IC4_211012A**	Analysis Date: **10/12/2021 11:39:41 A**	Prep Date: **10/12/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	30.9	3.00	30.00	0	103	90	110			

Sample ID: **LCSD-102364**	Batch ID: **102364**	TestNo: **E300**	Units: **mg/L**
SampType: **LCSD**	Run ID: **IC4_211012A**	Analysis Date: **10/12/2021 11:58:41 A**	Prep Date: **10/12/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	31.0	3.00	30.00	0	103	90	110	0.494	20	

Sample ID: **2110037-02BMS**	Batch ID: **102364**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC4_211012A**	Analysis Date: **10/12/2021 4:54:18 PM**	Prep Date: **10/12/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	614	30.0	200.0	432.3	91.0	90	110			

Sample ID: **2110037-02BMSD**	Batch ID: **102364**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC4_211012A**	Analysis Date: **10/12/2021 5:13:18 PM**	Prep Date: **10/12/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	609	30.0	200.0	432.3	88.3	90	110	0.895	20	S

Sample ID: **2110070-01BMS**	Batch ID: **102364**	TestNo: **E300**	Units: **mg/L**
SampType: **MS**	Run ID: **IC4_211012A**	Analysis Date: **10/12/2021 9:20:17 PM**	Prep Date: **10/12/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	317	30.0	200.0	125.8	95.5	90	110			

Sample ID: **2110070-01BMSD**	Batch ID: **102364**	TestNo: **E300**	Units: **mg/L**
SampType: **MSD**	Run ID: **IC4_211012A**	Analysis Date: **10/12/2021 9:39:17 PM**	Prep Date: **10/12/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	316	30.0	200.0	125.8	94.9	90	110	0.354	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: IC4_211012A

Sample ID: **ICV-211012**	Batch ID: **R117491**	TestNo: **E300**	Units: **mg/L**
SampType: **ICV**	Run ID: **IC4_211012A**	Analysis Date: **10/12/2021 10:42:41 A**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	77.5	3.00	75.00	0	103	90	110			

Sample ID: **CCV1-211012**	Batch ID: **R117491**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC4_211012A**	Analysis Date: **10/12/2021 8:23:18 PM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	31.0	3.00	30.00	0	103	90	110			

Sample ID: **CCV2-211012**	Batch ID: **R117491**	TestNo: **E300**	Units: **mg/L**
SampType: **CCV**	Run ID: **IC4_211012A**	Analysis Date: **10/13/2021 1:27:17 AM**	Prep Date:

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sulfate	31.1	3.00	30.00	0	104	90	110			

Qualifiers:

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

CLIENT: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

ANALYTICAL QC SUMMARY REPORT

RunID: WC_211008B

The QC data in batch 102327 applies to the following samples: 2110028-01B, 2110028-02B, 2110028-03B, 2110028-04B, 2110028-05B, 2110028-06B, 2110028-07B, 2110028-08B

Sample ID: **MB-102327** Batch ID: **102327** TestNo: **M2540C** Units: **mg/L**
SampType: **MBLK** Run ID: **WC_211008B** Analysis Date: **10/8/2021 4:10:00 PM** Prep Date: **10/8/2021**

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-102327** Batch ID: **102327** TestNo: **M2540C** Units: **mg/L**
SampType: **LCS** Run ID: **WC_211008B** Analysis Date: **10/8/2021 4:10:00 PM** Prep Date: **10/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	724	10.0	745.6	0	97.1	90	113			

Sample ID: **2110028-04B-DUP** Batch ID: **102327** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_211008B** Analysis Date: **10/8/2021 4:10:00 PM** Prep Date: **10/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3700	50.0	0	3690				0.271	5	

Sample ID: **2110028-07B-DUP** Batch ID: **102327** TestNo: **M2540C** Units: **mg/L**
SampType: **DUP** Run ID: **WC_211008B** Analysis Date: **10/8/2021 4:10:00 PM** Prep Date: **10/8/2021**

Analyte	Result	RL	SPK value	Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids (Residue, Filtera	3410	50.0	0	3400				0.147	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: Golder
Work Order: 2110028
Project: Luminant - MLSES Ash Ponds

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

November 07, 2021

DHL Analytical, Inc.

Sample Delivery Group:	L1416575
Samples Received:	10/11/2021
Project Number:	2110028
Description:	

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

Entire Report Reviewed By:

Donna Eidson
Project Manager

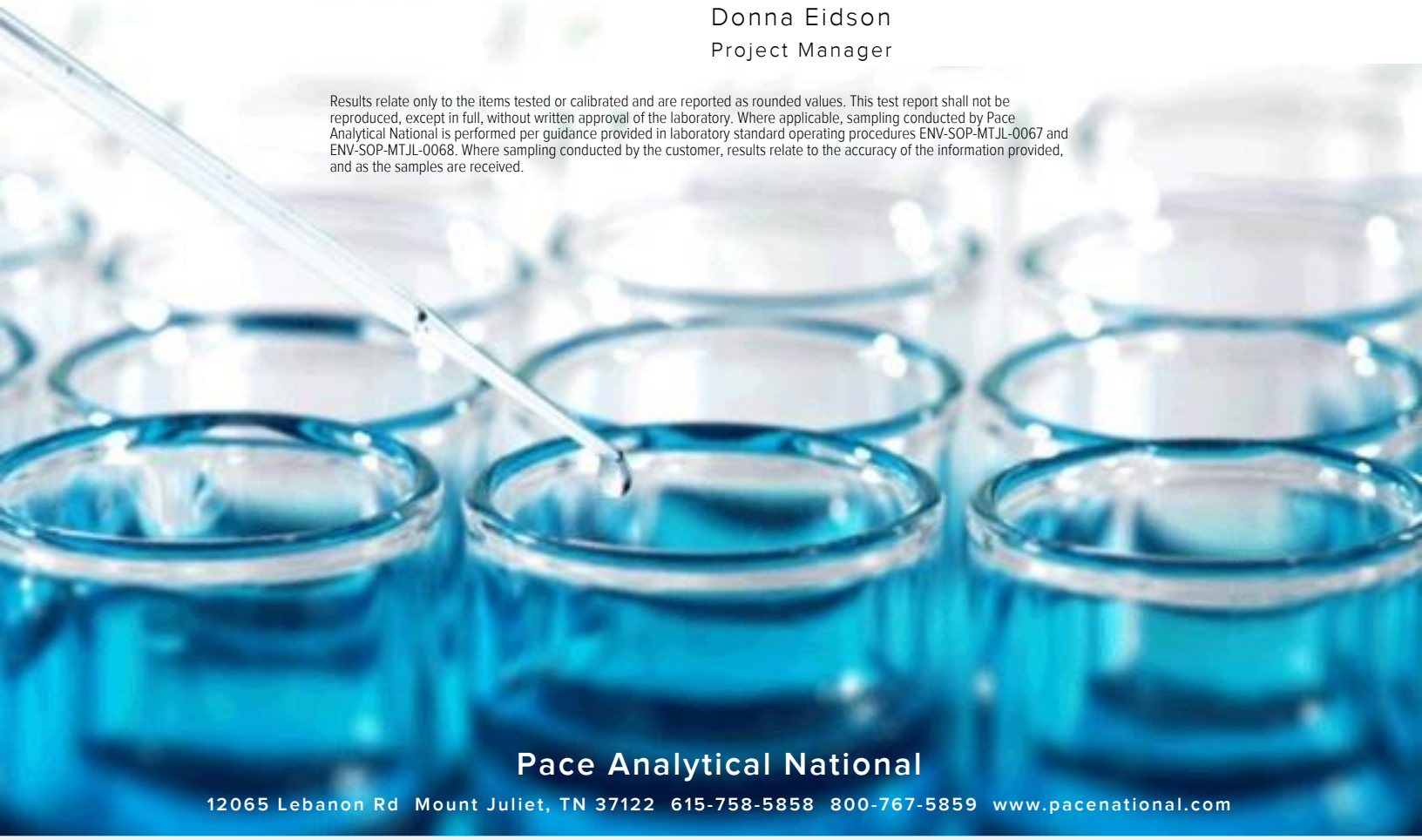


TABLE OF CONTENTS

H-26 L1416575-01 Non-Potable Water

Collected by	Collected date/time	Received date/time
	10/04/21 15:35	10/11/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1758756	1	11/02/21 15:45	11/04/21 14:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1758756	1	11/02/21 15:45	11/03/21 19:13	RGT	Mt. Juliet, TN

H-27 L1416575-02 Non-Potable Water

Collected by	Collected date/time	Received date/time
	10/04/21 14:20	10/11/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1758756	1	11/02/21 15:45	11/04/21 14:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1758756	1	11/02/21 15:45	11/03/21 19:13	RGT	Mt. Juliet, TN

H-33 L1416575-03 Non-Potable Water

Collected by	Collected date/time	Received date/time
	10/04/21 13:05	10/11/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1758756	1	11/02/21 15:45	11/04/21 14:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1758756	1	11/02/21 15:45	11/03/21 19:13	RGT	Mt. Juliet, TN

H-29 L1416575-04 Non-Potable Water

Collected by	Collected date/time	Received date/time
	10/04/21 11:50	10/11/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1758756	1	11/02/21 15:45	11/04/21 14:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1758756	1	11/02/21 15:45	11/03/21 19:13	RGT	Mt. Juliet, TN

H-28 L1416575-05 Non-Potable Water

Collected by	Collected date/time	Received date/time
	10/04/21 10:40	10/11/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1758756	1	11/02/21 15:45	11/04/21 14:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1758756	1	11/02/21 15:45	11/03/21 19:13	RGT	Mt. Juliet, TN

H-32 L1416575-06 Non-Potable Water

Collected by	Collected date/time	Received date/time
	10/04/21 09:30	10/11/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1758756	1	11/02/21 15:45	11/04/21 14:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1758756	1	11/02/21 15:45	11/03/21 19:13	RGT	Mt. Juliet, TN

H-31 L1416575-07 Non-Potable Water

Collected by	Collected date/time	Received date/time
	10/04/21 08:15	10/11/21 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1758756	1	11/02/21 15:45	11/04/21 14:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1758756	1	11/02/21 15:45	11/03/21 19:13	RGT	Mt. Juliet, TN

DUP-1 L1416575-08 Non-Potable Water			Collected by	Collected date/time 10/04/21 15:35	Received date/time 10/11/21 09:30	
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Radiochemistry by Method Calculation	WG1758756	1	11/02/21 15:45	11/04/21 14:00	JMR	Mt. Juliet, TN
Radiochemistry by Method SM7500Ra B M	WG1758756	1	11/02/21 15:45	11/03/21 19:13	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	2.17		0.434	0.36	11/04/2021 14:00	WG1765168
(T) Barium	*95.1*			*62.0-143*	*11/04/2021 14:00*	WG1765168
(T) Yttrium	*103*			*79.0-136*	*11/04/2021 14:00*	WG1765168

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	2.50		0.696	0.604	11/04/2021 14:00	WG1758756

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.332		0.262	0.244	11/03/2021 19:13	WG1758756
(T) Barium-133	*95.6*			*30.0-143*	*11/03/2021 19:13*	WG1758756

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.65		0.460	0.389	11/04/2021 14:00	WG1765168
(T) Barium	*101*			*62.0-143*	*11/04/2021 14:00*	WG1765168
(T) Yttrium	*107*			*79.0-136*	*11/04/2021 14:00*	WG1765168

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	2.22		0.790	0.666	11/04/2021 14:00	WG1758756

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.571		0.330	0.277	11/03/2021 19:13	WG1758756
(T) Barium-133	*98.3*			*30.0-143*	*11/03/2021 19:13*	WG1758756

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.21		0.651	0.572	11/04/2021 14:00	WG1765168
(T) Barium	*86.6*			*62.0-143*	*11/04/2021 14:00*	WG1765168
(T) Yttrium	*106*			*79.0-136*	*11/04/2021 14:00*	WG1765168

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.63		0.918	0.759	11/04/2021 14:00	WG1758756

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.422		0.267	0.187	11/03/2021 19:13	WG1758756
(T) Barium-133	*92.9*			*30.0-143*	*11/03/2021 19:13*	WG1758756

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.82		0.493	0.42	11/04/2021 14:00	WG1765168
(T) Barium	*98.0*			*62.0-143*	*11/04/2021 14:00*	WG1765168
(T) Yttrium	*108*			*79.0-136*	*11/04/2021 14:00*	WG1765168

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.97		0.654	0.596	11/04/2021 14:00	WG1758756

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.155	J	0.161	0.176	11/03/2021 19:13	WG1758756
(T) Barium-133	*90.5*			*30.0-143*	*11/03/2021 19:13*	WG1758756

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	0.798		0.497	0.439	11/04/2021 14:00	WG1765168
(T) Barium	*91.7*			*62.0-143*	*11/04/2021 14:00*	WG1765168
(T) Yttrium	*104*			*79.0-136*	*11/04/2021 14:00*	WG1765168

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	0.917		0.654	0.656	11/04/2021 14:00	WG1758756

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.119	J	0.157	0.217	11/03/2021 19:13	WG1758756
(T) Barium-133	*91.1*			*30.0-143*	*11/03/2021 19:13*	WG1758756

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.77		0.400	0.333	11/04/2021 14:00	WG1765168
(T) Barium	*92.5*			*62.0-143*	*11/04/2021 14:00*	WG1765168
(T) Yttrium	*102*			*79.0-136*	*11/04/2021 14:00*	WG1765168

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.86		0.596	0.661	11/04/2021 14:00	WG1758756

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.0968	U	0.196	0.328	11/03/2021 19:13	WG1758756
(T) Barium-133	*86.5*			*30.0-143*	*11/03/2021 19:13*	WG1758756

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Radiochemistry by Method 904/9320

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-228	1.42		0.393	0.333	11/04/2021 14:00	WG1765168
(T) Barium	*97.6*			*62.0-143*	*11/04/2021 14:00*	WG1765168
(T) Yttrium	*103*			*79.0-136*	*11/04/2021 14:00*	WG1765168

Radiochemistry by Method Calculation

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
Combined Radium	1.61		0.616	0.638	11/04/2021 14:00	WG1758756

Radiochemistry by Method SM7500Ra B M

Analyte	Result	Qualifier	Uncertainty	MDA	Analysis Date	Batch
	pCi/l		+ / -	pCi/l	date / time	
RADIUM-226	0.182	J	0.223	0.305	11/03/2021 19:13	WG1758756
(T) Barium-133	*91.8*			*30.0-143*	*11/03/2021 19:13*	WG1758756

Radiochemistry by Method 904/9320

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-228	1.05		0.447	0.389	11/04/2021 14:00	WG1765168
(T) Barium	*89.4*			*62.0-143*	*11/04/2021 14:00*	WG1765168
(T) Yttrium	*105*			*79.0-136*	*11/04/2021 14:00*	WG1765168

Radiochemistry by Method Calculation

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
Combined Radium	1.19		0.632	0.651	11/04/2021 14:00	WG1758756

Radiochemistry by Method SM7500Ra B M

Analyte	Result pCi/l	Qualifier	Uncertainty + / -	MDA pCi/l	Analysis Date date / time	Batch
RADIUM-226	0.140	J	0.185	0.262	11/03/2021 19:13	WG1758756
(T) Barium-133	*96.3*			*30.0-143*	*11/03/2021 19:13*	WG1758756

QUALITY CONTROL SUMMARY

L1416575-01,02,03,04,05,06,07,08

Method Blank (MB)

(MB) R3726145-1 11/04/21 14:00

Analyte	MB Result	MB Qualifier	MB Uncertainty	MB MDA
	pCi/l		+ / -	pCi/l
Radium-228	-0.0171	U	0.332	0.303
(T) Barium	*98.2*		*98.2*	
(T) Yttrium	*92.1*		*92.1*	

L1416575-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1416575-01 11/04/21 14:00 • (DUP) R3726145-5 11/04/21 14:00

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	2.17	0.434	0.36	0.658	1.06	0.36	1	107	1.32	J	20	3
(T) Barium	*95.1*			*99.5*	*99.5*							
(T) Yttrium	*103*			*110*	*110*							

Laboratory Control Sample (LCS)

(LCS) R3726145-2 11/04/21 14:00

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	pCi/l	pCi/l	%	%	
Radium-228	5.00	5.29	106	80.0-120	
(T) Barium			*96.7*		
(T) Yttrium			*105*		

L1417282-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1417282-01 11/04/21 14:00 • (MS) R3726145-3 11/04/21 14:00 • (MSD) R3726145-4 11/04/21 14:00

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	1.30	19.9	21.5	111	121	1	70.0-130			7.60		20
(T) Barium		*93.7*			*101*	*101*							
(T) Yttrium		*100*			*105*	*99.0*							

Method Blank (MB)

(MB) R3725536-1 11/03/21 19:13

Analyte	MB Result pCi/l	MB Qualifier	MB Uncertainty + / - pCi/l	MB MDA pCi/l
Radium-226	0.0136	J	0.0211	0.0340
(T) Barium-133	*94.3*		*94.3*	

L1416575-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1416575-02 11/03/21 19:13 • (DUP) R3725536-5 11/03/21 19:13

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	0.571	0.330	0.277	0.625	0.352	0.277	1	8.97	0.111		20	3
(T) Barium-133	*98.3*			*89.6*	*89.6*							

Laboratory Control Sample (LCS)

(LCS) R3725536-2 11/03/21 19:13

Analyte	Spike Amount pCi/l	LCS Result pCi/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Radium-226	5.02	5.03	100	80.0-120	
(T) Barium-133			*96.3*		

L1416575-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1416575-07 11/03/21 19:13 • (MS) R3725536-3 11/03/21 19:13 • (MSD) R3725536-4 11/03/21 19:13

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	20.1	0.182	17.1	19.7	84.1	97.2	1	75.0-125			14.3		20
(T) Barium-133		*91.8*			*93.9*	*91.7*							

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:

B119

CHAIN-OF-CUSTODY RECORD

Work Order: 2110028

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

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

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		
Sufficient volume sent:	Y N		
RAD Screen <0.5 mR/hr:	Y N		

L1416575
06-Oct-21

Sample ID	Matrix	DHL#	Date Collected	Bottle Type	Requested Tests					
					Ra-228	Ra-226				
					E904.0	M7500 Ra B M				
H-26	Aqueous	01C	10/04/21 03:35 PM	1LHDPEHNO3		1				-01
H-26	Aqueous	01D	10/04/21 03:35 PM	1LHDPEHNO3	1					-01
H-27	Aqueous	02C	10/04/21 02:20 PM	1LHDPEHNO3		1				-02
H-27	Aqueous	02D	10/04/21 02:20 PM	1LHDPEHNO3	1					-02
H-33	Aqueous	03C	10/04/21 01:05 PM	1LHDPEHNO3		1				-03
H-33	Aqueous	03D	10/04/21 01:05 PM	1LHDPEHNO3	1					-03
H-29	Aqueous	04C	10/04/21 11:50 AM	1LHDPEHNO3		1				-04
H-29	Aqueous	04D	10/04/21 11:50 AM	1LHDPEHNO3	1					-04
H-28	Aqueous	05C	10/04/21 10:40 AM	1LHDPEHNO3		1				-05
H-28	Aqueous	05D	10/04/21 10:40 AM	1LHDPEHNO3	1					-05
H-32	Aqueous	06C	10/04/21 09:30 AM	1LHDPEHNO3		1				-06
H-32	Aqueous	06D	10/04/21 09:30 AM	1LHDPEHNO3	1					-06
H-31	Aqueous	07C	10/04/21 08:15 AM	1LHDPEHNO3		1				-07
H-31	Aqueous	07D	10/04/21 08:15 AM	1LHDPEHNO3	1					-07
DUP-1	Aqueous	08C	10/04/21 03:35 PM	1LHDPEHNO3		1				-08
DUP-1	Aqueous	08D	10/04/21 03:35 PM	1LHDPEHNO3	1					-08

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:	Ea	10/7/21 1800	Received by:	
Relinquished by:			Received by:	10/11/21 9:30

22.1+0=22.1 AMB

ATTACHMENT 2

2021 APPENDIX IV CONFIDENCE INTERVAL GRAPHS

EXPLANATION

95% Upper confidence limit

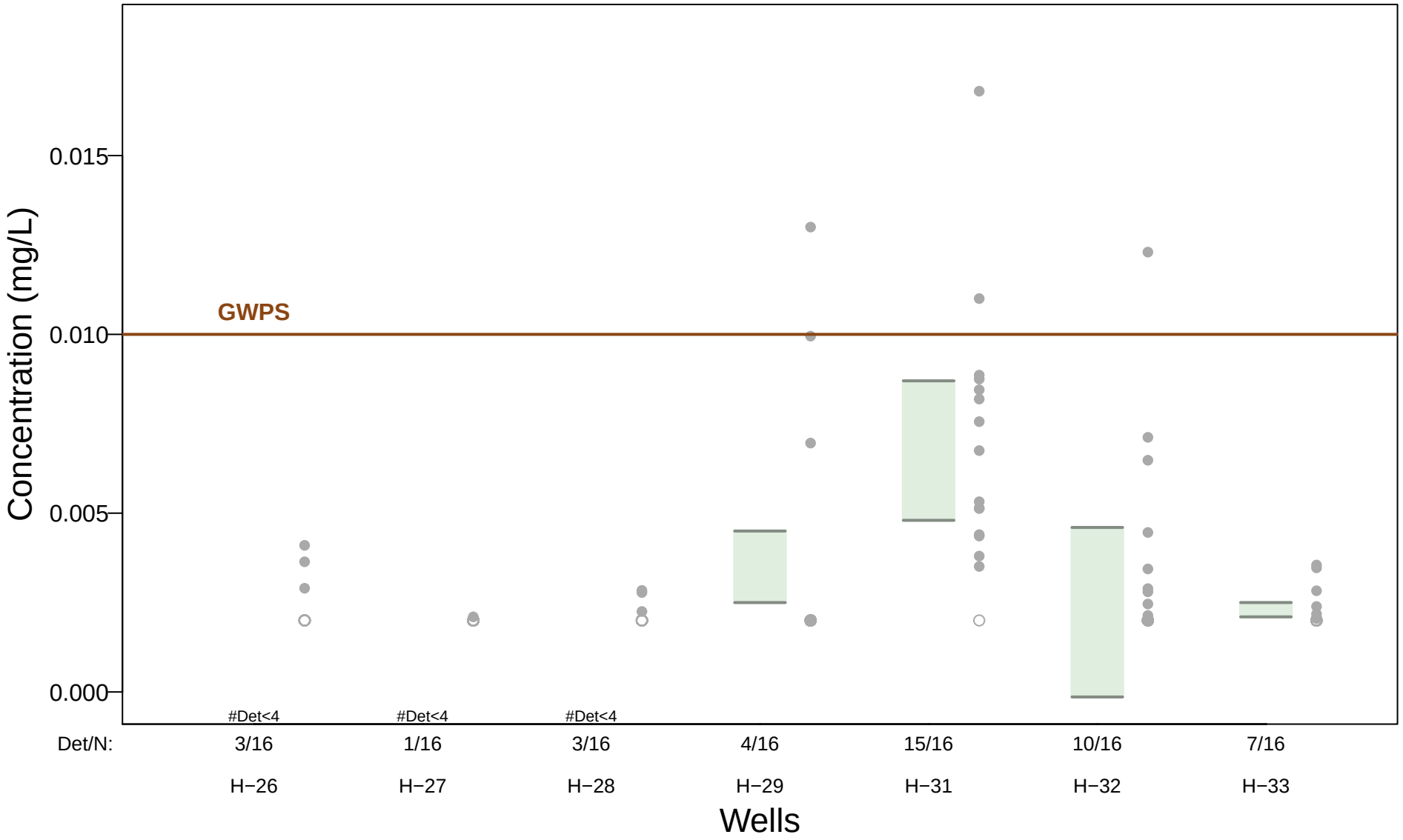
95% Lower confidence limit

Detected sample concentration

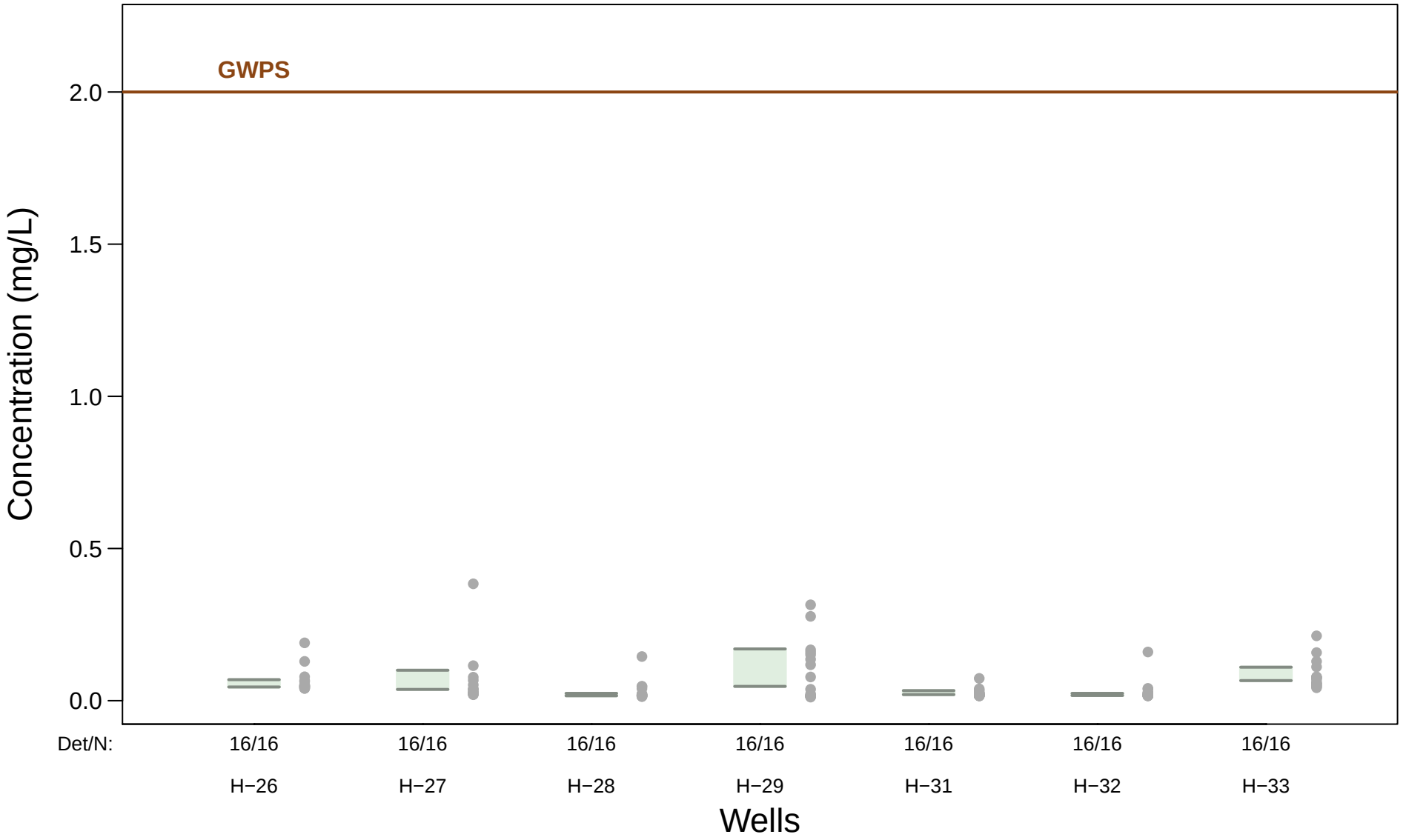
Non-detect sample result (concentration set to laboratory reporting limit)

Note: An SSL is indicated if the lower confidence limit exceeds the GWPS.

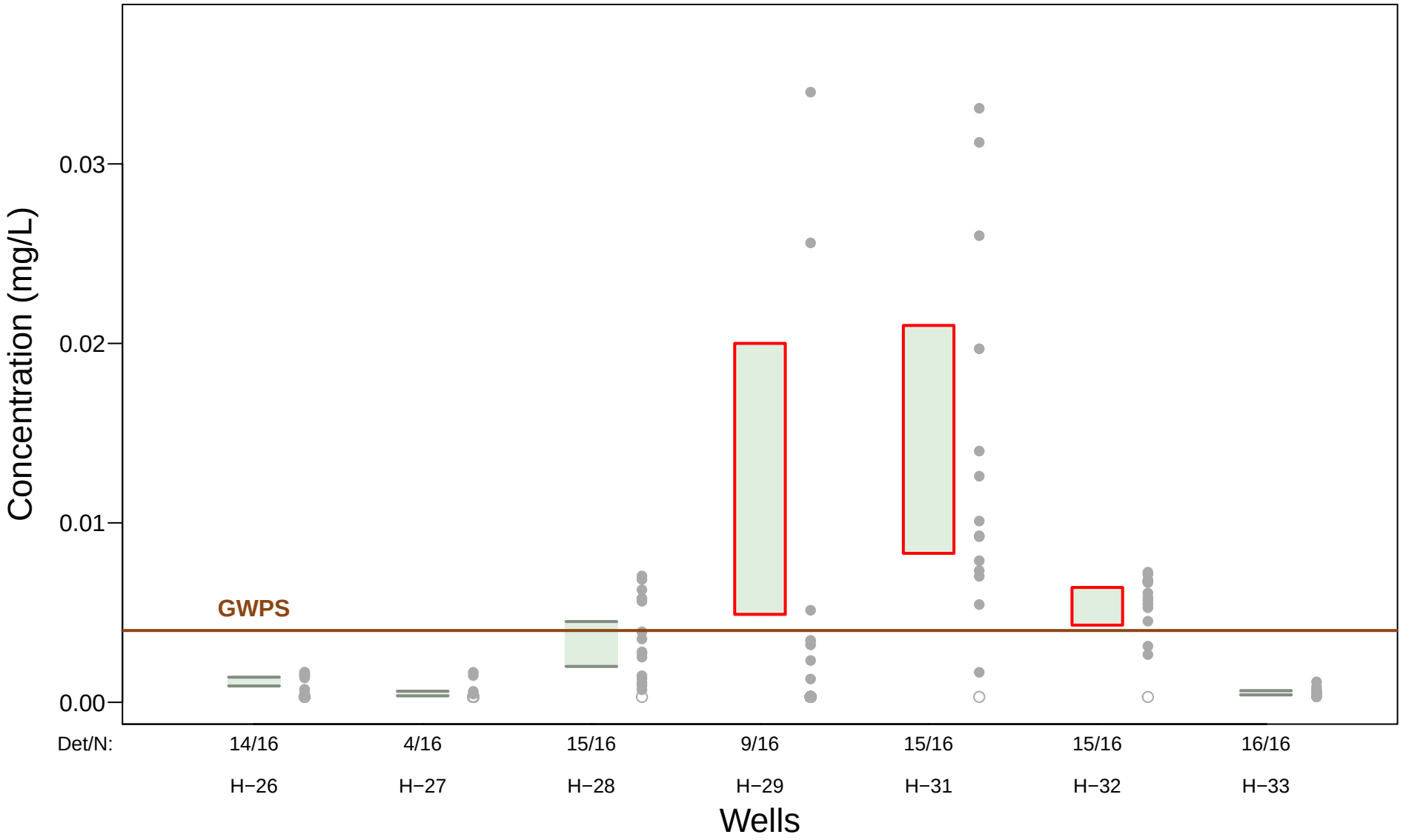
Arsenic − 95% Confidence Intervals



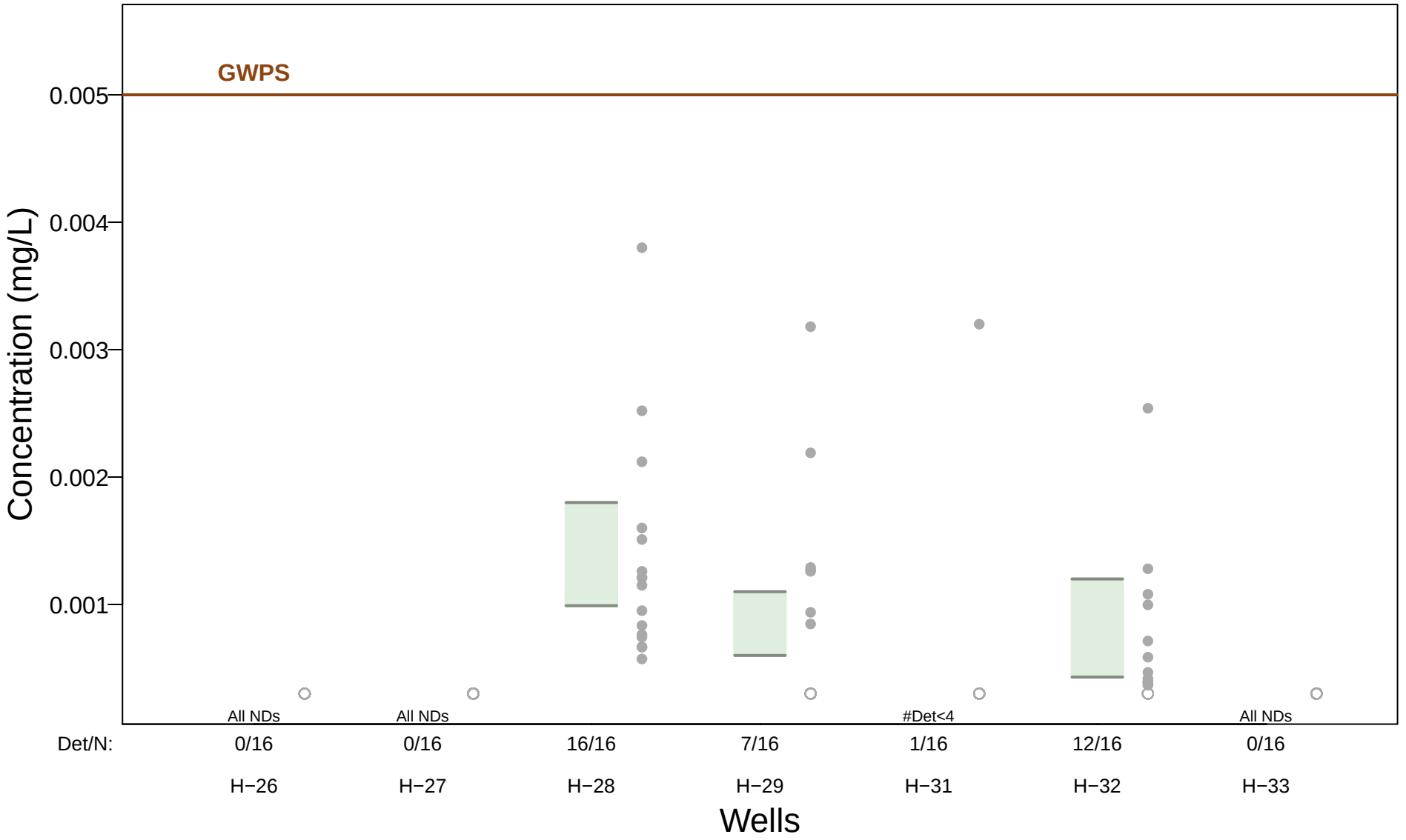
Barium – 95% Confidence Intervals



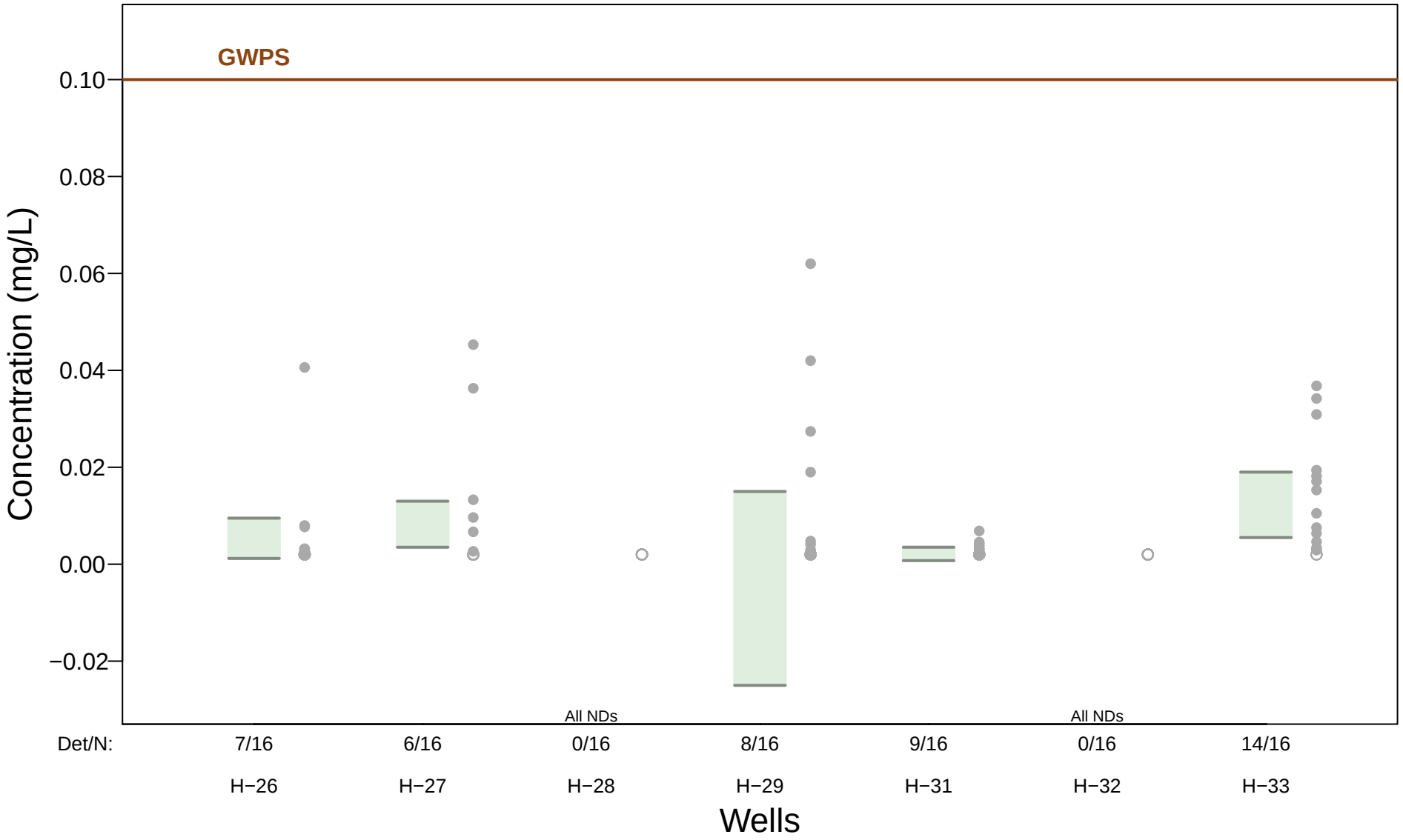
Beryllium – 95% Confidence Intervals



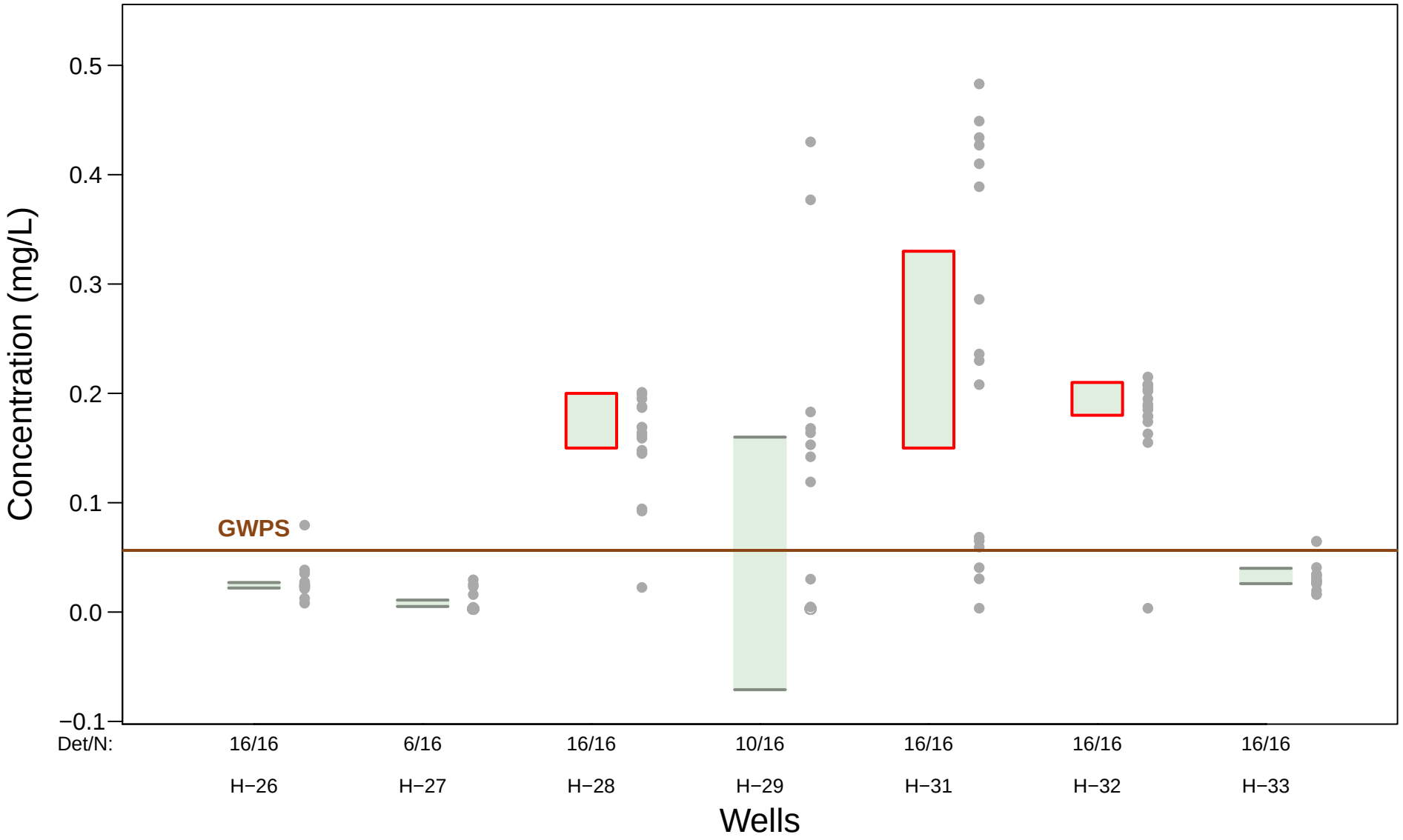
Cadmium – 95% Confidence Intervals



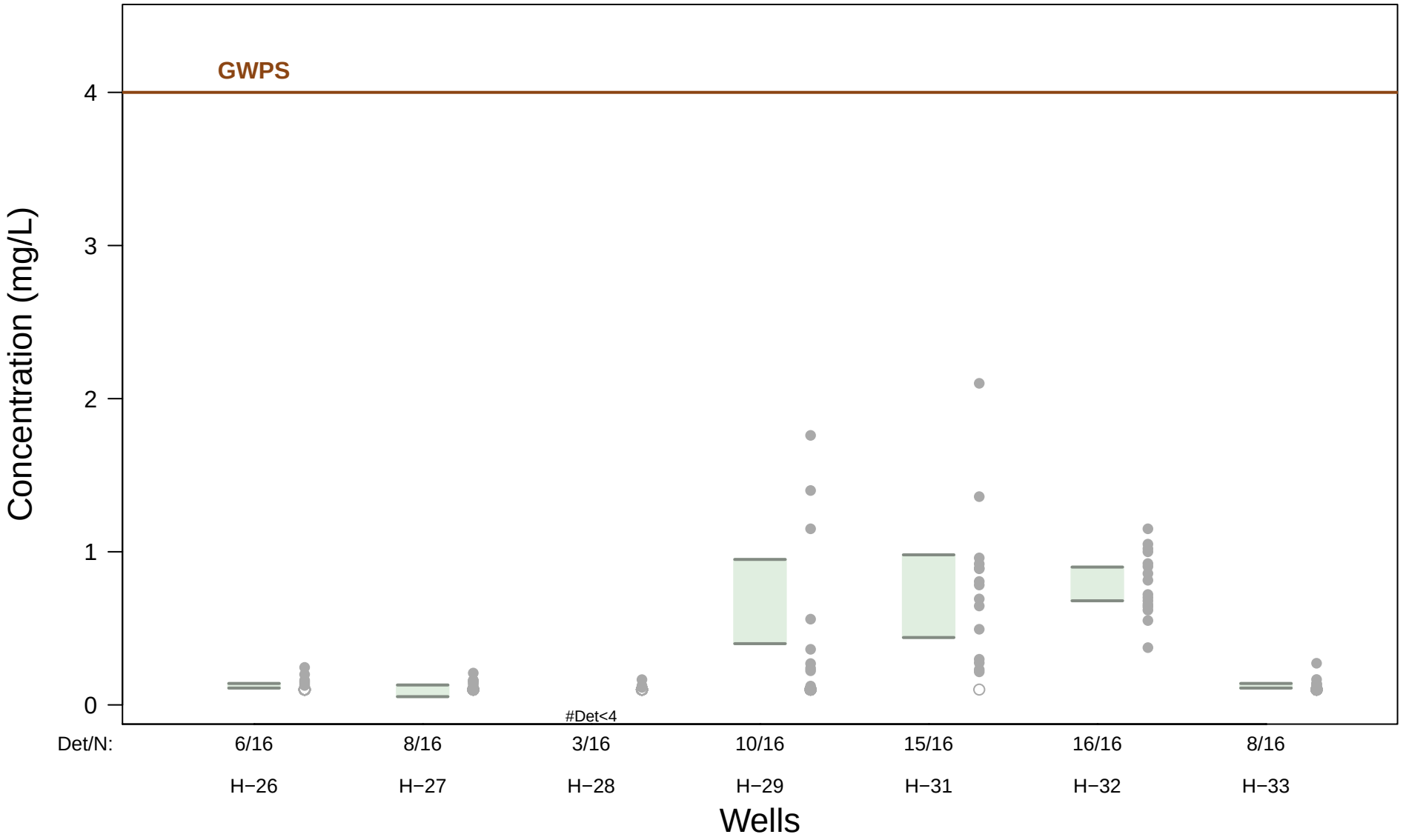
Chromium – 95% Confidence Intervals



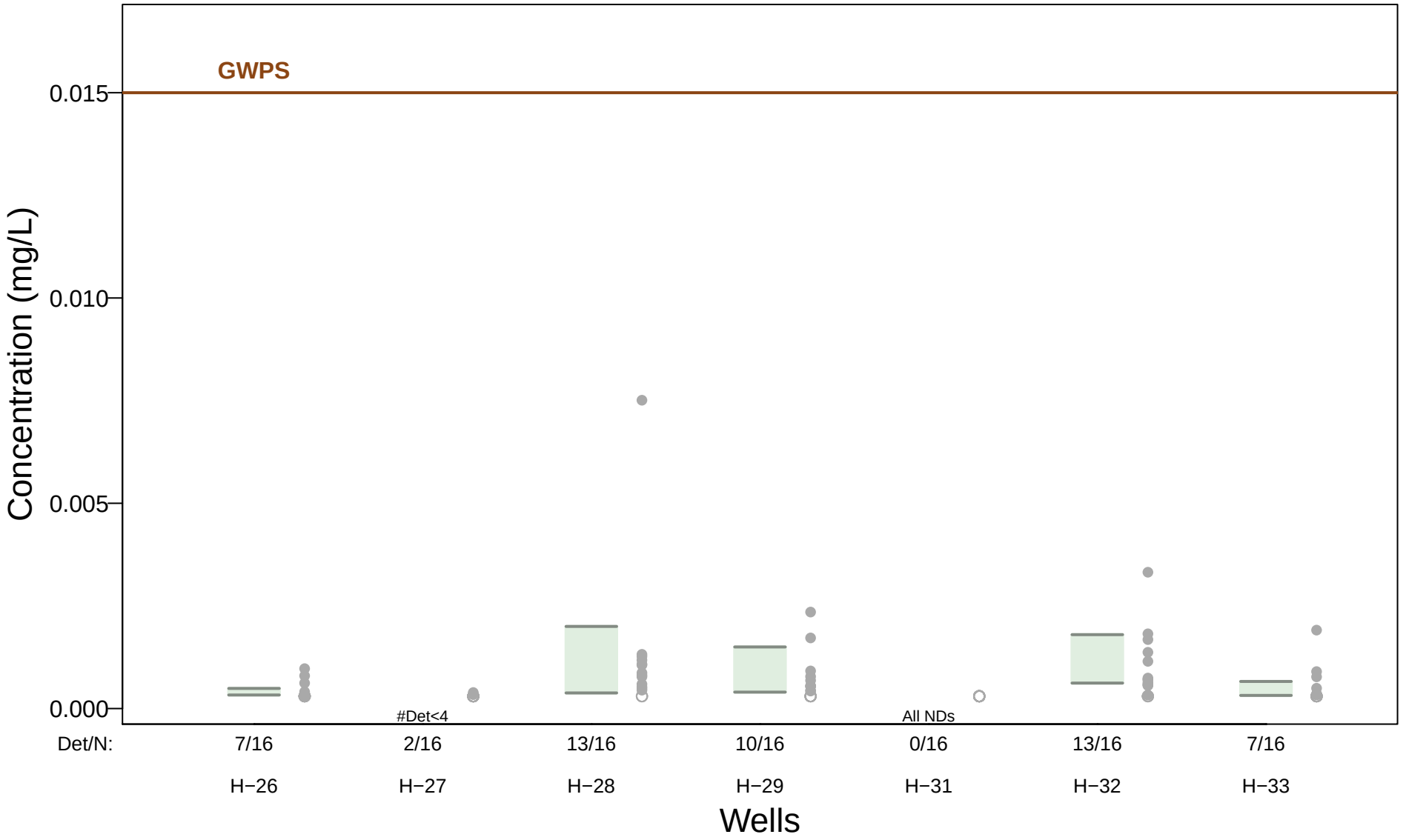
Cobalt – 95% Confidence Intervals



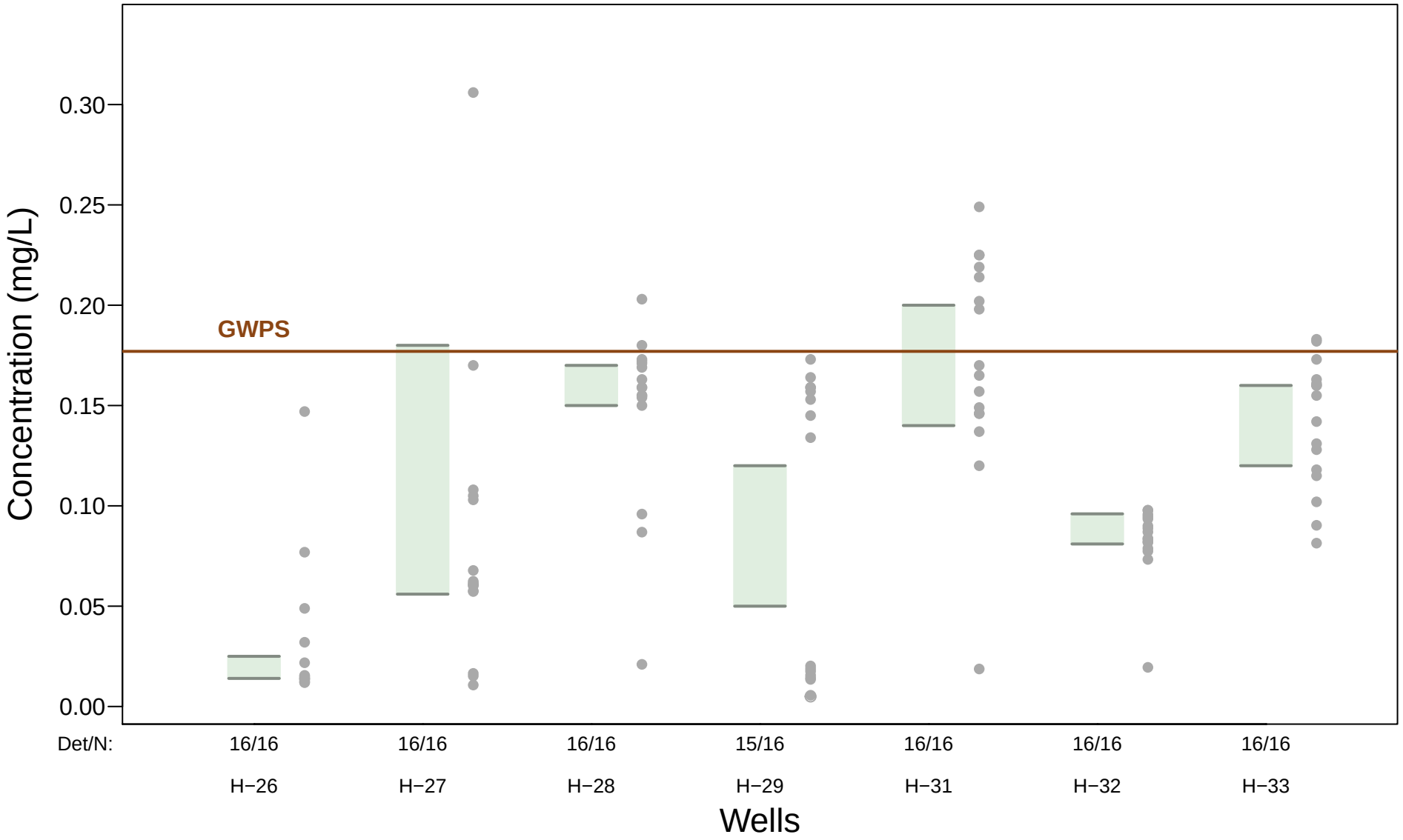
Fluoride (Appendix IV) – 95% Confidence Intervals



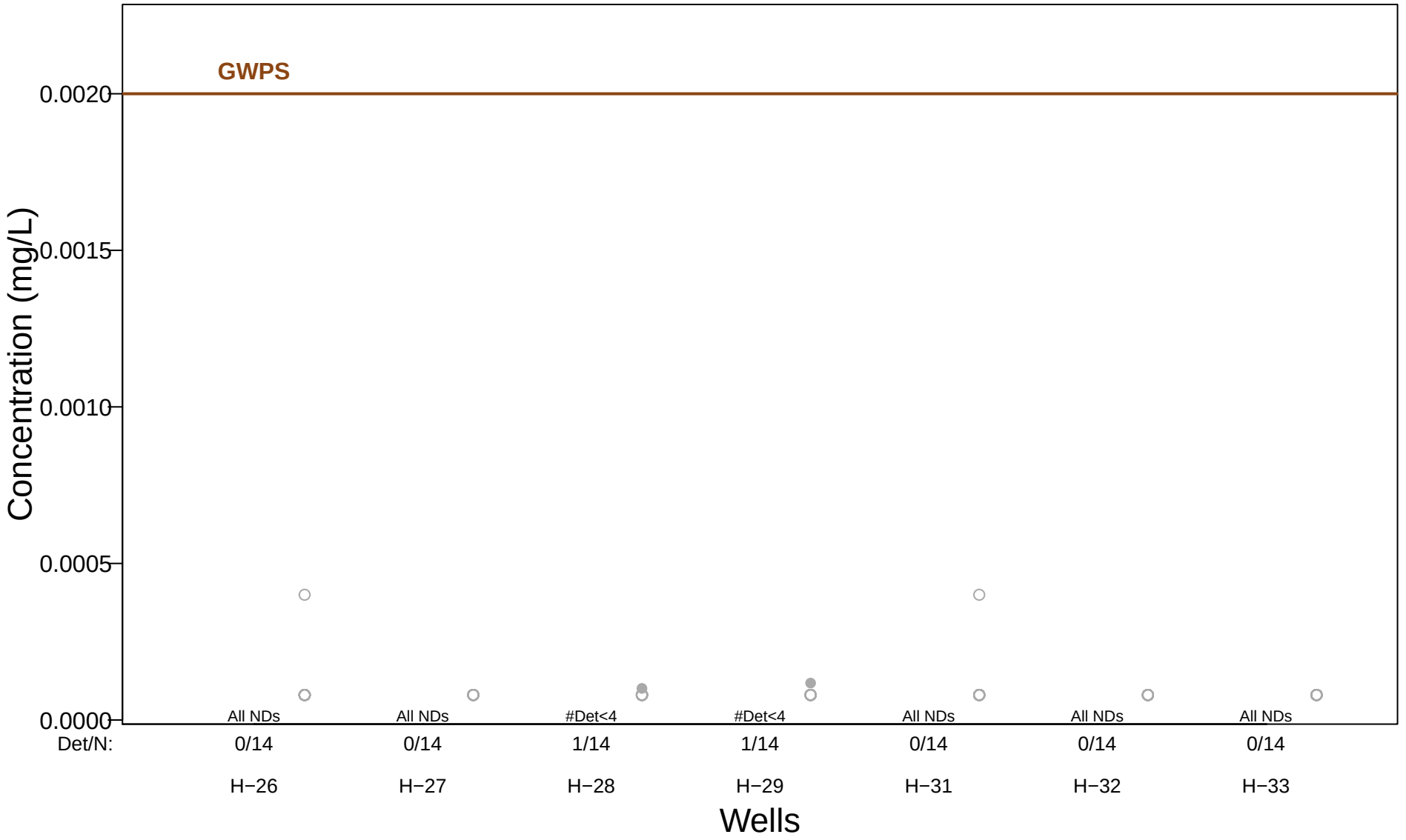
Lead – 95% Confidence Intervals



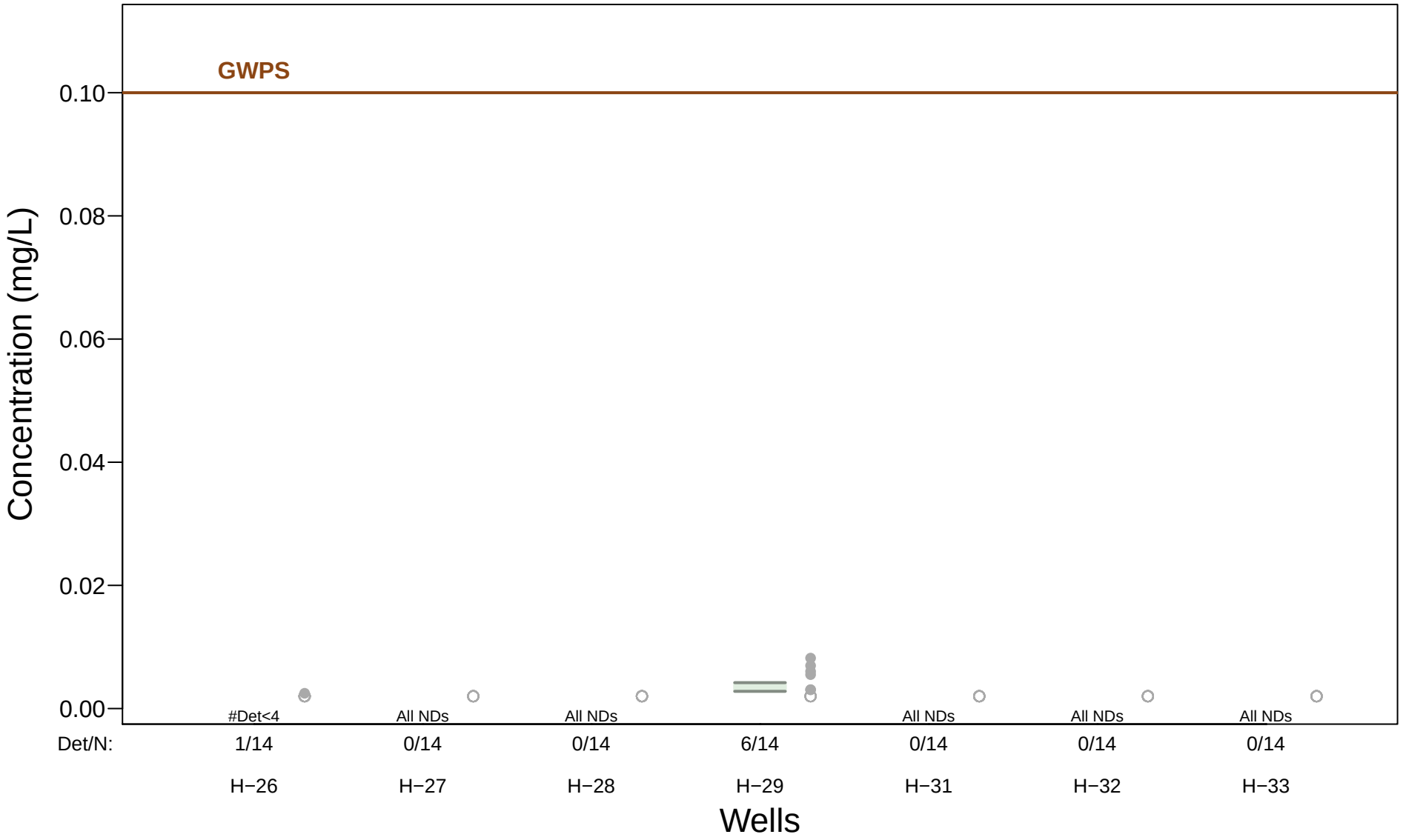
Lithium − 95% Confidence Intervals



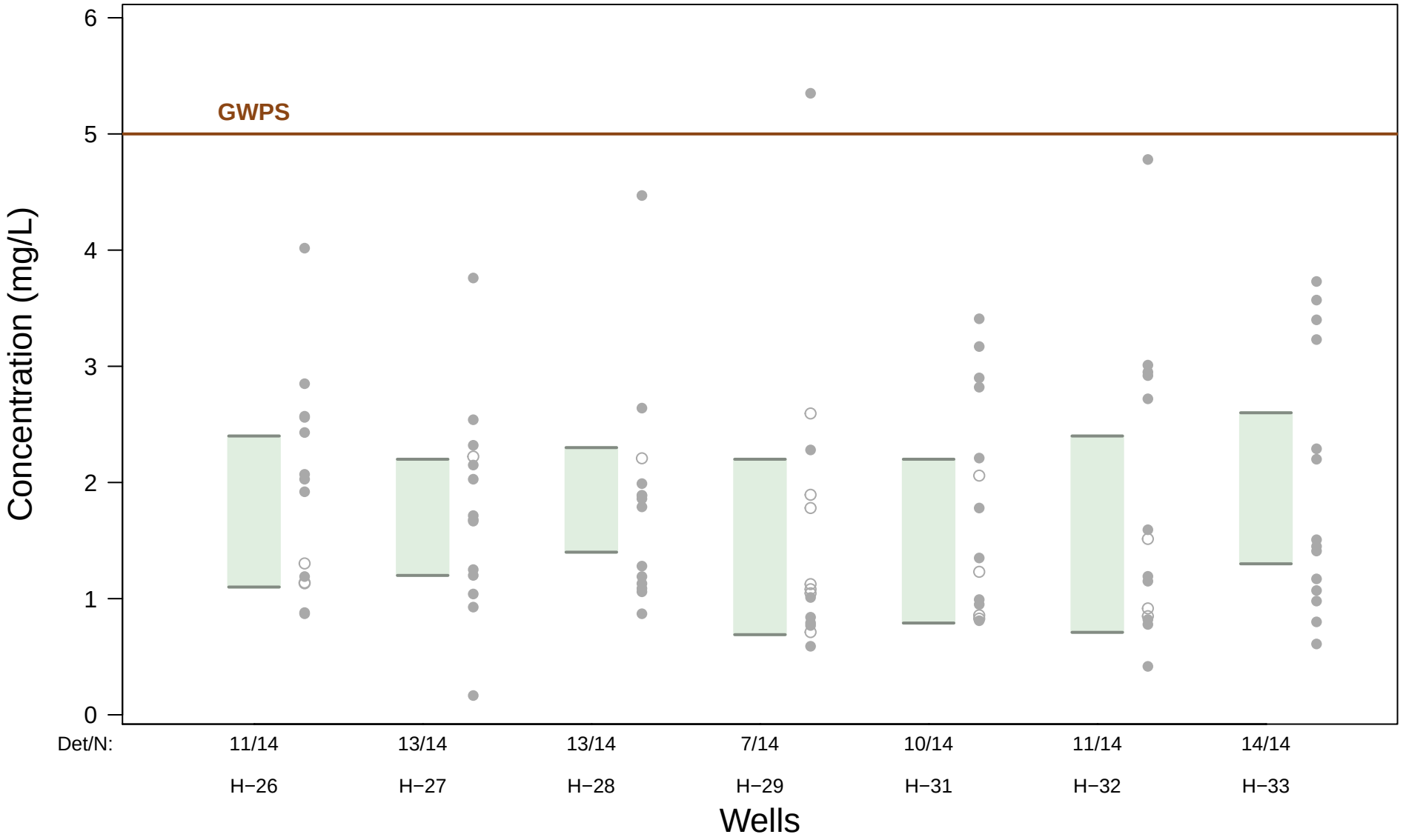
Mercury – 95% Confidence Intervals



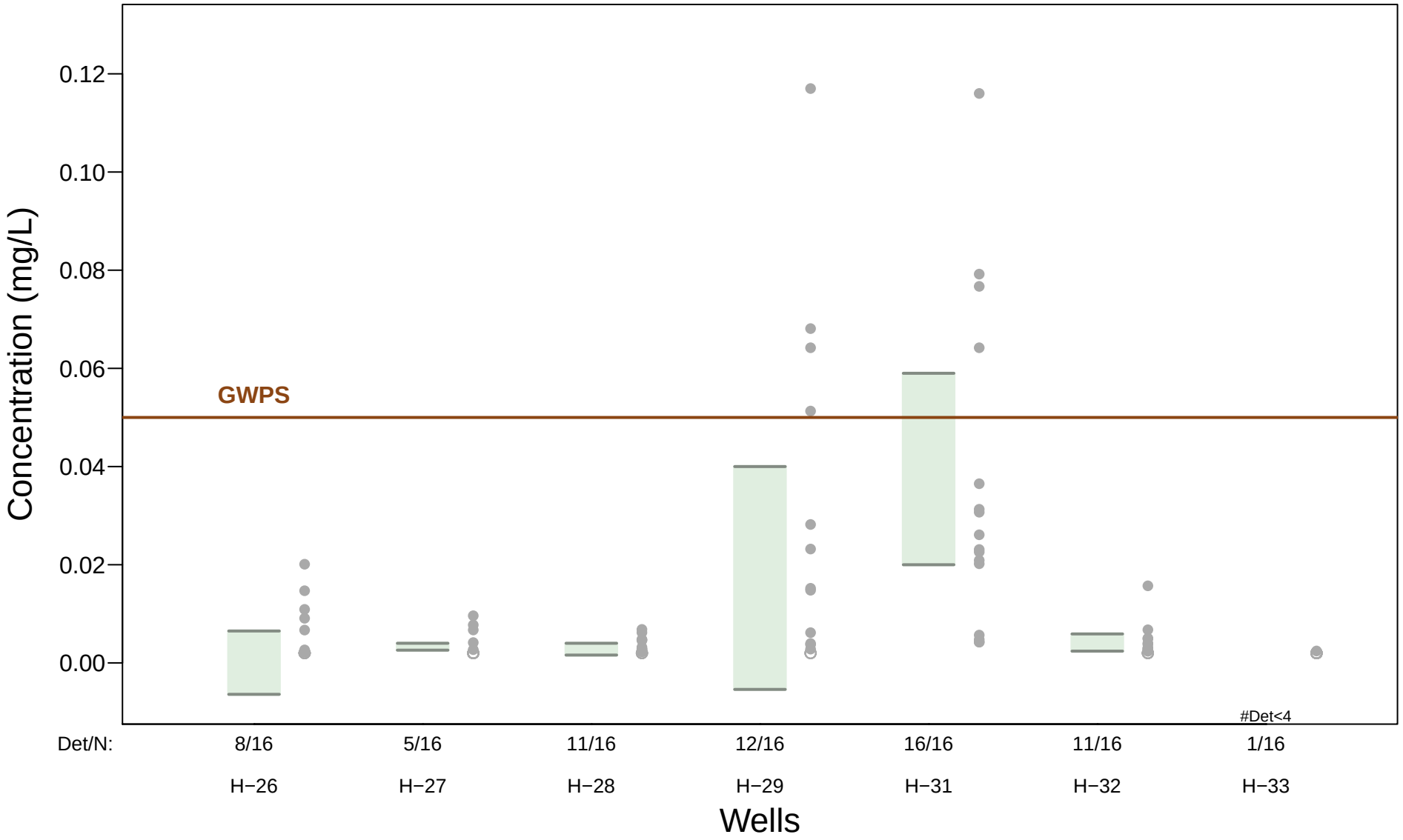
Molybdenum – 95% Confidence Intervals



Radium−226/228 combined − 95% Confidence Intervals

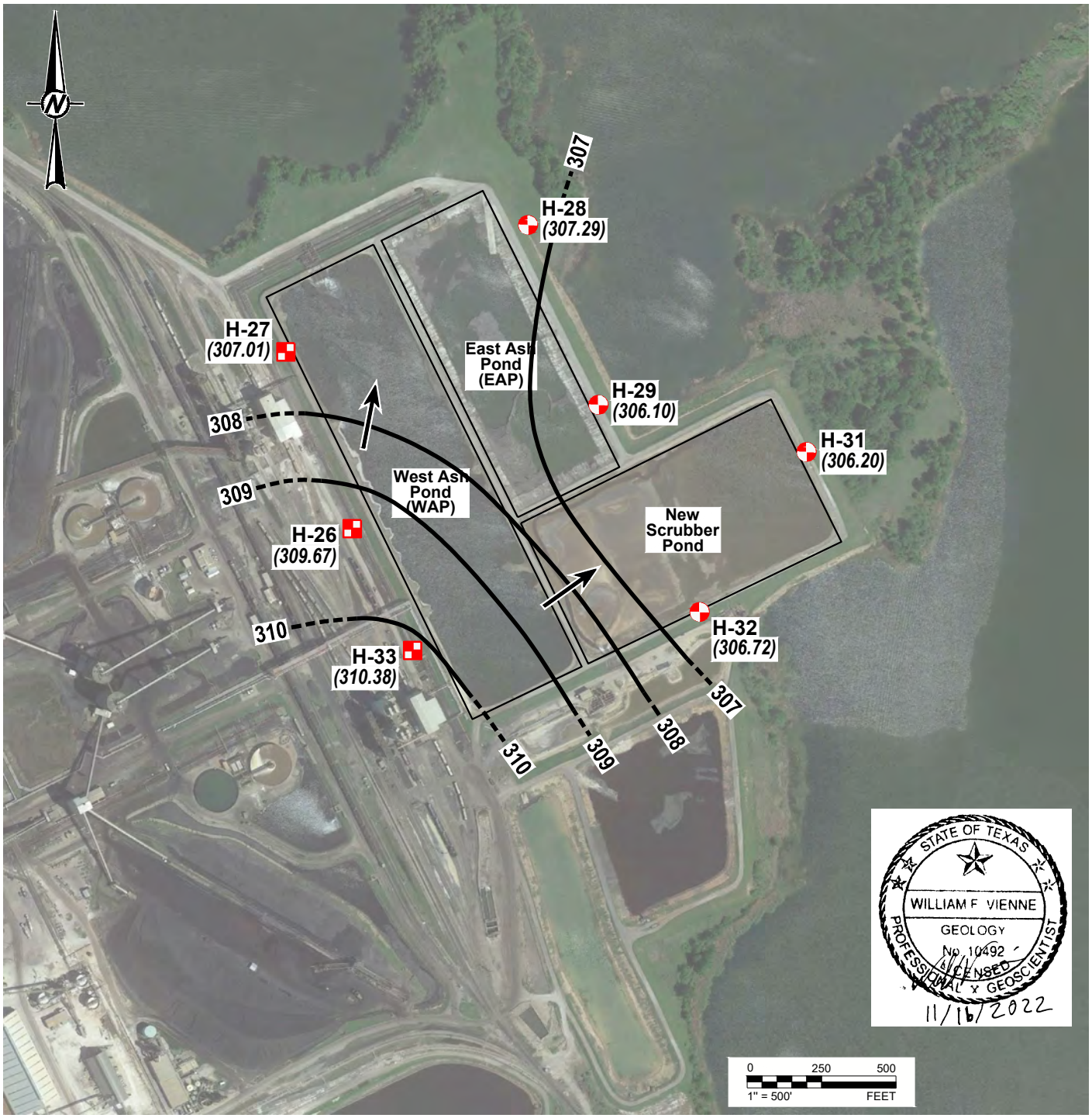


Selenium − 95% Confidence Intervals



ATTACHMENT 3

2021 GROUNDWATER POTENTIOMETRIC SURFACE MAPS



STATE OF TEXAS
WILLIAM F VIENNE
GEOLOGY
No. 10492
LICENSED
PROFESSIONAL GEOSCIENTIST
11/16/2022

LEGEND

- DOWNGRADIENT CCR MONITORING WELL
- UPGRADIENT CCR MONITORING WELL
- (308.70) GROUNDWATER POTENTIOMETRIC SURFACE (FT MSL)
- 308 GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR (C.I. = 1 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

REFERENCE(S)

BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 4/6/17.

CLIENT
LUMINANT

PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

TITLE
ASH POND AREA
POTENTIOMETRIC SURFACE MAP
JUNE 3, 2021

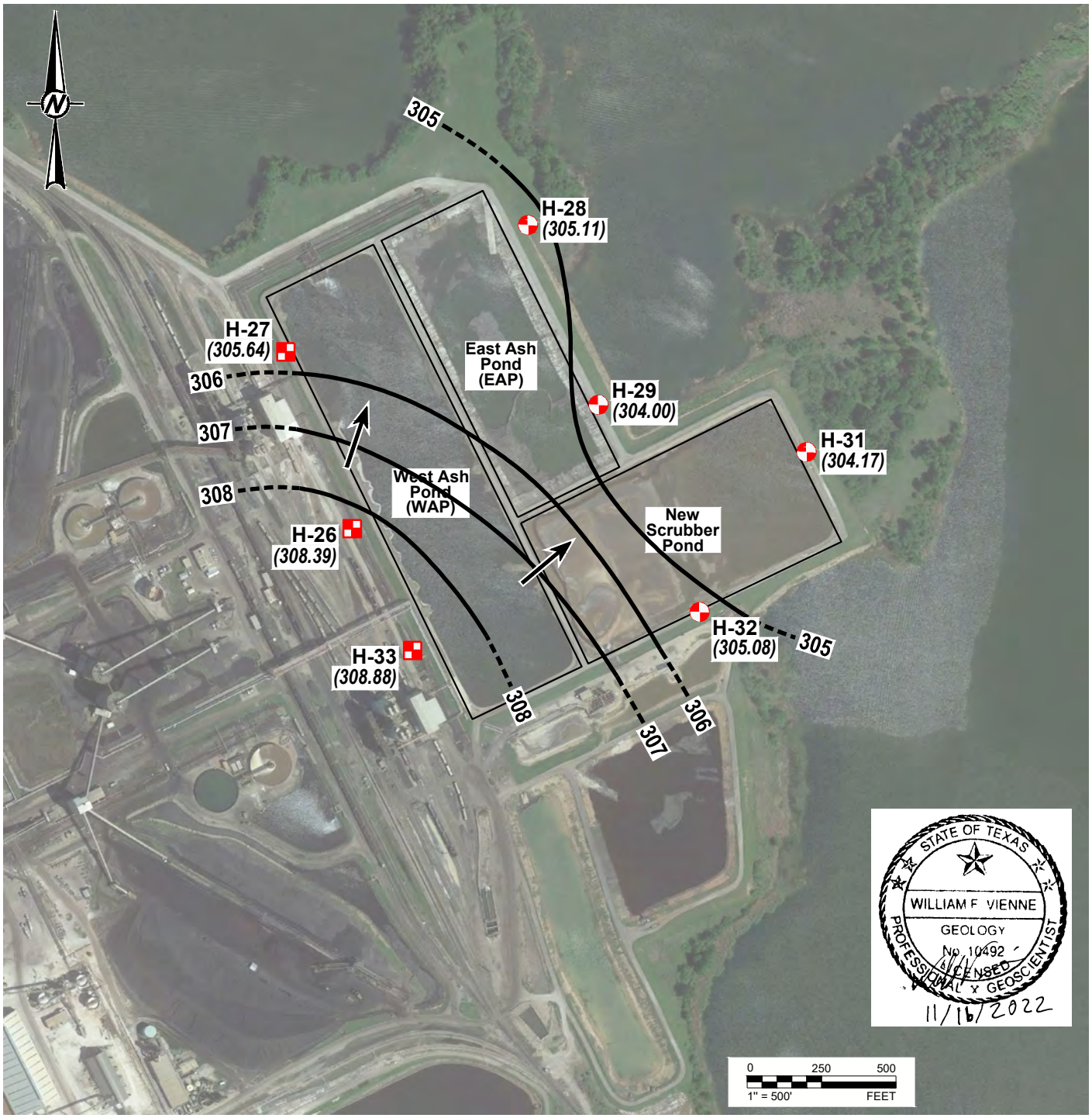
CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-02
DESIGNED	AJD
PREPARED	AJD
REVIEWED	WFV
APPROVED	WFV

PROJECT NO.	CONTROL	REV.	FIGURE
19122262		0	1

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

Last Edited By: usad701305 Date: 2022-12-02 Time:11:29:06 AM | Printed By: USAD701305 Date: 2022-12-02 Time:11:34:56 AM
Path: \\golder.gds\complexdata\office\Texarkana\Projects - Round Rock_2019\19122262 - Luminant\D - MLSES\2022-12\ | File Name: 1 - POT Surface Map-Ash Pond Area (June 2021).dwg



STATE OF TEXAS
WILLIAM F VIENNE
GEOLOGY
No. 10492
LICENSED
PROFESSIONAL GEOSCIENTIST
11/16/2022

LEGEND

- DOWNGRADIENT CCR MONITORING WELL
- UPGRADIENT CCR MONITORING WELL
- (308.70) GROUNDWATER POTENTIOMETRIC SURFACE (FT MSL)
- 308 GROUNDWATER POTENTIOMETRIC SURFACE CONTOUR (C.I. = 1 FT)
- INFERRED GROUNDWATER FLOW DIRECTION

REFERENCE(S)
BASE MAP TAKEN FROM GOOGLE EARTH, IMAGERY DATED 4/6/17.

CLIENT
LUMINANT

PROJECT
MARTIN LAKE STEAM ELECTRIC STATION
TATUM, TEXAS

TITLE
ASH POND AREA
POTENTIOMETRIC SURFACE MAP
OCTOBER 4, 2021

CONSULTANT
WSP GOLDER

YYYY-MM-DD	2022-12-02
DESIGNED	AJD
PREPARED	AJD
REVIEWED	WFV
APPROVED	WFV

PROJECT NO.	CONTROL	REV.	FIGURE
19122262		0	2

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

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Path: \\golder.gds\complexdata\office\Texarkana\Projects - Round Rock_2019\19122262 - Luminant\D - MLSES\2022-12\ | File Name: 2 - POT Surface Map-Ash Pond Area (October 2021).dwg