2021 Annual Groundwater Monitoring and Corrective Action Report

Martin Lake Steam Electric Station A1 Area Landfill - Panola County, Texas

Prepared for:

Luminant Generation Company LLC

Prepared by:

Golder Associates USA Inc., Member of WSP

2201 Double Creek Dr, Suite 4004, Round Rock, Texas, USA 78664

+1 512 671-3434

January 31, 2022

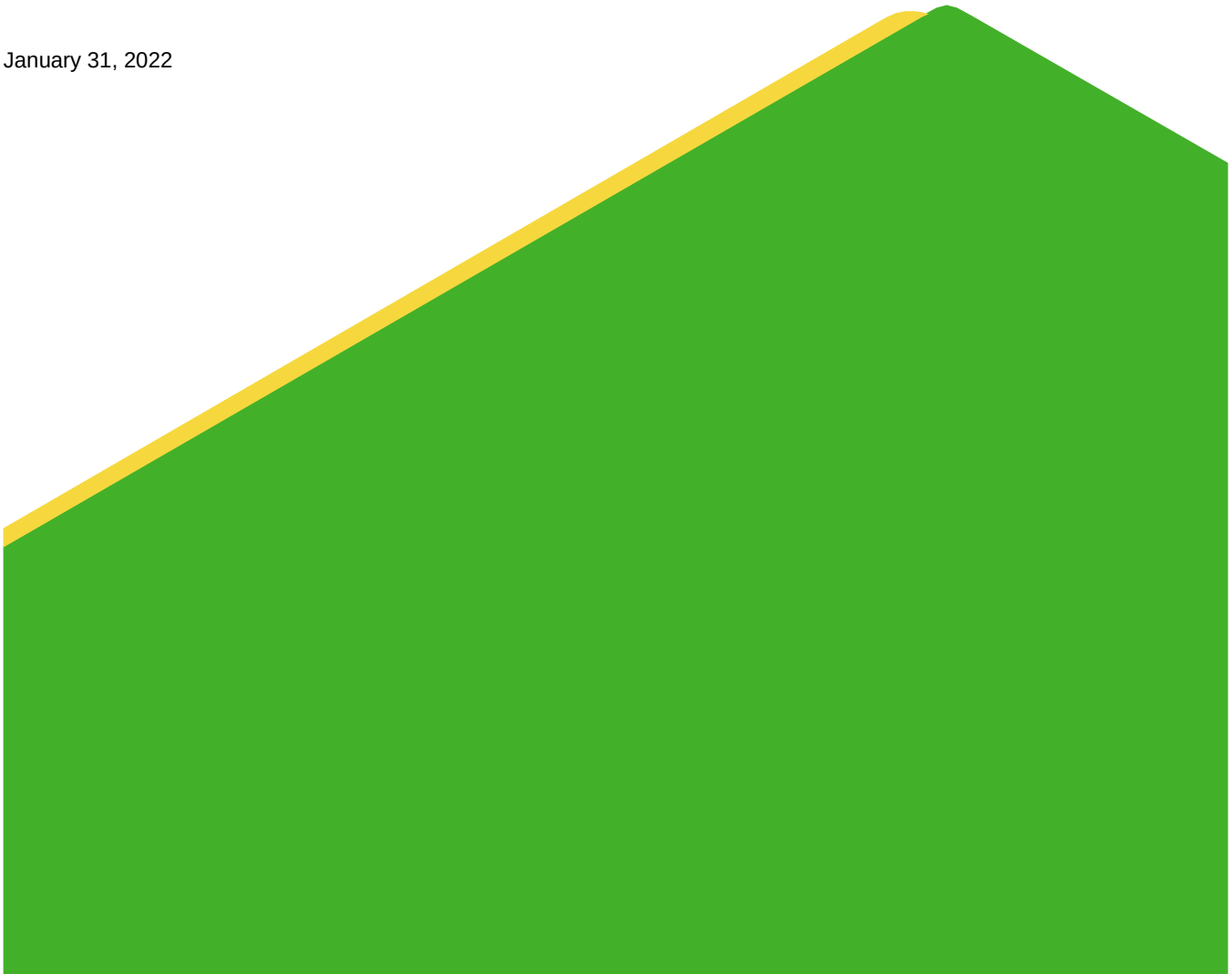


TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ACRONYMS AND ABBREVIATIONS

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

EXECUTIVE SUMMARY

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 A1 Area Landfill (the "CCR unit") at the Martin Lake Steam Electric Station (MLSES) in Panola County, Texas. The CCR unit and CCR monitoring well network are shown on Figure 1.

At the beginning and end of the 2021 reporting period, the CCR unit was operating under an Assessment Monitoring Program as described in §257.95. The Assessment Monitoring Program was established on July 16, 2018. Concentrations of Appendix IV constituents at statistically significant levels (SSLs) above groundwater protection standards (GWPSs) were identified in January 2019 for arsenic, barium, cobalt, and lithium at the A1 Area Landfill. An Assessment of Corrective Measures (ACM) was initiated on April 8, 2019 and was completed on September 5, 2019 in accordance with §257.96 to address the Appendix IV SSLs. A public meeting was held on November 13, 2019, pursuant to §257.96(e), to discuss the results of the ACM. A Remedy Selection Report (Golder 2022) 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.

During 2021, SSLs above GWPSs were observed at A1 Area Landfill only for cobalt in wells BMW-20 and BMW-27.

1.0 INTRODUCTION

The CCR Rule (40 C.F.R. 257 Subpart D - *Standards for the Receipt of Coal Combustion Residuals in Landfills and Surface Impoundments*) 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 A1 Area Landfill CCR monitoring well network in September 2017. The evaluation of those data was completed in 2018 using procedures described in the Statistical Analysis Plan (PBW, 2017) 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 25-26, 2017	Appendix III	Yes	July 16, 2018

Alternate source evaluations were inconclusive for one or more of the SSIs. Consequently, an Assessment Monitoring Program was initiated and established for the A1 Area Landfill in July 2018 in accordance with §257.94(e)(2). 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.

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

Statistical analysis of the 2021 data was performed in accordance with USEPA Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities-Unified Guidance (USEPA 2009). The statistical analysis included an evaluation of confidence intervals for each of the Appendix IV parameter data sets to evaluate whether constituent concentrations were present at concentrations above GWPSs. Cobalt was the only Appendix IV parameter identified at an SSL above GWPSs during the 2021 Assessment Monitoring period.

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	SSL(s)	SSL(s) Determination Date	Corrective Measures Assessment Initiated	Corrective Measures Assessment Completed
June 11-12, 2018	July 21, 2018	Appendix III Appendix IV	NA	NA	NA	NA
September 13-14, 2018	October 12, 2018	Appendix III Appendix IV	As, Ba, Co, Li	January 7, 2019	April 8, 2019	September 5, 2019
May 15, 2019	June 18, 2019	Appendix III Appendix IV	Co	September 5, 2019	NA	NA
September 4 and 9, 2019	October 14, 2019	Appendix III Appendix IV	Co	January 8, 2020	NA	NA
May 20-22, 2020	June 24, 2020	Appendix III Appendix IV	Co	August 17, 2020	NA	NA
September 29-30, 2020	October 27, 2020	Appendix III Appendix IV	Co	December 7, 2020	NA	NA
June 14-15, 2021	July 19, 2021	Appendix III Appendix IV	Co	July 19, 2021	NA	NA
October 6-7, 2021	November 15, 2021	Appendix III Appendix IV	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). A map showing the CCR unit and monitoring wells is provided as Figure 1. Upgradient/background well BMW-33, which was installed and sampled as part of the 2019 ACM evaluation, was added to the CCR monitoring program in 2020. No CCR wells were installed or decommissioned in 2021.

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

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

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 A1 Area Landfill on January 24, 2022.
- Continue the Assessment Monitoring Program in accordance with applicable provisions of 40 C.F.R. §257.95 and 30 T.A.C. §352.951.
- An assessment of MNA effectiveness in addressing SSLs will be documented in future Annual Groundwater Monitoring and Corrective Action Reports.

6.0 REFERENCES

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

Golder, 2022. Remedy Selection Report, Martin Lake Steam Electric Station – A1 Area Landfill, Panola 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.

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

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

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

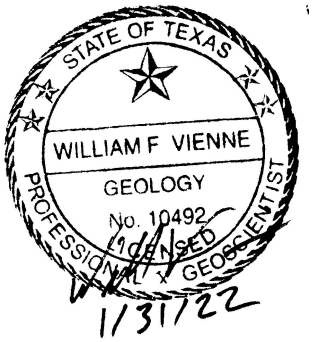
USEPA, 2009. Unified Guidance Document: Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities, EPA 530-R-09-007, March 2009.

Signature Page

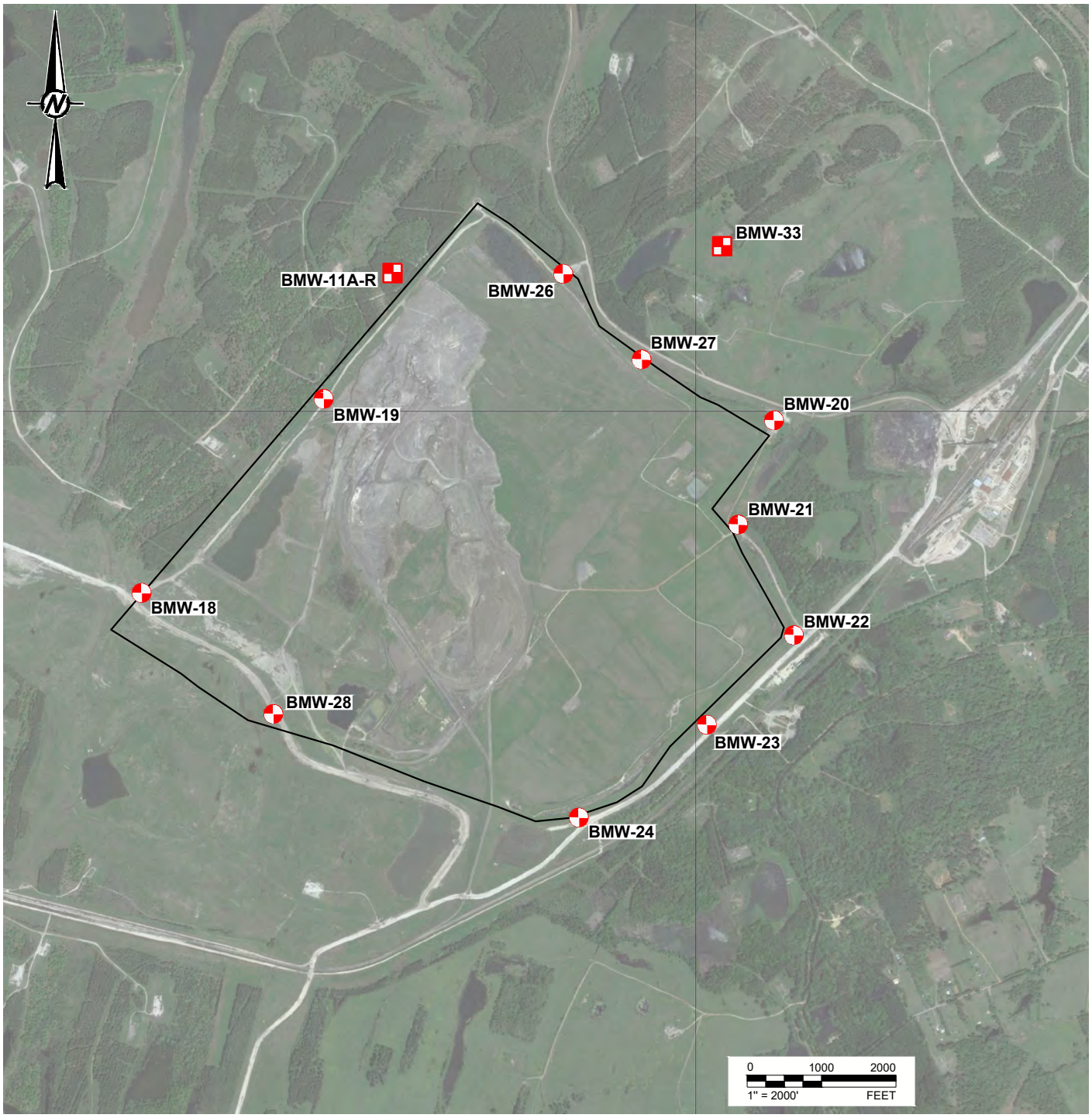
Golder Associates Inc.

Patrick J. Behling
Principal Engineer

William F. Vienne
Senior Hydrogeologist



FIGURES



LEGEND

- DOWNGRADIENT CCR MONITORING WELL
- UPGRADIENT CCR MONITORING WELL

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 - A1 AREA LANDFILL

CONSULTANT
GOLDER

YYYY-MM-DD	2021-01-11
DESIGNED	AJD
PREPARED	AJD
REVIEWED	WFV
APPROVED	WFV

PROJECT NO.	CONTROL	REV.	FIGURE
19122262		0	1

TABLES

Table 1
Statistical Background Values
MLSES A1 Area Landfill

Parameter	Statistical Background Value
Boron (mg/L)	0.546
Calcium (mg/L)	276
Chloride (mg/L)	35.5
Fluoride (mg/L)	0.4
field pH (s.u.)	5.81 7.58
Sulfate (mg/L)	1,100
Total Dissolved Solids (mg/L)	2,850

Table 2
Groundwater Protection Standards
MLSES A1 Area Landfill

Parameter	Groundwater Protection Standard
Antimony (mg/L)	0.006
Arsenic (mg/L)	0.0164
Barium (mg/L)	2
Beryllium (mg/L)	0.004
Cadmium (mg/L)	0.005
Chromium (mg/L)	0.1
Cobalt (mg/L)	0.0124
Fluoride (mg/L)	4
Lead (mg/L)	0.015
Lithium (mg/L)	0.103
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)	10.7

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
Upgradient Wells								
BMW-11-AR	10/29/15	0.332	91.5	11.3	<0.100	6.97	243	923
	12/30/15	0.285	92.3	2.39	0.26 J	6.87	114	642
	02/25/16	0.44	136	18.8	0.123 J	6.52	382	1,450
	04/07/16	0.391	151	17.5	<0.100	6.34	334	1,290
	06/09/16	0.417	182	19.8	<0.100	6.63	603	1,700
	08/11/16	0.389	170	20.8	<0.100	6.68	682	1,790
	10/26/16	0.316	99.7	15.8	<0.100	6.85	495	1,590
	12/14/16	0.409	201	19.8	<0.100	6.65	665	1,970
	09/25/17	0.448	199	15.2	<0.100	6.97	561	1,620
	06/12/18	0.634	173	8.37	0.323 J	6.82	320	1,080
	09/14/18	0.455	175	19.7	0.353 J	5.86	538	1,720
	05/15/19	0.374	138	6.11	0.198 J	6.84	324	970
	09/04/19	0.368	149	6.41	0.170 J	6.82	356	1,090
	05/20/20	0.289	114	4.43	<0.100	6.89	266	907
	09/29/20	0.349	148	6.37	0.408	6.42	275	1,240
	06/14/21	0.32	143	5.36	0.208 J	6.73	330	903
	10/06/21	0.318	158	5.83	<0.100	6.77	334	978
BMW-33	06/13/19	--	97.5	83.8	0.342 J	--	256	1,100
	09/09/19	0.269	95.8	79.5	0.145 J	--	232	1,040
	05/21/20	0.241	112	67.7	<0.100	6.76	202	1,020
	09/30/20	0.228	131	60.9	0.410	6.73	184	1,000
	06/15/21	0.208	118	66.4	0.235 J	6.52	210	980
	10/07/21	0.179	138	67.8	<0.100	6.57	188	1040
Downgradient Wells								
BMW-18	10/30/15	0.41	7.2	26.6	0.148 J	6.65	97	768
	12/30/15	0.322	346	7.14	0.101 J	6.77	1,570	2,470
	02/26/16	0.406	9.49	17.1	0.164 J	6.91	90	508
	04/07/16	0.423	7.08	16.3	0.117 J	6.52	87	489
	06/09/16	0.429	7.32	18.7	0.128 J	6.64	101	498
	08/11/16	0.415	7.02	18.5	<0.100	6.81	100	493
	10/26/16	0.45	6.55	18.1	0.158 J	6.67	94.3	534
	12/14/16	0.411	9.26	17.6	0.134 J	6.77	94.1	493
	09/25/17	0.437	6.49	16.9	0.128 J	6.87	87.2	476
	06/12/18	0.636	14.4	18.2	0.176 J	6.82	87.2	464
	09/14/18	0.423	6.06	18.6	0.201 J	5.70	81.3	476
	05/15/19	0.443	7.91	20	0.229 J	6.65	89.9	473
	09/04/19	0.435	7.72	19.2	0.203 J	6.51	91.8	478
	05/20/20	0.476	9.13	17.8	0.144	6.87	82.3	477
	09/30/20	0.447	6.62	19.0	0.387 J	6.78	81.1	469
	06/15/21	0.463	6.67	19.3	0.231 J	6.58	87.1	467
	10/07/21	0.388	6.26	20	0.477	6.53	86.4	467

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
BMW-19	10/29/18	0.385	417	16.2	<0.100	6.77	2,070	4,060
	12/30/15	0.4	441	11.4	0.127 J	6.49	2,100	3,260
	02/25/16	0.458	504	8.4	<0.100	6.14	2,330	2,960
	04/07/16	0.424	480	8.46	<0.100	6.71	2,270	3,740
	06/09/16	0.444	489	8.04	<0.100	6.32	2,390	4,180
	08/11/16	0.419	458	8.26	<0.100	6.95	2,370	3,780
	10/26/16	0.417	443	8.26	<0.100	6.97	2,210	4,410
	12/14/16	0.427	481	7.2	<0.100	6.75	2220	3,660
	09/25/17	0.481	496	6.11	<0.100	6.95	2,360	3,670
	06/12/18	0.667	539	6.08	<0.100	6.92	2,080	3,660
	09/13/18	0.460	514	6.86	0.40	6.26	2,330	4,010
	05/15/19	0.474	388	4.66	0.189 J	6.88	1,760	3,090
	09/04/19	0.430	434	5.93	<0.1	6.74	2,010	3,320
	05/20/20	0.487	445	5.54	<0.100	6.74	2,020	3,470
	09/29/20	0.460	484	5.39	<0.100	6.63	1790	3,480
	06/15/21	0.45	391	5.72	<0.100	6.86	1770	2980
	06/15/21 DUP	0.496	399	6.03	<0.100	6.86	1600	2980
	10/07/21	0.424	466	4.72	<0.100	6.70	1720	3090
BMW-20	10/23/15	0.139 J	71.2	64.8	<0.100	6.28	223	804
	12/30/15	0.144	96	36.4	0.12 J	6.32	443	987
	02/25/16	0.202	157	30.7	<0.100	5.70	131	888
	04/07/16	0.0787	80	30	<0.100	6.22	219	600
	06/09/16	0.129	128	37.5	<0.100	6.24	557	1,220
	08/11/16	0.106	107	39.4	<0.100	6.86	602	1,310
	10/26/16	0.113	93.5	48.2	<0.100	6.93	801	1,610
	12/13/16	0.0687	62.8	42.8	<0.100	6.64	335	757
	09/26/17	0.0973	116	33.5	<0.100	6.73	472	986
	06/11/18	0.0912	149	35.9	0.144 J	6.67	654	1,160
	09/13/18	0.0773	91.1	48.8	<0.100	5.26	831	1,360
	05/15/19	0.979	146	426	0.418	6.71	474	2,030
	09/04/19	0.101	136	50.7	<0.100	6.74	1160	1,830
	05/20/20	0.179	162	35.8	<0.100	6.81	797	1,450
	09/29/20	0.111	143	46.3	<0.100	6.55	966	1,540
	06/14/21	0.13	187	42.7	0.109 J	6.84	1210	1810
	10/06/21	0.0998	151	47.2	<0.100	6.69	1060	1660
BMW-21	10/23/15	0.973	157	496	<0.100	7.28	484	2,510
	12/30/15	0.951	142	365	0.126 J	7.08	444	2,020
	02/25/16	1.01	148	393	<0.100	6.64	462	1,990
	04/07/16	0.99	158	373	<0.100	7.02	454	2,190
	06/09/16	1.17	155	415	<0.100	7.09	477	2,230
	08/11/16	1.04	143	425	<0.100	6.66	484	1,860
	10/26/16	1.14	145	399	<0.100	6.85	434	2,170
	12/13/16	0.993	149	426	<0.100	6.93	483	2,170
	09/26/17	1.02	138	364	<0.100	6.76	417	1,850
	06/11/18	1.01	168	402	0.233 J	6.75	457	1,990
	09/13/18	0.987	151	418	0.136 J	6.64	474	2,100
	05/15/19	0.994	147	428	0.366 J	6.92	474	1,980
	09/04/19	0.0409	152	426	<0.1	6.73	477	2,090
	05/20/20	1.07	166	416	<0.100	6.87	457	1,910
	09/29/20	1.00	161	415	<0.100	6.84	444	2,030
	06/14/21	1.02	156	442	<0.100	6.64	507	2130
	10/06/21	0.938	168	459	<0.100	6.77	503	2080

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
BMW-22	10/23/15	2.76	209	377	<0.100	6.86	927	2,720
	12/30/15	2.54	150	215	0.186 J	6.92	670	1,870
	02/25/16	3.18	209	295	<0.100	6.27	949	2,430
	04/07/16	3.34	202	256	<0.100	6.84	839	2,230
	06/08/16	3.53	193	279	<0.100	6.84	890	2,340
	08/11/16	3.18	198	311	<0.100	6.25	946	2,520
	10/26/16	3.38	183	241	<0.100	6.89	803	2,600
	12/13/16	3.45	191	281	<0.100	6.73	896	2,370
	09/26/17	3.53	209	270	<0.100	6.82	860	2,250
	06/11/18	3.49	219	280	0.312 J	6.85	883	2,180
	09/13/18	3.28	188	296	0.205 J	6.34	919	2,310
	05/15/19	3.39	198	311	0.351 J	6.68	967	2,260
	09/09/19	3.65	208	307	<0.100	6.58	960	2,420
	05/20/20	3.67	205	290	<0.100	6.69	906	2,230
	09/29/20	3.49	223	281	<0.100	6.75	855	2,280
	06/14/21	3.29	214	308	<0.100	6.42	998	2250
	10/06/21	3.19	222	316	<0.100	6.62	966	2310
BMW-23	10/23/15	1.19	102	287	<0.100	6.84	577	1,980
	12/30/15	1.25	95.2	214	0.122 J	6.76	529	1,500
	02/25/16	1.31	97.7	225	<0.100	6.16	527	1,520
	04/07/16	1.22	95.1	221	<0.100	6.63	503	1,510
	06/08/16	1.31	102	254	<0.100	6.71	558	1,720
	08/11/16	1.28	90.4	242	<0.100	6.15	539	1,430
	10/26/16	1.22	86.8	219	<0.100	6.85	467	1,700
	12/13/16	1.25	91.8	237	<0.100	6.63	510	1,870
	09/26/17	1.46	99.6	223	<0.100	6.65	482	1,550
	06/12/18	1.49	104	236	0.204 J	6.72	490	1,530
	09/13/18	1.34	91.7	236	0.190 J	6.25	482	1,560
	05/15/19	1.31	89.9	240	<0.100	6.84	613	1,640
	09/09/19	1.47	98.9	257	<0.100	6.65	503	1,680
	05/20/20	1.63	105	256	<0.100	6.63	494	1,580
	09/29/20	1.42	102	238	0.302 J	6.93	443	1,590
	06/14/21	1.67	110	283	<0.100	6.75	565	1700
	10/06/21	1.44	100	279	<0.100	6.64	517	1670
BMW-24	10/23/15	0.144 J	61.6	633	0.247 J	7.14	45	1,510
	12/30/15	0.347	58.8	404	0.391 J	7.07	125	1,210
	02/25/16	0.431	61.6	332	0.236 J	5.80	184	1,210
	04/07/16	0.532	63.4	224	0.109 J	7.07	240	1,100
	06/08/16	0.612	60.1	201	0.147 J	7.06	259	984
	08/11/16	0.248	58.5	481	0.225 J	5.84	97.8	1,150
	10/26/16	0.225	59.2	518	0.305 J	6.78	34.2	1,490
	12/13/16	0.225	62.5	518	0.3 J	6.78	33	1,480
	09/26/17	0.656	66.8	229	<0.100	6.82	242	940
	06/11/18	0.469	70.6	336	0.466	6.76	117	970
	09/13/18	0.197	59.5	488	0.769	6.45	40	1,090
	05/15/19	0.601	57.9	169	0.219 J	6.78	280	881
	09/09/19	0.247	56.4	501	0.534 J	6.65	16.4	985
	05/20/20	0.758	67.8	175	0.129 J	6.72	254	907
	09/29/20	0.205	58.8	482	0.725	6.57	4.48	1,000
	06/14/21	0.661	65.4	165	0.251 J	6.68	276	848
	10/06/21	0.212	57.9	474	0.312 J	6.58	6.72	1020

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
BMW-26	09/13/16	0.457	234	97.8	<0.100	6.51	671	2,120
	10/26/16	0.127	44.3	16.2	<0.100	6.87	140	414
	12/14/16	0.251	130	152	0.344 J	6.96	1210	2,050
	01/23/17	0.478	224	126	<0.100	6.33	669	1,950
	02/23/17	0.0683	52	23.9	0.106 J	6.22	20.4	209
	03/24/17	0.44	215	112	<0.100	6.68	610	1,690
	04/24/17	0.495	218	111	<0.100	6.37	576	2,210
	05/25/17	0.613	178	115	<0.100	6.82	613	2,110
	06/29/17	0.507	233	111	<0.100	--*	604	1,700
	09/25/17	0.514	71	112	<0.100	6.95	606	1,510
	06/12/18	0.726	96.5	120	<0.100	6.61	633	1,550
	09/13/18	0.474	230	125	<0.100	5.32	671	2,020
	05/15/19	0.449	200	135	<0.100	6.90	706	1,930
	09/04/19	0.473	262	140	<0.100	6.78	753	2,170
	05/20/20	0.547	252	131	<0.100	6.77	701	1,980
	09/29/20	0.522	265	130	<0.100	6.74	703	2,140
	06/14/21	0.488	235	140	<0.100	6.61	780	2040
	10/06/21	0.440	265	142	<0.100	6.78	769	2230
BMW-27	09/13/16	0.486	160	133	0.668	5.87	1,150	2,750
	10/26/16	0.548	196	102	<0.100	6.73	700	2,020
	12/14/16	0.529	211	101	<0.100	6.90	674	1,810
	01/23/17	0.393	152	143	0.573	5.62	1,280	2,260
	02/23/17	0.0832	52.4	24	0.252 J	6.40	20.6	239
	03/24/17	0.304	120	132	0.738	6.35	1,190	2,100
	04/24/17	0.34	132	130	0.663	6.22	1,150	2,290
	05/25/17	0.331	122	124	1.61	6.67	1,150	2,320
	06/29/17	0.39	144	129	0.717	--*	1,180	2,080
	09/25/17	0.336	128	126	0.254 J	6.89	1,160	2,110
	06/12/18	0.478	96.1	98.4	<0.100	6.87	522	1,420
	09/13/18	0.398	143	132	0.750	5.60	1,230	2,380
	05/15/19	0.46	190	129	<0.100	6.72	674	1,840
	09/04/19	0.463	257	141	<0.100	6.95	755	2,130
	05/20/20	0.46	213	108	<0.100	6.56	579	1,670
	09/29/20	0.464	268	134	<0.100	6.79	704	2,130
	06/14/21	0.351	177	107	<0.100	6.76	550	1490
	10/06/21	0.410	231	125	<0.100	6.52	666	1920

TABLE 3
APPENDIX III ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample Location	Date Sampled	B (mg/L)	Ca (mg/L)	Cl (mg/L)	F (mg/L)	pH (s.u.)	SO_4 (mg/L)	TDS (mg/L)
BMW-28	12/14/16	1.22	234	111	<0.100	6.87	1280	2,360
	01/23/17	1.18	221	122	0.104 J	6.85	1,370	2,810
	02/23/17	0.0776	53.3	24	0.11 J	6.43	20.3	203
	03/24/17	1.14	242	121	<0.100	6.36	1,350	2,580
	04/24/17	1.16	266	121	0.19 J	6.57	1,330	2,980
	05/25/17	1.23	255	130	<0.100	6.70	1,410	3,180
	06/29/17	1.21	269	130	0.137 J	6.98	1,450	2,950
	08/01/17	1.17	260	132	<0.100	--[*]	1,460	2,780
	09/25/17	1.35 J	262	130	<0.100	6.85	1,430	3,060
	06/12/18	1.41	262	139	0.529	6.92	1,470	3,100
	09/13/18	1.35	243	143	0.445	5.71	1,420	3,180
	05/15/19	1.01	249	133	0.496	6.77	1,820	3,610
	09/04/19	1.22	277	137	<0.1	6.77	1,720	3,470
	05/20/20	1.29	284	137	<0.100	6.86	1520	3,270
	09/30/20	0.612	149	51.1	0.229 J	6.82	1030	2,100
	06/14/21	0.0878	15.5	38.4	<0.100	6.77	443	871
	10/07/21	0.104	19.1	19.2	0.290 J	6.78	185	402
	10/7/21 DUP	0.0993	19.4	12.8	<0.100	6.78	71.1	175

Notes:

1. Abbreviations: mg/L - milligrams per liter; TDS - total dissolved solids; s.u. - standard units.
2. J - concentration is below method quantitation limit; result is an estimate.
3. --[*]: value not available due to pH meter malfuncton during sampling.

TABLE 4
APPENDIX IV ANALYTICAL DATA
MLSES A1 AREA LANDFILL

Sample 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																		
BMW-11-AR	10/29/15	<0.0008	0.0116	0.0659	<0.0003	<0.0003	<0.002	0.0124	<0.1	0.000391 J	0.0594	<0.00008	0.00496 J	<0.002	<0.0005	1.60	4.75	6.35
	12/30/15	<0.0008	0.00362 J	0.0433	<0.0003	<0.0003	<0.002	<0.003	0.26 J	0.000362 J	0.0589	<0.00008	0.00384 J	<0.002	<0.0005	1.66	3.19	4.85
	02/25/16	<0.0008	0.00608	0.0724	<0.0003	<0.0003	<0.002	0.00486 J	0.123 J	<0.0003	0.0276	<0.00008	0.00597	<0.002	<0.0005	2.43	3.80	6.23
	04/07/16	<0.0008	0.00614	0.0929	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0195	<0.00008	0.00444 J	<0.002	<0.0005	0.885	1.48	2.37
	06/09/16	<0.0008	0.00532	0.0891	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0187	<0.00008	0.00355 J	<0.002	<0.0005	0.47	<0.674	1.14
	08/11/16	<0.0008	0.00271 J	0.0772	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0147	<0.00008	0.00346 J	<0.002	<0.0005	0.810	2.42	3.23
	10/26/16	<0.0008	<0.002	0.0429	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0508	<0.00008	0.00363 J	<0.002	<0.0005	0.631	0.922	1.55
	12/14/16	<0.0008	0.0061	0.074	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.00347	0.0139	<0.00008	0.00303 J	<0.002	<0.0005	<0.821	<1.73	<2.551
	06/12/18	<0.0008	0.00444 J	0.0692	<0.0003	<0.0003	0.00295 J	<0.003	0.323 J	0.0017	0.0686	<0.00008	0.00340 J	<0.002	<0.0005	0.996	1.7	2.696
	09/14/18	--	0.0056	0.0735	--	--	<0.002	<0.003	0.353 J	0.00147	0.0196	--	0.00299 J	--	--	1.52	1.11	2.63
	05/15/19	<0.0008	0.00208 J	0.0399	<0.0003	<0.0003	<0.002	<0.003	0.198 J	<0.0003	0.0404	<0.00008	<0.002	<0.002	<0.0005	0.83	4.89	5.72
	09/04/19	--	<0.2	0.0393	--	--	--	<0.003	0.170 J	--	0.0411	--	<0.002	--	--	0.382	0.317	0.699
	05/20/20	<0.0008	0.00479 J	0.0439	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0348	<0.00008	<0.00200	<0.002	<0.0005	0.289	1.54	1.83
	09/29/20	--	0.0102	0.0517	<0.000300	<0.000300	<0.00200	<0.00300	0.408	<0.000300	0.0337	--	--	<0.002	--	0.209	1.59	1.8
	06/14/21	<0.0008	0.0029 J	0.0565	<0.0003	<0.0003	<0.002	<0.003	0.208 J	0.00132	0.032	<0.00008	<0.002	<0.002	<0.0005	0.434	0.712	1.15
	10/06/21	<0.000800	<0.00200	0.0511	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0331	<0.0000800	0.00212 J	<0.00200	<0.000500	0.334	1.34	1.68
BMW-33	06/13/19	--	<0.002	--	--	--	--	0.0176	0.342 J	--	0.0206	--	--	--	--	--	--	--
	09/09/19	--	<0.002	0.285	--	--	--	0.0122	0.145 J	--	0.0177	--	0.00325 J	NA	NA	0.738	-0.0903	0.738
	05/20/20	0.00102 J	<0.002	0.203	<0.0003	<0.0003	<0.002	0.0065	<0.100	<0.0003	0.0145	<0.00008	0.00207 J	<0.002	<0.0005	0.499	0.394	0.893
	09/30/20	--	<0.002	0.166	<0.000300	<0.000300	<0.00200	0.00826	0.410	<0.000300	0.0135	--	--	<0.002	--	0.237	0.419	0.656
	06/15/21	<0.0008	<0.002	0.137	<0.0003	<0.0003	<0.002	0.0113	0.235 J	<0.0003	0.0124	<0.00008	<0.002	<0.002	<0.0005	0.190 J	0.597 J	0.786 J
	10/07/21	<0.000800	0.00247 J	0.130	<0.000300	<0.000300	<0.00200	0.0115	<0.100	<0.000300	0.0126	<0.0000800	<0.00200	<0.00200	<0.000500	0.522	1.30	1.82
Downgradient Wells																		
BMW-18	10/30/15	<0.0008	<0.002	0.0401	<0.0003	<0.0003	0.00944	<0.003	0.148 J	<0.0003	0.14	<0.00008	<0.002	<0.002	<0.0005	0.526	<1.51	2.04
	12/30/15	<0.0008	<0.002	0.0168	<0.0003	<0.0003	<0.002	0.0129	0.101 J	<0.0003	0.0415	<0.00008	<0.002	<0.002	<0.0005	<0.405	<2.04	<2.445
	02/26/16	<0.0008	<0.002	0.0446	<0.0003	<0.0003	0.00214 J	<0.003	0.164 J	<0.0003	0.0156	<0.00008	<0.002	<0.002	<0.0005	<0.406	<1.9	<2.306
	04/07/16	<0.0008	<0.002	0.0306	<0.0003	<0.0003	<0.002	<0.003	0.117 J	<0.0003	0.0171	<0.00008	<0.002	<0.002	<0.0005	<0.109	<1.00	<1.109
	06/09/16	<0.0008	<0.002	0.0283	<0.0003	<0.0003	<0.002	<0.003	0.128 J	<0.0003	0.0152	<0.00008	<0.002	<0.002	<0.0005	<0.143	0.857	1.00
	08/11/16	<0.0008	<0.002	0.0291	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0147	<0.00008	<0.002	<0.002	<0.0005	<0.22	<1.07	<1.29
	10/26/16	<0.0008	<0.002	0.029	<0.0003	<0.0003	<0.002	<0.003	0.158 J	<0.0003	0.0156	<0.00008	<0.002	<0.002	<0.0005	<0.132	<0.534	<0.666
	12/14/16	<0.0008	<0.002	0.0384	<0.0003	<0.0003	<0.002	<0.003	0.134 J	<0.0003	0.0158	<0.00008	<0.002	<0.002	<0.0005	0.140	<1.99	2.13
	06/12/18	<0.0008	<0.002	0.0412	<0.0003	<0.0003	<0.002	<0.003	0.176 J	0.0013	0.0185	<0.00008	<0.002	<0.002	<0.0005	0.232	0.706	0.938
	09/14/18	--	<0.002	0.0277	--	--	<0.002	<0.003	0.201 J	<0.0003	0.0165	--	<0.002	--	--	<0.509	<0.589	<1.098
	05/15/19	<0.0008	<0.002	0.0362	<0.0003	<0.0003	<0.002	<0.003	0.229 J	<0.0003	0.016	<0.00008	<0.002	<0.002	<0.0005	<0.264	3.95	4.214
	09/04/19	--	<0.002	0.0337	--	--	--	<0.003	0.203 J	--	0.0128	--	<0.002	--	--	0.304	1.48	1.79
	05/20/20	<0.0008	<0.002	0.0431	<0.0003	<0.0003	<0.002	<0.003	0.144 J	<0.0003	0.0136	<0.00008	<0.002	<0.002	<0.0005	0.555	1.21	1.76
	09/30/20	--	<0.002	0.0315	<0.000300	<0.000300	<0.00200	<0.00300	0.387 J	<0.000300	0.0193	--	--	<0.00200	--	0.0836	-0.338	0.0836
	06/15/21	<0.0008	<0.002	0.0306	<0.0003	<0.0003	<0.002	<0.003	0.231 J	<0.0003	0.0127	<0.00008	<0.002	<0.002	<0.0005	-0.0192	-0.461	0.000
	10/07/21	<0.000800	<0.00200	0.0295	<0.000300	<0.000300	<0.00200	<0.00300	0.477	<0.000300	0.0159	<0.0000800	<0.00200	<0.00200	<0.000500	0.155 J	0.0602	0.215
BMW-19	10/29/18	<0.0008	<0.002	0.0231	<0.0003	<0.0003	<0.002	0.0161	<0.1	<0.0003	0.0545	<0.00008	<0.002	<0.002	<0.0005	0.395	<1.56	1.96
	12/30/15	<0.0008	<0.002	0.0222	<0.0003	<0.0003	<0.002	0.0166	0.127 J	<0.0003	0.0506	<0.00008	<0.002	<0.002	<0.0005	0.598	<2.89	3.49
	02/25/16	<0.0008	0.00235 J	0.0169	<0.0003	<0.0003	<0.002	0.0149	<0.1	<0.0003	0.0711	<0.00008	<0.002	<0.002	<0.0005	0.571	1.94	2.51
	04/07/16	<0.0008	<0.002	0.0178	<0.0003	<0.0003	<0.002	0.0137	<0.1	<0.0003	0.0591	<0.00008	<0.002	<0.002	<0.0005	<0.185	<0.715	<0.9
	06/09/16	<0.0008	<0.002	0.0158	<0.0003	<0.0003	<0.002	0.0141	<0.1	<0.0003	0.0644	<0.00008	<0.002	<0.002	<0.0005	<0.142	1.98	2.12
	08/11/16	<0.0008	0.00711	0.0158	<0.0003	<0.0003	<0.002	0.0128	<0.1	<0.0003	0.0568	<0.00008	<0.002	<0.002	<0.0005	0.927	<0.812	1.74
	10/26/16	<0.0008	<0.002	0.0144	<0.0003	<0.0003	<0.002	0.0104	<0.1	<0.0003	0.0495	<0.00008	<0.002	<0.002	<0.0005	<0.152	<0.48	<0.632
	12/14/16	<0.0008	0.00369 J	0.0171	<0.0003	<0.0003	<0.002	0.0125	<0.1	<0.0003	0.0584	<0.00008	<0.002	<0.002	<0.0005	0.309	0.827	1.14
	06/12/18	<0.0008	0.0428	0.0243	<0.0003	<0.0003	0.00267	0.0115	<0.100	0.00183	0.0734	<0.00008	<0.002	<0.002	<0.0005	<0.395	1.17	1.565
	09/13/18	--	0.00491 J	0.0132	--	--	<0.002	0.0125	0.404 J	<0.0003	0.0845	--	<0.002	--	--	<0.376	1.46	1.836
	05/15/19	<0.0008	<0.002	0.0104	<0.0003	<0.0003	<0.002	<0.003	0.189 J	<0.0003	0.0647	<0.00008	<0.002	<0.002	<0.0005	0.487	4.66	5.147
	09/04/19	--	<0.002	0.0117	--	--	--	<0.003	<0.1	--	0.0694	--	<0.002	--	--	-0.00769	0.563	0.563
	05/20/20	<0.0008	<0.00200	0.0109	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0783	<0.00008	0.00231 J	<0.002	<0.0005	0.0651	0.127	0.192
	09/29/20	--	<0.00200	0.0137	<0.000300	<0.000300	<0.00200	0.0187	<0.100	<0.000300	0.0742	--	--	<0.00200	--	-0.0171	1.02	1.020
	06/15/21	<0.0008	<0.002	0.0149	<0.0003	<0.0003	<0.002	0.0083	<0.100	<0.0003	0.0689	<0.00008	<0.002	<0.002	<0.0005	-0.0202	0.0156	0.0156
	6/15/21 DUP	<0.0008	0.00288 J	0.015	<0.0003	<0.0003	<0.002	0.00831	<0.1	<0.0003	0.0686	<0.00008	<0.002	<0.002	<0.0005	0.175 J	1.38	1.55
	10/07/21	<0.000800	0.00341 J	0.0151	<0.000300	<0.000300	<0.00200	0.0117	<0.100	<0.000300	0.0727	<0.0000800	<0.00200	<0.00200	<0.000500	0.229 J	1.51	1.74

TABLE 4
APPENDIX IV ANALYTICAL DATA
MLSES A1 AREA LANDFILL

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)
BMW-20	10/23/15	<0.0008	0.00236 J	0.0778	<0.0003	<0.0003	<0.002	0.0256	<0.1	0.000501 J	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.463	<1.89	2.35
	12/30/15	<0.0008	0.00344 J	0.0777	<0.0003	<0.0003	<0.002	0.051	0.12 J	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.816	<2.41	3.23
	02/25/16	<0.0008	0.00474 J	0.0989	<0.0003	<0.0003	<0.002	0.022	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	<0.61	2.85	3.46
	04/07/16	<0.0008	0.00411 J	0.0912	<0.0003	<0.0003	<0.002	0.0276	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.221	<1.08	1.30
	06/09/16	<0.0008	0.0103	0.0776	<0.0003	<0.0003	<0.002	0.054	<0.1	0.000696 J	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.51	<0.716	1.23
	08/11/16	<0.0008	<0.002	0.0637	<0.0003	<0.0003	<0.002	0.0513	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.322	1.40	1.72
	10/26/16	<0.0008	0.00444 J	0.0421	<0.0003	<0.0003	<0.002	0.0786	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.347	0.848	1.20
	12/13/16	<0.0008	0.00483 J	0.0377	<0.0003	<0.0003	<0.002	0.0451	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.246	1.15	1.40
	06/11/18	<0.0008	0.00473 J	0.0515	<0.0003	<0.0003	<0.002	0.0681	0.144 J	0.000476	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.74	0.865	1.605
	09/13/18	--	0.00473 J	0.0258	--	--	<0.002	0.0645	<0.100	0.000368 J	<0.005	--	<0.002	--	--	0.519	0.711	1.23
	05/15/19	<0.0008	0.00541	0.0412	<0.0003	<0.0003	<0.002	0.003	0.418	<0.0003	0.0615	<0.00008	<0.002	<0.002	<0.0005	1.18	0.657	1.837
	09/04/19	--	0.00768	0.0261	--	--	--	0.108	<0.1	--	<0.005	--	<0.002	--	--	0.0996	1.62	1.72
	05/20/20	<0.0008	0.0126	0.0494	<0.0003	<0.0003	<0.002	0.0912	<0.1	0.000956 J	<0.005	<0.00008	<0.002	0.0044 J	<0.0005	0.5	2.15	2.65
	09/29/20	--	0.00837	0.0292	<0.000300	<0.000300	0.002	0.101	<0.100	0.00159	0.005	--	--	0.00204 J	--	0.152	0.548	0.7
	06/14/21	<0.0008	0.00234 J	0.0431	<0.0003	<0.0003	<0.002	0.0788	0.109 J	0.000323 J	0.00778 J	<0.00008	<0.002	<0.002	<0.0005	0.500	2.81	3.31
	10/06/21	<0.000800	0.00439 J	0.0273	<0.000300	<0.000300	<0.00200	0.0963	<0.100	0.000947 J	0.00549 J	<0.0000800	<0.00200	<0.00200	<0.000500	0.401	2.18	2.58
BMW-21	10/23/15	<0.0008	0.00324 J	0.0703	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0623	<0.00008	<0.002	<0.002	<0.0005	<0.436	<0.948	<1.384
	12/30/15	<0.0008	0.00247 J	0.0478	<0.0003	<0.0003	<0.002	<0.003	0.126 J	<0.0003	0.0602	<0.00008	<0.002	<0.002	<0.0005	0.584	<2.00	2.58
	02/25/16	<0.0008	0.00327 J	0.0471	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0602	<0.00008	<0.002	<0.002	<0.0005	0.735	2.13	2.87
	04/07/16	<0.0008	0.00337 J	0.0472	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0653	<0.00008	<0.002	<0.002	<0.0005	0.470	<2.78	3.25
	06/09/16	<0.0008	0.0034 J	0.0457	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0675	<0.00008	<0.002	<0.002	<0.0005	0.32	<0.917	1.24
	08/11/16	<0.0008	0.00373 J	0.0445	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0527	<0.00008	<0.002	<0.002	<0.0005	0.655	<0.728	1.38
	10/26/16	<0.0008	0.0037 J	0.0443	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0611	<0.00008	<0.002	<0.002	<0.0005	0.383	1.61	1.99
	12/13/16	<0.0008	0.00217 J	0.0438	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0631	<0.00008	<0.002	<0.002	<0.0005	0.213	1.00	1.21
	06/11/18	<0.0008	0.00373 J	0.0438	<0.0003	<0.0003	<0.002	<0.003	0.233 J	<0.0003	0.07	<0.00008	<0.002	<0.002	<0.0005	<0.239	<0.939	<1.178
	09/13/18	--	0.00353 J	0.0412	--	--	<0.002	<0.003	0.136 J	<0.0003	0.0646	--	<0.002	--	--	0.562	1.49	2.052
	05/15/19	<0.0008	0.00399 J	0.0412	<0.0003	<0.0003	<0.002	<0.003	0.366 J	<0.0003	0.0613	<0.00008	<0.002	<0.002	<0.0005	<0.322	1.07	1.392
	09/04/19	--	0.00378	0.0409	--	--	--	<0.003	<0.1	--	0.0683	--	<0.002	--	--	0.506	1.51	2.06
	05/20/20	<0.0008	0.00434 J	0.0421	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0632	<0.00008	<0.002	<0.002	<0.0005	0.562	1.76	2.32
	09/29/20	--	0.00814	0.0420	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0663	--	--	<0.00200	--	0.699	1.48	2.18
	06/14/21	<0.0008	0.004 J	0.0398	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0617	<0.00008	<0.002	<0.002	<0.0005	0.555	1.62	2.18
	10/06/21	<0.000800	0.00790	0.0394	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0653	<0.0000800	<0.00200	<0.00200	<0.000500	0.609	1.77	2.38
BMW-22	10/23/15	<0.0008	<0.002	0.106	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0675	<0.00008	<0.002	<0.002	<0.0005	1.59	2.11	3.70
	12/30/15	<0.0008	<0.002	0.084	<0.0003	<0.0003	<0.002	<0.003	0.186 J	<0.0003	0.0594	<0.00008	<0.002	<0.002	<0.0005	0.973	<1.55	2.52
	02/25/16	<0.0008	<0.002	0.0761	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0801	<0.00008	<0.002	<0.002	<0.0005	0.594	<1.93	2.52
	04/07/16	<0.0008	<0.002	0.072	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0773	<0.00008	<0.002	<0.002	<0.0005	0.480	1.46	1.94
	06/08/16	<0.0008	0.00206 J	0.0667	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0847	<0.00008	<0.002	<0.002	<0.0005	0.888	1.88	2.77
	08/11/16	<0.0008	<0.002	0.0679	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0675	<0.00008	<0.002	<0.002	<0.0005	0.607	1.93	2.54
	10/26/16	<0.0008	0.00216 J	0.0645	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0753	<0.00008	<0.002	<0.002	<0.0005	0.633	1.02	1.65
	12/13/16	<0.0008	0.00232 J	0.0655	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0689	<0.00008	<0.002	<0.002	<0.0005	<0.209	1.05	1.26
	06/11/18	<0.0008	<0.002	0.0638	<0.0003	<0.0003	<0.002	<0.003	0.312 J	<0.0003	0.089	<0.00008	<0.002	<0.002	<0.0005	0.522	<1.020	1.54
	09/13/18	--	<0.002	0.063	--	--	<0.002	<0.003	0.205 J	<0.0003	0.0882	--	<0.002	--	--	1.29	2.89	4.18
	05/15/19	<0.0008	<0.002	0.0618	<0.0003	<0.0003	<0.002	<0.003	0.351 J	<0.0003	0.0779	<0.00008	<0.002	<0.002	<0.0005	3.36	1.64	5.00
	09/09/19	--	<0.002	0.0599	--	--	--	<0.003	<0.100	--	0.0829	--	<0.002	--	--	0.954	1.85	2.81
	05/20/20	<0.0008	<0.002	0.0621	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0855	<0.00008	<0.002	<0.002	<0.0005	0.909	2.67	3.58
	09/29/20	--	<0.00200	0.0598	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0837	--	--	<0.00200	--	0.621	3.13	3.75
	06/14/21	<0.0008	<0.002	0.0609	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0776	<0.00008	<0.002	<0.002	<0.0005	0.415	1.64	2.05
	10/06/21	<0.000800	<0.00200	0.0576	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0779	<0.0000800	<0.00200	<0.00200	<0.000500	0.695	1.43	2.12

TABLE 4
APPENDIX IV ANALYTICAL DATA
MLSES A1 AREA LANDFILL

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)
BMW-23	10/23/15	<0.0008	<0.002	0.0519	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0802	<0.00008	<0.002	<0.002	<0.0005	1.19	<1.91	3.10
	12/30/15	<0.0008	<0.002	0.0462	<0.0003	<0.0003	<0.002	<0.003	0.122 J	<0.0003	0.0897	<0.00008	<0.002	<0.002	<0.0005	0.711	<2.62	3.33
	02/25/16	<0.0008	<0.002	0.0488	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0959	<0.00008	<0.002	<0.002	<0.0005	0.604	<1.78	2.38
	04/07/16	<0.0008	<0.002	0.0472	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.095	<0.00008	<0.002	<0.002	<0.0005	0.723	1.98	2.70
	06/08/16	<0.0008	<0.002	0.0497	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.103	<0.00008	<0.002	<0.002	<0.0005	0.654	1.29	1.94
	08/11/16	<0.0008	<0.002	0.0458	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.077	<0.00008	<0.002	<0.002	<0.0005	0.936	1.94	2.88
	10/26/16	<0.0008	<0.002	0.0437	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0856	<0.00008	<0.002	<0.002	<0.0005	0.472	1.76	2.23
	12/13/16	<0.0008	<0.002	0.0407	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0817	<0.00008	<0.002	<0.002	<0.0005	<0.225	0.704	0.93
	06/11/18	<0.0008	<0.002	0.0381	<0.0003	<0.0003	<0.002	<0.003	0.204 J	<0.0003	0.106	<0.00008	<0.002	<0.002	<0.0005	0.442	1.79	2.23
	09/13/18	--	<0.002	0.0414	--	--	<0.002	<0.003	0.190 J	<0.0003	0.0915	--	<0.002	--	--	0.774	1.23	2.00
	05/15/19	<0.0008	0.0024	0.0381	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0951	<0.00008	<0.002	<0.002	<0.0005	2.54	1	3.54
	09/09/19	--	<0.002	0.0382	--	--	--	<0.003	<0.100	--	0.0896	--	<0.002	--	--	0.583	2.4	2.98
	05/20/20	<0.0008	<0.002	0.039	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0927	<0.00008	<0.002	<0.002	<0.0005	0.669	2.27	2.93
	09/29/20	--	<0.00200	0.0383	<0.000300	<0.000300	<0.00200	<0.00300	0.302 J	<0.000300	0.0861	--	--	<0.00200	--	0.687	0	0.687
	06/14/21	<0.0008	<0.002	0.0433	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0837	<0.00008	<0.002	<0.002	<0.0005	0.742	1.75	2.49
	10/06/21	<0.000800	<0.00200	0.0367	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0827	<0.0000800	<0.00200	<0.00200	<0.000500	0.59	1.77	2.36
BMW-24	10/23/15	<0.0008	0.00494 J	1.87	<0.0003	<0.0003	<0.002	0.00802	0.247 J	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	1.83	3.32	5.15
	12/30/15	<0.0008	0.00579	0.801	<0.0003	<0.0003	<0.002	0.0146	0.391 J	<0.0003	0.0161	<0.00008	<0.002	<0.002	<0.0005	0.485	<1.66	2.15
	02/25/16	<0.0008	0.00442 J	0.645	<0.0003	<0.0003	<0.002	0.0137	0.236 J	<0.0003	0.0267	<0.00008	<0.002	<0.002	<0.0005	1.20	<1.93	3.13
	04/07/16	<0.0008	0.00376 J	0.202	<0.0003	<0.0003	<0.002	0.0238	0.109 J	<0.0003	0.0415	<0.00008	<0.002	<0.002	<0.0005	<0.349	<1.58	<1.929
	06/08/16	<0.0008	0.00481 J	0.181	<0.0003	<0.0003	<0.002	0.0227	0.147 J	<0.0003	0.0475	<0.00008	<0.002	<0.002	<0.0005	0.360	1.26	1.62
	08/11/16	<0.0008	0.00414 J	1.26	<0.0003	<0.0003	<0.002	0.00707	0.225 J	<0.0003	0.00938 J	<0.00008	<0.002	<0.002	<0.0005	0.564	<0.942	1.51
	10/26/16	<0.0008	0.00364 J	1.88	<0.0003	<0.0003	<0.002	<0.003	0.305 J	<0.0003	0.00767 J	<0.00008	<0.002	<0.002	<0.0005	1.37	1.31	2.68
	12/13/16	<0.0008	0.00498 J	1.96	<0.0003	<0.0003	<0.002	0.00326 J	0.3 J	<0.0003	0.00914 J	<0.00008	<0.002	<0.002	<0.0005	0.270	1.16	1.43
	06/11/18	<0.0008	0.00266 J	0.487	<0.0003	<0.0003	<0.002	0.00633	0.466	<0.0003	0.0198	<0.00008	<0.002	<0.002	<0.0005	0.668	0.975	1.643
	09/13/18	--	<0.002	2.19	--	--	<0.002	0.00304 J	0.769	<0.0003	0.00764 J	--	<0.002	--	--	1.82	1.45	3.27
	05/15/19	<0.0008	0.00272 J	0.221	<0.0003	<0.0003	<0.002	0.000643	0.219 J	<0.0003	0.0512	<0.00008	<0.002	<0.002	<0.0005	1.45	<1.21	2.66
	09/09/19	--	<0.002	1.48	--	--	--	<0.003	0.534	--	0.00826 J	--	<0.002	--	--	0.584	1.41	2
	05/20/20	<0.0008	0.00207 J	0.244	<0.0003	<0.0003	<0.002	0.0109	0.129 J	<0.0003	0.046	<0.00008	<0.002	<0.002	<0.0005	0.532	<2.45	2.99
	09/29/20	--	<0.00200	1.85	<0.000300	<0.000300	<0.00200	<0.00300	0.725	<0.000300	0.00563 J	--	--	<0.00200	--	1.24	0.892	2.14
	06/14/21	<0.0008	<0.002	0.212	<0.0003	<0.0003	<0.002	0.00512	0.251 J	<0.0003	0.0497	<0.00008	<0.002	<0.002	<0.0005	0.486	1.77	2.26
	10/06/21	<0.000800	<0.00200	1.60	<0.000300	<0.000300	<0.00200	<0.00300	0.312 J	<0.000300	0.00545 J	<0.000400	<0.00200	<0.00200	<0.000500	1.04	2.85	3.89
BMW-26	09/13/16	<0.0008	0.017	0.0425	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0944	<0.00008	0.00215 J	<0.002	<0.0005	0.154	<1.02	1.17
	10/26/16	<0.0008	0.00318 J	0.0731	<0.0003	<0.0003	<0.002	0.00402 J	<0.1	<0.0003	<0.005	<0.00008	<0.002	<0.002	<0.0005	0.175	<0.695	0.87
	12/14/16	<0.0008	<0.002	0.0424	<0.0003	0.000823 J	<0.002	0.236	0.344 J	<0.0003	0.0527	<0.00008	<0.002	<0.002	<0.0005	0.177	<1.29	1.47
	01/23/17	<0.0008	0.0325	0.0446	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.000594 J	0.0977	<0.00008	0.0035 J	<0.002	<0.0005	0.351	0.936	1.29
	02/23/17	<0.0008	<0.002	0.0705	<0.0003	<0.0003	<0.002	<0.003	0.106 J	0.000726 J	0.0052 J	<0.00008	<0.002	<0.002	<0.0005	0.306	0.951	1.26
	03/24/17	<0.0008	0.0107	0.0371	<0.0003	<0.0003	<0.002	<0.003	<0.1	0.000742 J	0.0964	<0.00008	0.00461 J	<0.002	<0.0005	0.335	<0.627	0.96
	05/25/17	<0.0008	0.00347 J	0.0243	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0951	<0.0008	0.00302 J	<0.002	<0.0005	<0.477	0.818	1.30
	06/29/17	<0.0008	0.0328	0.0352	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0985	<0.0008	0.00257 J	<0.002	<0.0005	0.198	0.677	0.88
	06/12/18	<0.0008	0.00316 J	0.0222	<0.0003	<0.0003	0.00231 J	<0.003	<0.100	0.00152	0.111	<0.00008	0.0029 J	<0.002	<0.0005	<0.251	<0.508	<0.759
	09/13/18	--	0.0165	0.0360	--	--	<0.002	<0.003	<0.100	<0.0003	0.11	--	<0.002	--	--	<0.426	0.826	1.252
	05/15/19	<0.0008	<0.002	0.0253	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.101	<0.00008	0.00218 J	<0.002	<0.0005	0.457	<1.13	1.587
	09/04/19	--	0.00725	0.0317	--	--	--	<0.003	<0.1	--	0.109	--	<0.002	--	--	0.126	1.53	1.66
	05/20/20	<0.0008	<0.002	0.0293	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0999	<0.00008	<0.002	<0.002	<0.0005	0.158	0.696	0.853
	09/29/20	--	0.00466 J	0.0314	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.107	--	--	<0.00200	--	0.234	0.161	0.395
	06/14/21	<0.0008	<0.002	0.0273	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.099	<0.00008	<0.002	<0.002	<0.0005	0.149	1.05	1.20
	10/06/21	<0.000800	0.00436 J	0.0297	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.105	<0.0000800	<0.00200	<0.00200	<0.000500	0.145 J	0.97	1.12

TABLE 4
APPENDIX IV ANALYTICAL DATA
MLSES A1 AREA LANDFILL

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)
BMW-27	09/13/16	<0.0008	0.00536	0.0434	<0.0003	0.000615 J	<0.002	0.15	0.668	0.000432 J	0.0541	<0.00008	<0.002	<0.002	<0.0005	0.308	<1.14	1.45
	10/26/16	<0.0008	0.00625	0.0339	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0933	<0.00008	<0.002	<0.002	<0.0005	0.156	1.94	2.10
	12/14/16	<0.0008	0.0051	0.0342	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.0932	<0.00008	<0.002	<0.002	<0.0005	<0.12	<1.05	<1.17
	01/23/17	<0.0008	0.00845	0.0333	<0.0003	0.000707 J	0.00278 J	0.195	0.573	0.000323 J	0.0484	<0.00008	<0.002	<0.002	<0.0005	0.369	0.934	1.30
	02/23/17	<0.0008	<0.002	0.0704	<0.0003	<0.0003	<0.002	<0.003	0.252 J	0.000736 J	<0.005	<0.00008	<0.002	<0.002	<0.0005	<0.209	0.660	0.87
	03/24/17	<0.0008	0.00319 J	0.0296	<0.0003	0.000776 J	<0.002	0.222	0.738	<0.0003	0.0474	<0.00008	<0.002	<0.002	<0.0005	0.414	<0.725	1.14
	05/25/17	<0.0008	<0.002	0.0266	<0.0003	0.000521 J	<0.002	0.2	1.61	0.000439 J	0.0471	<0.00008	<0.002	<0.002	<0.0005	<0.443	1.38	1.82
	06/29/17	<0.0008	0.00593	0.0307	<0.0003	0.00851 J	0.00266 J	0.255	0.717	<0.0003	0.048	<0.0008	<0.002	<0.002	<0.0005	0.303	0.628	0.93
	06/12/18	<0.0008	0.00223 J	0.0182	<0.0003	<0.0003	<0.002	<0.003	<0.100	0.00097 J	0.0721	<0.00008	<0.002	<0.002	<0.0005	0.305	<0.5860	0.891
	09/13/18	--	0.00467 J	0.0250	--	--	0.002 J	0.190	0.750	<0.0003	0.0531	--	<0.002	--	--	0.691	1.04	1.731
	05/15/19	<0.0008	<0.002	0.0238	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.0943	<0.00008	<0.002	<0.002	<0.0005	<0.195	0.962	1.157
	09/04/19	--	0.00759	0.32	--	--	--	<0.003	<0.1	--	0.107	--	<0.002	--	--	0.0726	1.68	1.75
	05/20/20	<0.0008	<0.002	0.025	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.084	<0.00008	<0.002	<0.002	<0.0005	0.265	0.255	0.52
	09/29/20	--	0.00494 J	0.0313	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	0.0003	0.110	--	--	<0.00200	--	0.147	-0.339	0.147
	06/14/21	<0.0008	<0.002	0.021	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.075	<0.00008	<0.002	<0.002	<0.0005	0.0262	0.558	0.584 J
	10/06/21	<0.000800	0.00384 J	0.0375	<0.000300	<0.000300	<0.00200	<0.00300	<0.100	<0.000300	0.0883	<0.0000800	<0.00200	<0.00200	<0.000500	0.358	0.585 J	0.943 J
BMW-28	12/14/16	0.0012 J	<0.002	0.0509	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.11	<0.00008	0.0103	0.00445 J	<0.0005	<0.566	<2.22	2.79
	01/23/17	0.001 J	<0.002	0.0518	<0.0003	<0.0003	<0.002	<0.003	0.104 J	<0.0003	0.116	<0.00008	0.00881	<0.002	<0.0005	0.626	1.12	1.75
	02/23/17	<0.0008	<0.002	0.0734	<0.0003	<0.0003	<0.002	<0.003	0.11 J	0.000965 J	0.00514 J	<0.00008	<0.002	<0.002	<0.0005	0.168	0.835	1.00
	03/24/17	0.0012 J	<0.002	0.046	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.1	<0.00008	0.00773	0.00208 J	<0.0005	1.04	1.17	2.21
	04/24/17	0.0011 J	<0.002	0.047	<0.0003	<0.0003	<0.002	<0.003	0.19 J	<0.0003	0.109	<0.00008	0.00766	<0.002	<0.0005	0.356	1.880	2.24
	06/12/18	<0.0008	<0.002	0.0505	<0.0003	<0.0003	<0.002	<0.003	0.529	0.00122	0.116	<0.00008	0.00764	<0.002	<0.0005	0.197	1.12	1.32
	09/14/18	--	<0.002	0.0419	--	--	<0.002	<0.003	0.445	<0.0003	0.114	--	0.00782	--	--	0.35	1.15	1.50
	05/15/19	<0.0008	<0.002	0.0285	<0.0003	<0.0003	<0.002	<0.003	0.496	<0.0003	0.119	<0.00008	0.0124	<0.002	<0.0005	0.289	0.924	1.21
	09/04/19	--	<0.002	0.027	--	--	--	<0.003	<0.1	--	0.131	--	0.00961	--	--	0.0173	3.20	3.21
	05/20/20	<0.0008	<0.002	0.0297	<0.0003	<0.0003	<0.002	<0.003	<0.100	<0.0003	0.133	<0.00008	0.00617	<0.002	<0.0005	0.157	2.38	2.54
	09/30/20	--	<0.00200	0.0150	<0.000300	<0.000300	<0.00200	<0.00300	0.229 J	<0.000300	0.0953	--	--	<0.00200	--	0.229	2.53	2.76
	06/15/21	<0.0008	<0.002	0.00547 J	<0.0003	<0.0003	<0.002	<0.003	<0.100	0.000393 J	<0.00500	<0.00008	<0.002	<0.002	<0.0005	0.101	0.972	1.07
	10/07/21	<0.000800	<0.00200	0.00461 J	<0.000300	<0.000300	<0.00200	<0.00300	0.290 J	<0.000300	0.00749 J	<0.0000800	<0.00200	<0.00200	<0.000500	0.795	0.832	1.63
	10/7/21 DUP	<0.0008	<0.002	0.00487 J	<0.0003	<0.0003	<0.002	<0.003	<0.1	<0.0003	0.00637 J	<0.00008	<0.002	<0.002	<0.0005	0.462	0.516 J	0.978

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. "--" - not analyzed. Groundwater sample analyses for the second semi-annual sampling events were in some instances limited to Appendix IV parameters detected during the preceding first semi-annual sampling event i accordance with 40 CFR § 257.95(d)(1). Well BMW-33 was not formerly a CCR monitoring well; therefore, not all Appendix IV constituents were analyzed in samples from this well during every sampling ever

golder.com