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Dynegy Zimmer, LLC

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Project No.
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2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT

ZIMMER LANDFILL, ZIMMER POWER STATION



Bright ideas. Sustainable change.

**2020 ANNUAL GROUNDWATER MONITORING AND
CORRECTIVE ACTION REPORT
ZIMMER LANDFILL, ZIMMER POWER STATION**

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ACRONYMS AND ABBREVIATIONS

40 C.F.R.	Title 40 of the Code of Federal Regulations
ASD	Alternate Source Demonstration
CCR	Coal Combustion Residuals
CMA	Corrective Measures Assessment
GWPS	Groundwater Protection Standard
LF	Landfill
SSI	Statistically Significant Increase
SSL	Statistically Significant Level

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EXECUTIVE SUMMARY

This report has been prepared to provide the information required by Title 40 of the Code of Federal Regulations (40 C.F.R.) § 257.90(e) for Zimmer Landfill (LF) located at Zimmer Power Station near Moscow, Ohio.

Groundwater is being monitored at Zimmer LF in accordance with the Assessment Monitoring Program requirements specified in 40 C.F.R. § 257.95. Assessment Monitoring was initiated at Zimmer LF on April 9, 2018.

No changes were made to the monitoring system in 2020 (no wells were installed or decommissioned).

The following Statistically Significant Levels (SSLs) of 40 C.F.R. Part 257 Appendix IV parameters were determined in 2020:

- Lithium at well MW-F

Alternate Source Demonstrations (ASDs) were completed for the SSLs referenced above. Consequently, a Corrective Measures Assessment (CMA) is not required and Zimmer LF remains in the Assessment Monitoring Program.

1. INTRODUCTION

This report has been prepared by Ramboll Americas Engineering Solutions Inc. (Ramboll) on behalf of Dynegy Zimmer, LLC, to provide the information required by 40 C.F.R. § 257.90(e) for Zimmer LF located at Zimmer Power Station near Moscow, Ohio.

In accordance with 40 C.F.R. § 257.90(e), the owner or operator of a Coal Combustion Residuals (CCR) unit must prepare an Annual Groundwater Monitoring and Corrective Action Report for the preceding calendar year that documents the status of the Groundwater Monitoring and Corrective Action Program for the CCR unit, summarizes key actions completed, describes any problems encountered, discusses actions to resolve the problems, and projects key activities for the upcoming year. At a minimum, the annual report must 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 [SSI] relative to background levels).
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 SSI over background for one or more constituents listed in Appendix III of §257 pursuant to §257.94(e):
 - A. Identify those constituents listed in Appendix III of §257 and the names of the monitoring wells associated with the SSI(s).

- 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 (GWPS) for one or more constituents listed in Appendix IV of §257 pursuant to §257.95(g) include all of the following:
 - A. Identify those constituents listed in Appendix IV of §257 and the names of the monitoring wells associated with the SSL(s).
 - B. Provide the date when the CMA was initiated for the CCR unit.
 - C. Provide the date when the public meeting was held for CMA for the CCR unit.
 - D. Provide the date when the CMA 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.
- vi. Whether remedial activities were initiated or are ongoing pursuant to §257.98 during the current annual reporting period.

This report provides the required information for Zimmer LF for calendar year 2020.

2. MONITORING AND CORRECTIVE ACTION PROGRAM STATUS

No changes have occurred to the Monitoring Program status in calendar year 2020, and Zimmer LF remains in the Assessment Monitoring Program in accordance with 40 C.F.R. § 257.95.

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3. KEY ACTIONS COMPLETED IN 2020

The Assessment Monitoring Program is summarized in Table A. The groundwater monitoring system, including the CCR unit and all background and downgradient monitoring wells, is presented in Figure 1. No changes were made to the monitoring system in 2020. In general, one groundwater sample was collected from each background and downgradient well during each monitoring event.¹ All samples were collected and analyzed in accordance with the Sampling and Analysis Plan (OBG, 2019). All monitoring data obtained under 40 C.F.R. §§ 257.90 through 257.98 (as applicable) in 2020, and analytical results for the September 2019 sampling event, are presented in Tables 1 and 2. Analytical data were evaluated in accordance with the Statistical Analysis Plan (NRT/OBG, 2017) to determine any SSLs of Appendix IV parameters over GWPSs.

Statistical background values are provided in Table 3 and GWPSs in Table 4.

Potential alternate sources were evaluated as outlined in the 40 C.F.R. § 257.95(g)(3)(ii). ASDs were completed and certified by a qualified professional engineer. The dates the ASDs were completed are provided in Table A. The ASDs are included in Appendix A.

¹ Exceptions include:

- Monitoring wells MW-13S and MW-18 were dry during the September 2019 and September 2020 sampling events and no samples were collected.

Table A – 2019-2020 Assessment Monitoring Program Summary

Sampling Dates	Analytical Data Receipt Date	Parameters Collected	SSL(s)	SSL(s) Determination Date	ASD Completion Date
September 11 - 12, 2019 ¹	November 4, 2019	Appendix III Appendix IV Detected ³	Lithium (MW-F)	February 3, 2020	May 4, 2020
April 7 - 8, 2020	April 27, 2020	Appendix III Appendix IV	Lithium (MW-F)	July 27, 2020	October 26, 2020
July 1, 2020 ²	July 15, 2020	Appendix IV Greater than the GWPS ⁴			
September 16 - 17, 2020 ¹	October 19, 2020	Appendix III Appendix IV Detected ³	TBD	TBD	TBD

Notes:

NA: Not Applicable

TBD: To Be Determined

1. Monitoring wells MW-13S and MW-18 were dry during the September 2019 and September 2020 sampling events and no samples were collected.
2. Sampling was limited to MW-F during the July 2020 sampling event to confirm Appendix IV parameters initially detected at concentrations greater than the GWPS in the preceding sampling event to confirm SSLs, as allowed by the Statistical Analysis Plan.
3. Groundwater sample analysis was limited to Appendix IV parameters detected in previous events in accordance with 40 C.F.R. § 257.95(d)(1).
4. To confirm the SSL, as allowed by the Statistical Analysis Plan, a groundwater sample was collected and analyzed for the Appendix IV parameter initially detected at a concentration greater than the GWPS in the preceding sampling event.

4. PROBLEMS ENCOUNTERED AND ACTIONS TO RESOLVE THE PROBLEMS

Monitoring wells MW-13S and MW-18 were dry during the September 2019 and September 2020 sampling events and no samples were collected.

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5. KEY ACTIVITIES PLANNED FOR 2021

The following key activities are planned for 2021:

- Continuation of the Assessment Monitoring Program with semi-annual sampling scheduled for the first and third quarters of 2021.
- Complete evaluation of analytical data from the downgradient wells, using GWPSs to determine whether an SSL of Appendix IV parameters has occurred.
- If an SSL is identified, potential alternate sources (*i.e.*, a source other than the CCR unit caused the SSL or that that SSL resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality) will be evaluated. If an alternate source is demonstrated to be the cause of the SSL, a written demonstration will be completed within 90 days of SSL determination and included in the 2021 Annual Groundwater Monitoring and Corrective Action Report.
 - If an alternate source(s) is not identified to be the cause of the SSL, the applicable requirements of 40 C.F.R. §§ 257.94 through 257.98 (*e.g.*, assessment of corrective measures) as may apply in 2021 will be met, including associated recordkeeping/notifications required by 40 C.F.R. §§ 257.105 through 257.108.

6. REFERENCES

OBG, 2019, Part of Ramboll, Sampling and Analysis Plan, CCR Rule Groundwater Monitoring, Zimmer Residual Waste Landfill, Unit 122, Zimmer Power Landfill, Moscow, Ohio, Job Number: 72762, Revision 1, April 8, 2019.

Natural Resource Technology, an OBG Company (NRT/OBG), 2017, Statistical Analysis Plan, Zimmer Power Station, Dynege Zimmer, LLC, October 17, 2017.

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TABLES

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TABLE 1.
ANALYTICAL RESULTS - GROUNDWATER ELEVATION AND APPENDIX III PARAMETERS
2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 ZIMMER POWER STATION
 122 - LANDFILL
 MOSCOW, OH

Well ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft NAVD88)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)	pH (field) (STD)	Sulfate, total (mg/L)	Total Dissolved Solids (mg/L)
				6020A	6020A	6020A	6020A	9251	9214	SM4500 H+B	9036	SM 2540C
MW-3 Background	38.850583	-84.166852	9/10/2019	12.24	860.61							
			9/11/2019			<0.08	176	154	<1	6.6	56.3	827
			4/7/2020	10.02	862.83	0.0416	191	193	<0.15	6.9	52.7	875
			9/16/2020	11.75		0.0487	181	190	<0.15	6.9	57.5	916
MW-9D Downgradient	38.85818283	-84.16325625	9/10/2019	30.93	826.98							
			9/11/2019			0.73	84.4	193	<1	7.1	<5	849
			4/7/2020	30.83	827.08	0.618	93.4	233	0.308	7.1	<5	812
			9/16/2020	31.02		0.981	85.4	309	0.29	7.3	<5	953
MW-11D Downgradient	38.86037683	-84.16323583	9/10/2019	16.57	835.28							
			9/11/2019			0.169	75.2	3.67	<1	7.3	11.9	352
			4/7/2020	16.73	835.12	0.172	76.6	5.4	0.286	7.3	11.4	367
			9/16/2020	16.8		0.18	75	4.96	0.223	7.4	11.7	383
MW-13S Background	38.86098283	-84.157616	4/7/2020	9.88	852.22	<0.03	72	81.9	0.209	7.1	27	308
MW-16D Downgradient	38.853292	-84.17193	9/10/2019	9.03	816.19							
			9/11/2019			0.979	51	56.6	<1	7.0	<5	514
			4/7/2020	9.19	816.03	0.922	51.7	58.2	0.502	7.3	<5	536
			9/17/2020	9.19		1.06	51.3	61.4	0.447	7.4	<5	535
MW-18 Background	38.856478	-84.15343583	4/7/2020	12.85	875.72	0.0818	88.8	18.8	0.238	7.1	147	597
MW-20D Downgradient	38.85915283	-84.16839	9/10/2019	20.8	803.88							
			9/12/2019			0.274	85.3	23	<1	6.7	19	362
			4/7/2020	20.83	803.85	0.245	80.2	22.8	0.272	7.3	18.9	347
			9/16/2020	23.41		0.254	75.7	13.2	0.222	7.3	19.3	336
MW-21 Background	38.85497683	-84.157307	9/10/2019	12.41	849.74							
			9/11/2019			1.4	93	129	<1	7.2	66.4	687
			4/7/2020	10.39	851.76	1.36	90.2	174	0.635	7.3	73	1460
			9/16/2020	11.9		1.73	92.6	225	0.491	7.2	74	881
MW-22 Downgradient	38.856245	-84.1603	9/10/2019	16.81	850.13							
			9/11/2019			0.466	117	36.4	<1	6.9	93.7	589

TABLE 1.
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 ZIMMER POWER STATION
 122 - LANDFILL
 MOSCOW, OH

Well ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Depth to Groundwater (ft)	Groundwater Elevation (ft NAVD88)	Boron, total (mg/L)	Calcium, total (mg/L)	Chloride, total (mg/L)	Fluoride, total (mg/L)	pH (field) (STD)	Sulfate, total (mg/L)	Total Dissolved Solids (mg/L)	
				6020A	6020A	6020A	6020A	9251	9214	SM4500 H+B	9036	SM 2540C	
MW-22 Downgradient	38.856245	-84.1603	4/7/2020	16.94	850								
			4/8/2020			0.431	118	35	0.289	6.9	93.4	558	
			9/16/2020	17.26		0.514	121	40.1	0.255	7.1	281	619	
MW-24 Downgradient	38.86184	-84.16695683	9/10/2019	21.28	831.08								
			9/11/2019			0.184	53.4	5.8	<1	7.4	27.1	246	
			4/7/2020	18.81	833.55								
			4/8/2020			0.172	54.5	6.33	0.35	7.2	24.4	238	
			9/16/2020	22.8		0.193	52.6	6.22	0.284	7.5	24.9	273	
MW-D Downgradient	38.86113783	-84.165496	9/10/2019	17.25	835.09								
			9/11/2019			4.41	3.42	22.3	1.95	8.2	12.3	508	
			4/7/2020	17.35	834.99								
			4/8/2020			4.29	3.84	28.7	2.04	8.2	12.5	517	
			9/16/2020	17.14		4.86	3.72	25.1	1.67	8.5	12	499	
MW-E Downgradient	38.857525	-84.161224	9/10/2019	25.13	838.29								
			9/11/2019			1.01	51.2	25.6	<1	7.3	40	450	
			4/7/2020	24.13	839.29								
			4/8/2020			0.758	55.3	14.2	0.782	7.3	18.4	330	
			9/16/2020	25.1		1.16	55.3	24.6	0.652	7.5	17.2	365	
MW-F Downgradient	38.853776	-84.16123675	9/10/2019	10.82	873.2								
			9/11/2019			4.42	98.4	506	<2.5	7.3	151	1390	
			4/7/2020	8.69	875.33								
			4/8/2020			1.16	72.7	120	0.607	7.2	105	564	
			7/1/2020	10.05	873.97	2.06	90	264	0.491	7.2	124	404	
			9/16/2020	10.56		2.71	92.6	315	0.539	7.3	132	1040	
MW-G Downgradient	38.85631383	-84.16991183	9/10/2019	34.23	787.17								
			9/11/2019			1.03	70.2	151	<1	7.2	<5	693	
			4/7/2020	33.92	787.48								
			4/8/2020			0.869	68.4	172	0.502	7.1	<5	665	
			9/17/2020	34.55		1.12	69.2	174	0.372	7.3	<5	743	

TABLE 1.
ANALYTICAL RESULTS - GROUNDWATER ELEVATION AND APPENDIX III PARAMETERS
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 ZIMMER POWER STATION
 122 - LANDFILL
 MOSCOW, OH

Well ID	Latitude (Decimal Degrees)	Longitude (Decimal Degrees)	Date	Depth to Groundwater (ft) 6020A	Groundwater Elevation (ft NAVD88) 6020A	Boron, total (mg/L) 6020A	Calcium, total (mg/L) 6020A	Chloride, total (mg/L) 9251	Fluoride, total (mg/L) 9214	pH (field) (STD) SM4500 H+B	Sulfate, total (mg/L) 9036	Total Dissolved Solids (mg/L) SM 2540C	
MW-H Downgradient	38.85485083	-84.171439	9/10/2019	9.98	801.15								
			9/12/2019			0.627	118	105	<1	6.7	29	629	
			4/7/2020	9.88	801.25								
			4/8/2020			0.58	114	126	0.443	6.9	34.4	637	
			9/17/2020	9.88		0.651	113	121	0.394	7.0	33.7	690	

Notes:

40 C.F.R. = Title 40 of the Code of Federal Regulations

ft = foot/feet

mg/L = milligrams per liter

NAVD88 = North American Vertical Datum of 1988

S.U. = Standard Units

< = concentration is less than the concentration shown, which corresponds to the reporting limit for the method; estimated concentrations below the reporting limit and associated qualifiers are not provided since not utilized in statistics to determine Statistically Significant Increases (SSIs) over background.

4-digit numbers below parameter represent SW-846 analytical methods and alpha-numeric values that begin with SM represent Standard Methods for the Examination of Water and Wastewater.

TABLE 2.
ANALYTICAL RESULTS - APPENDIX IV PARAMETERS
2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 ZIMMER POWER STATION
 122 - LANDFILL
 MOSCOW, OH

Well ID	Date	Antimony, total (mg/L)	Arsenic, total (mg/L)	Barium, total (mg/L)	Beryllium, total (mg/L)	Cadmium, total (mg/L)	Chromium, total (mg/L)	Cobalt, total (mg/L)	Fluoride, total (mg/L)	Lead, total (mg/L)	Lithium, total (mg/L)	Mercury, total (mg/L)	Molybdenum, total (mg/L)	Radium-226 + Radium 228, total (pCi/L)	Selenium, total (mg/L)	Thallium, total (mg/L)
		6020A	6020A	6020A	6020A	6020A	6020A	6020A	6020A	6020A	6020A	6020A	7470A	6020A	6020A	6020A
MW-3 Background	9/11/2019		<0.001	0.0595	<0.001	<0.001	<0.002	<0.0005	<1	<0.001	0.0161		<0.005	0.798	<0.005	
	4/7/2020	<0.004	<0.002	0.0515	<0.002	<0.001	<0.002	<0.002	<0.15	<0.005	0.00844	<0.0002	<0.005	1.16	<0.002	<0.002
	9/16/2020		<0.002	0.0541	<0.002	<0.001	<0.002	<0.002	<0.15	<0.005	0.0136		<0.005	1.13	<0.002	
MW-9D Downgradient	9/11/2019		0.00265	0.608	<0.001	<0.001	<0.002	0.00193	<1	<0.001	0.0523		<0.005	2.06	<0.005	
	4/7/2020	<0.004	0.00423	0.627	<0.002	<0.001	<0.002	<0.002	0.308	<0.005	0.0364	<0.0002	<0.005	2.9	<0.002	<0.002
	9/16/2020		0.00221	0.7	<0.01	<0.001	0.00204	0.0025	0.29	<0.005	0.0667		<0.005	1.87	<0.002	
MW-11D Downgradient	9/11/2019		0.00255	0.174	<0.001	<0.001	<0.002	<0.0005	<1	<0.001	0.0107		<0.005	0.39	<0.005	
	4/7/2020	<0.004	0.00223	0.175	<0.002	<0.001	<0.002	<0.002	0.286	<0.005	0.00696	<0.0002	<0.005	1.12	<0.002	<0.002
	9/16/2020		0.00226	0.176	<0.002	<0.001	<0.002	<0.002	0.223	<0.005	0.00931		<0.005	1.19	<0.002	
MW-13S Background	4/7/2020	<0.004	<0.002	0.0331	<0.002	<0.001	<0.002	<0.002	0.209	<0.005	0.00424	<0.0002	<0.005	0.273	<0.002	<0.002
MW-16D Downgradient	9/11/2019		0.00654	0.112	<0.001	<0.001	<0.002	<0.0005	<1	<0.001	0.0448		<0.005	0.344	<0.005	
	4/7/2020	<0.004	0.00891	0.119	<0.002	<0.001	<0.002	<0.002	0.502	<0.005	0.0363	<0.0002	<0.005	0.413	<0.002	<0.002
	9/17/2020		0.00611	0.116	<0.01	<0.001	<0.002	<0.002	0.447	<0.005	0.0478		<0.005	0.693	<0.002	
MW-18 Background	4/7/2020	<0.004	<0.002	<0.02	<0.002	<0.001	<0.002	<0.002	0.238	<0.005	0.066	<0.0002	<0.005	0.309	<0.002	<0.002
MW-20D Downgradient	9/12/2019		0.00187	0.162	<0.001	<0.001	0.0026	0.000771	<1	<0.001	0.0201		0.00565	0.269	<0.005	
	4/7/2020	<0.004	<0.002	0.147	<0.002	<0.001	<0.002	<0.002	0.272	<0.005	0.0129	<0.0002	0.00587	0.349	<0.002	<0.002
	9/16/2020		<0.002	0.137	<0.002	<0.001	<0.002	<0.002	0.222	<0.005	0.0153		0.00551	0.914	<0.002	
MW-21 Background	9/11/2019		<0.001	0.0833	<0.001	<0.001	<0.002	<0.0005	<1	<0.001	0.0735		<0.005	0.856	<0.005	
	4/7/2020	<0.004	<0.002	0.0944	<0.002	<0.001	<0.002	<0.002	0.635	<0.005	0.0707	<0.0002	<0.005	0.596	<0.002	<0.002
	9/16/2020		<0.002	0.092	<0.02	<0.001	<0.002	<0.002	0.491	<0.005	0.103		<0.005	1.49	<0.002	
MW-22 Downgradient	9/11/2019		0.00294	0.0526	<0.001	<0.001	<0.002	<0.0005	<1	<0.001	0.0246		<0.005	0.462	<0.005	
	4/8/2020	<0.004	0.00262	0.0491	<0.002	<0.001	<0.002	<0.002	0.289	<0.005	0.0202	<0.0002	<0.005	0.292	<0.002	<0.002
	9/16/2020		0.00523	0.0513	<0.002	<0.001	<0.002	<0.002	0.255	<0.005	0.0207		<0.005	0.429	<0.002	
MW-24 Downgradient	9/11/2019		<0.001	0.0452	<0.001	<0.001	<0.002	<0.0005	<1	<0.001	0.0194		<0.005	0.26	<0.005	
	4/8/2020	<0.004	<0.002	0.0449	<0.002	<0.001	<0.002	<0.002	0.35	<0.005	0.0151	<0.0002	<0.005	0.788	<0.002	<0.002
	9/16/2020		<0.002	0.0438	<0.002	<0.001	<0.002	<0.002	0.284	<0.005	0.0145		<0.005	0.178	<0.002	
MW-D Downgradient	9/11/2019		<0.001	0.027	<0.001	<0.001	0.00646	<0.0005	1.95	<0.001	0.119		<0.005	0.919	<0.005	
	4/8/2020	<0.004	<0.002	0.0299	<0.002	<0.001	<0.002	<0.002	2.04	<0.005	0.107	<0.0002	<0.005	0.611	<0.002	<0.002
	9/16/2020		<0.002	0.0268	<0.002	<0.001	<0.002	<0.002	1.67	<0.005	0.104		<0.005	0.112	<0.002	
MW-E Downgradient	9/11/2019		0.00106	0.246	<0.001	<0.001	0.00351	0.00232	<1	0.00131	0.0416		<0.005	0.348	<0.005	

TABLE 2.
ANALYTICAL RESULTS - APPENDIX IV PARAMETERS
2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 ZIMMER POWER STATION
 122 - LANDFILL
 MOSCOW, OH

Well ID	Date	Antimony, total (mg/L) 6020A	Arsenic, total (mg/L) 6020A	Barium, total (mg/L) 6020A	Beryllium, total (mg/L) 6020A	Cadmium, total (mg/L) 6020A	Chromium, total (mg/L) 6020A	Cobalt, total (mg/L) 6020A	Fluoride, total (mg/L) 6020A	Lead, total (mg/L) 6020A	Lithium, total (mg/L) 6020A	Mercury, total (mg/L) 7470A	Molybdenum, total (mg/L) 6020A	Radium-226 + Radium 228, total (pCi/L) 6020A	Selenium, total (mg/L) 6020A	Thallium, total (mg/L) 6020A
MW-E Downgradient	4/8/2020	<0.004	<0.002	0.175	<0.002	<0.001	<0.002	<0.002	0.782	<0.005	0.0292	<0.0002	<0.005	0.861	<0.002	<0.002
	9/16/2020		<0.002	0.218	<0.002	<0.001	<0.002	<0.002	0.652	<0.005	0.0317		<0.005	1.55	<0.002	
MW-F Downgradient	9/11/2019		0.00103	0.0423	<0.001	<0.001	<0.002	<0.0005	<2.5	<0.001	0.232		<0.005	1.84	<0.005	
	4/8/2020	<0.004	<0.002	0.0284	<0.002	<0.001	<0.002	<0.002	0.607	<0.005	0.0613	<0.0002	<0.005	2.24	<0.002	<0.002
	7/1/2020	<0.004	<0.002	0.0396	<0.002	<0.001	<0.002	<0.002	0.491	<0.005	0.115	<0.0002	<0.005		<0.002	<0.002
	9/16/2020		<0.002	0.0409	<0.002	<0.001	<0.002	<0.002	0.539	<0.005	0.117		<0.005	2.15	<0.002	
MW-G Downgradient	9/11/2019		0.00196	0.452	<0.001	<0.001	<0.002	<0.0005	<1	<0.001	0.0416		<0.005	0.521	<0.005	
	4/8/2020	<0.004	<0.002	0.445	<0.002	<0.001	<0.002	<0.002	0.502	<0.005	0.0324	<0.0002	<0.005	1.89	<0.002	<0.002
	9/17/2020		<0.002	0.425	<0.002	<0.001	<0.002	<0.002	0.372	<0.005	0.0342		<0.005	1.87	<0.002	
MW-H Downgradient	9/12/2019		0.00105	0.124	<0.001	<0.001	0.00216	<0.0005	<1	<0.001	0.04		<0.005	0.254	<0.005	
	4/8/2020	<0.004	<0.002	0.119	<0.002	<0.001	<0.002	<0.002	0.443	<0.005	0.0337	<0.0002	<0.005	0.673	<0.002	<0.002
	9/17/2020		<0.002	0.116	<0.002	<0.001	<0.002	<0.002	0.394	<0.005	0.0321		<0.005	0.12	<0.002	

Notes:

40 C.F.R. = Title 40 of the Code of Federal Regulations

mg/L = milligrams per liter

NA = Not Analyzed

pCi/L = picoCuries per liter

< = concentration is less than concentration shown, which corresponds to the reporting limit for the method; estimated concentrations below the reporting limit and associated qualifiers are not provided since not utilized in statistics to determine Statistically Significant Levels (SSLs) over Groundwater Protection Standards.

4-digit numbers below parameter represent SW-846 analytical methods and 3-digit numbers represent Clean Water Act analytical methods.

TABLE 3.
STATISTICAL BACKGROUND VALUES
2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 ZIMMER POWER STATION
 122 - LANDFILL
 MOSCOW, OHIO
 ASSESSMENT MONITORING PROGRAM

Parameter	Statistical Background Value (UPL)
40 C.F.R. Part 257 Appendix III	
Boron (mg/L)	1.88
Calcium (mg/L)	241
Chloride (mg/L)	201
Fluoride (mg/L)	0.761
pH (S.U.)	6.6 / 7.4
Sulfate (mg/L)	227.443
Total Dissolved Solids (mg/L)	887

[O: RAB 12/26/19, C: KLT 12/26/19]

Notes:

40 C.F.R. = Title 40 of the Code of Federal Regulations
 mg/L = milligrams per liter
 S.U. = Standard Units
 UPL = Upper Prediction Limit

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TABLE 4.
GROUNDWATER PROTECTION STANDARDS
2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
 ZIMMER POWER STATION
 122 - LANDFILL
 MOSCOW, OHIO
 ASSESSMENT MONITORING PROGRAM

Parameter	Groundwater Protection Standard ¹
40 C.F.R. Part 257 Appendix IV	
Antimony (mg/L)	0.006
Arsenic (mg/L)	0.010
Barium (mg/L)	2
Beryllium (mg/L)	0.004
Cadmium (mg/L)	0.005
Chromium (mg/L)	0.10
Cobalt (mg/L)	0.006
Fluoride (mg/L)	4
Lead (mg/L)	0.015
Lithium (mg/L)	0.040
Mercury (mg/L)	0.002
Molybdenum (mg/L)	0.10
Radium 226+228 (pCi/L)	5
Selenium (mg/L)	0.05
Thallium (mg/L)	0.002

[O: RAB 12/26/19, C: KLT 12/26/19][U: KLT 1/17/20, C: RAB 1/17/2020]

Notes:

40 C.F.R. = Title 40 of the Code of Federal Regulations

mg/L = milligrams per liter

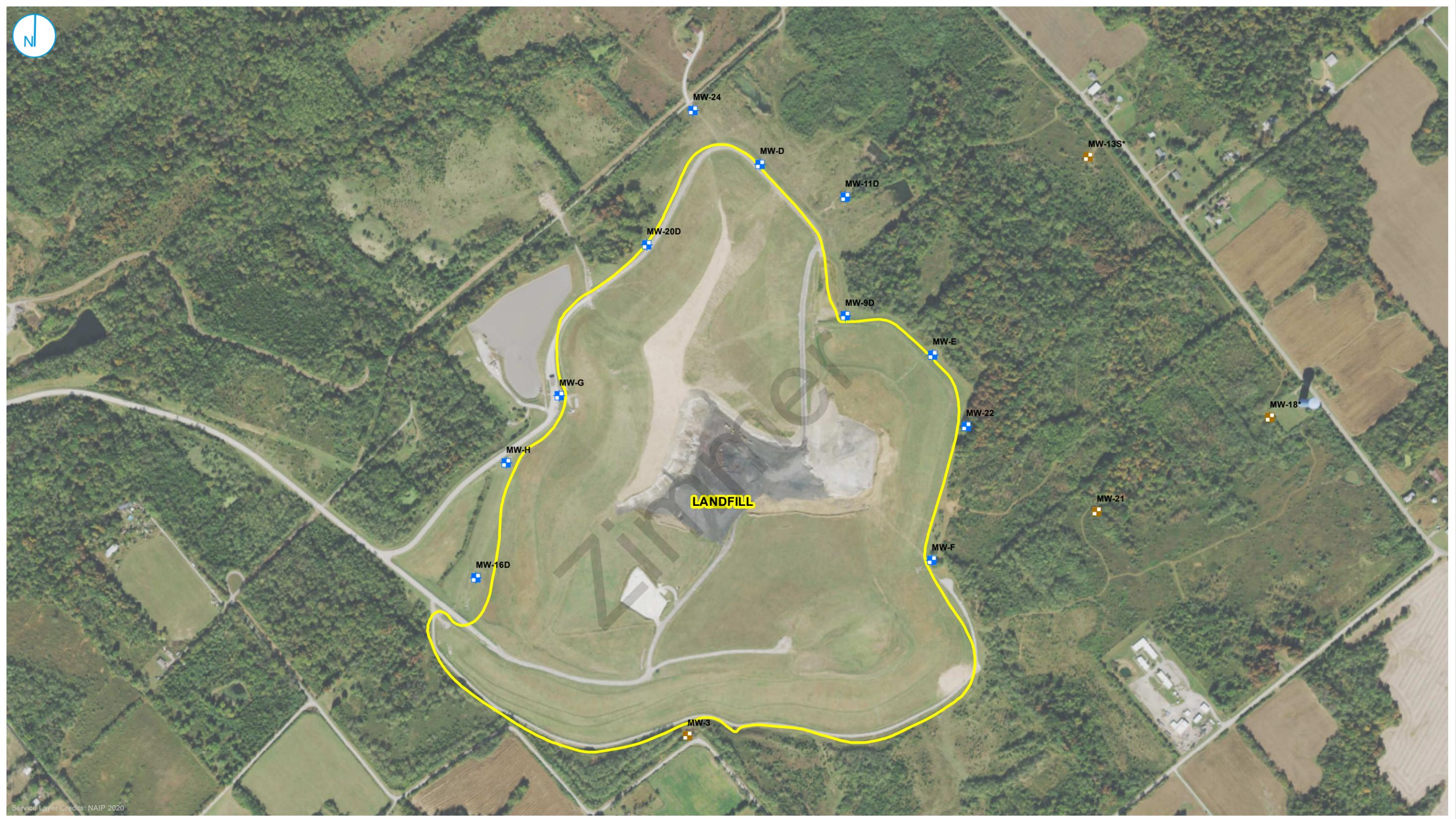
pCi/L = picoCuries per liter

¹Groundwater Protection Standard is the higher of the Maximum Contaminant Level / Health-Based Level or background.

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FIGURES

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Service Layer Credits: NAIP 2020

-  BACKGROUND MONITORING WELL LOCATION
-  DOWNGRADIENT MONITORING WELL LOCATION
-  CCR MONITORED UNIT



**MONITORING WELL LOCATION MAP
ZIMMER LANDFILL
UNIT ID:122**

2020 ANNUAL GROUNDWATER MONITORING AND CORRECTIVE ACTION REPORT
VISTRA CCR RULE GROUNDWATER MONITORING
ZIMMER POWER STATION
MOSCOW, OHIO

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.



APPENDICES

Zimmer

Intended for
Dynegy Zimmer, LLC

Date
May 4, 2020

Project No.
74924

40 C.F.R. § 257.95(g)(3)(ii): ALTERNATE SOURCE DEMONSTRATION ZIMMER LANDFILL

CERTIFICATIONS

I, Jacob J. Walczak, certify that the information in this report is accurate as of the date of my signature below. The content of this report is not to be used for other than its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.



Jacob J. Walczak
Senior Hydrogeologist
O'Brien & Gere Engineers, Inc., a Ramboll Company
Date: May 4, 2020

I, Nicole M. Pagano, a qualified professional engineer in good standing in the State of Ohio, certify that the information in this report is accurate as of the date of my signature below. The content of this report is not to be used for other than its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.



Nicole M. Pagano
Qualified Professional Engineer
85428
Ohio
O'Brien & Gere Engineers, Inc., a Ramboll Company
Date: May 4, 2020



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Figure A	Strontium Isotopic Ratios for Monitoring Well and Sampling Locations
Figure B	Boron Isotopic Ratios for Monitoring Well and Sampling Locations

FIGURES

Figure 1	Monitoring Well and Sampling Location Map
Figure 2	Groundwater Elevation Contour Map, September 10, 2019

ACRONYMS AND ABBREVIATIONS

‰	parts per thousand or <i>per mil</i> variations
¹⁰ B	boron-10
¹¹ B	boron-11
⁸⁶ Sr	strontium-86
⁸⁷ Sr	strontium-87
⁸⁷ Sr/ ⁸⁶ Sr	isotopic ratio of strontium-87 to strontium-86
40 C.F.R.	Title 40 of the Code of Federal Regulation
ASD	Alternate Source Demonstration
CCR	Coal Combustion Residuals
C.F.R.	Code of Federal Regulations
ft	feet
GWPS	Groundwater Protection Standard
LOE	line of evidence
mg/L	milligrams per liter
msl	above Mean Sea Level
NRT/OBG	Natural Resource Technology, an OBG Company
PTI	permit-to-install
Site	Zimmer Power Station Landfill
SSI	Statistically Significant Increase
SSL	Statistically Significant Level
std	standard

1. INTRODUCTION

Title 40 of the Code of Federal Regulations (40 C.F.R.) § 257.95(g)(3)(ii) allows the owner or operator of a Coal Combustion Residuals (CCR) unit 90 days from the date of determination of Statistically Significant Levels (SSLs) over Groundwater Protection Standards (GWPSs) of groundwater constituents listed in Appendix IV of 40 C.F.R. Part 257 to complete a written demonstration that a source other than the CCR unit being monitored caused the SSL(s), or that the SSL(s) resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality (Alternate Source Demonstration [ASD]).

This ASD has been prepared on behalf of Dynegy Zimmer, LLC, by O'Brien & Gere Engineers, Inc., a Ramboll Company (Ramboll), to provide pertinent information pursuant to 40 C.F.R. § 257.95(g)(3)(ii) for Zimmer Landfill located near Moscow, Ohio.

The most recent Assessment Monitoring sampling event (A2D) was completed on September 11 and September 12, 2019 and analytical data were received on November 4, 2019. Analytical data from all sampling events, from December 2015 through A2D, were evaluated in accordance with the Statistical Analysis Plan¹ to determine any Statistically Significant Increases (SSIs) of Appendix III parameters over background concentrations or SSLs of Appendix IV parameters over GWPSs. That evaluation identified one SSL at downgradient monitoring wells as follows:

- Lithium at well MW-F

Pursuant to 40 C.F.R. § 257.95(g)(3)(ii), the following lines of evidence demonstrate that sources other than the Zimmer Landfill were the cause of the lithium SSL listed above. This ASD was completed by May 4, 2020, within 90 days of determination of the SSLs (February 3, 2020), as required by 40 C.F.R. § 257.95(g)(3)(ii).

2. BACKGROUND

2.1 Site Location and Description

The W. H. Zimmer Power Station is located in southwest Ohio, approximately 30 miles southeast of Cincinnati, Ohio. The Zimmer Power Station Landfill (Site) is located approximately 3 miles east of the power station and is bounded by State Route 756 on the northeast, Turkeyfoot Road on the northwest, and Fruit Ridge Road on the southwest (Figure 1).

2.2 Description of Landfill CCR Unit

The landfill footprint covers approximately 288 acres (Figure 1). CCR generated at the station is trucked to the landfill for disposal. Materials approved for disposal include fly ash, dewatered bottom ash, dewatered and stabilized flue gas desulfurization wastes, and gypsum. Disposal activities commenced in January 1991 and have progressed through a series of fill areas or phases.

2.3 Groundwater Flow

The Uppermost Aquifer is continuous beneath the Site and is comprised of the upper 20 feet (ft) or less of the fractured and weathered bedrock. Bedrock is typically encountered 15 to 25 ft below ground surface and overlain by clay, although it may be deeper in the two major surface drainage channels at the Site (Little Indian Creek and an unnamed tributary to Little Indian Creek). The bedrock unit is the interbedded shale and limestone of the Fairview and Kope Formations.

In order to collect all groundwater elevations within the same day, as required by the Sampling and Analysis Plan², groundwater measurements during A2D were collected on September 10, 2019, the day prior to the first day of analytical sampling at the Site (September 11, 2019). Groundwater elevations across the Site ranged from approximately 787 to 873 ft above Mean Sea Level (msl) during A2D (Figure 2). Groundwater in the Uppermost Aquifer generally flows from bedrock highs towards the drainage channels, paralleling the direction of topographic slope, in a manner similar to the flow of surface runoff. However, because this groundwater occupies secondary porosity in the thin limestone units of the predominantly shale bedrock, the potential exists for locally unpredictable flow patterns, as groundwater movement may be controlled by preferential pathways created by open fractures and their degree of interconnection.

2.4 Isotopic Evaluation

Stable isotope analysis is commonly used in age dating, provenance studies and to differentiate between sources of groundwater. Multiple studies have shown that strontium and boron isotopic ratios can be successfully used in identifying CCR impacts to groundwater^{3,4}. When a material is altered, the mass of a given element in the resulting material may be conserved or reduced. Alteration processes, such as combustion, may also affect the isotopic ratios of a given element, referred to as fractionation. Isotopes that have minimal fractionation during the alteration process, such as strontium and boron isotopes, make good groundwater tracers, therefore, strontium and boron isotopic ratios can be used to identify CCR impacted groundwater and CCR leachate³. This ASD compares strontium and boron isotopic ratios of groundwater in the vicinity of Zimmer Landfill and landfill leachate to typical published ranges for groundwater and CCR impacted waters.

2.4.1 Strontium

The ratio of stable strontium isotopes, strontium-87 to strontium-86 ($^{87}\text{Sr}/^{86}\text{Sr}$), is commonly used to trace the mixing of global reservoirs and to evaluate the environmental conditions in surface waters, oceans, and sediments. Strontium isotopes are very useful for provenance identification because the isotopic signature of rock is transferred to the soil, vegetation, and up the food web with minimal isotopic fractionation⁶.

Strontium isotopic ratios are typically expressed and reported as an absolute ratio (i.e., $^{87}\text{Sr}/^{86}\text{Sr}$) due to strontium-86 (^{86}Sr) being a stable isotope with a constant abundance^{7,8}. This is the exception for stable isotope analysis, since most results are reported relative to a standard, as described in further detail for boron below in Section 2.3.

2.4.2 Boron

Boron isotopes do not fractionate during coal combustion, meaning the isotopic ratio in the coal is preserved, between the coal and the combusted coal³. The isotopic ratio is also conserved when mobilized to water; thus, CCR-impacted groundwater will have similar isotopic ratios as the original coal and the CCR³.

Because variations in boron isotopic ratios are usually small, they are reported in parts per thousand or *per mil* variations, denoted ‰, from a standard.

$$\delta^{11}\text{B} = \left[\frac{(^{11}\text{B}/^{10}\text{B})_{\text{sample}} - (^{11}\text{B}/^{10}\text{B})_{\text{std}}}{(^{11}\text{B}/^{10}\text{B})_{\text{std}}} \right] \times 1000$$

3. ALTERNATE SOURCE DEMONSTRATION: LINES OF EVIDENCE

This ASD is based on the following lines of evidence (LOEs):

1. Strontium isotopic ratios in groundwater near the Zimmer Landfill are lower than the published typical range of strontium isotopic ratios for CCR impacted waters.
2. Boron isotopic ratios in groundwater near the Zimmer Landfill are within the published typical range of boron isotopic ratios for groundwater and are not consistent with the published typical boron isotopic ratios in CCR and CCR impacted waters.

These LOEs are described and supported in greater detail below. Monitoring wells and landfill leachate sample locations are shown on Figure 1.

3.1 LOE #1: Strontium Isotopic Ratios in Groundwater Near the Zimmer Landfill are Lower Than the Published Typical Range of Strontium Isotopic Ratios for CCR Impacted Waters.

Strontium isotopic ratios ($^{87}\text{Sr}/^{86}\text{Sr}$) for samples collected from groundwater monitoring wells and landfill leachate (SEQ1) on September 17, 18 and 27, 2018 are plotted in Figure A below. Published $^{87}\text{Sr}/^{86}\text{Sr}$ in coal, fly ash, and bottom ash impacted waters range from 0.7109 to 0.7126³, as indicated by the area shaded orange in Figure A.

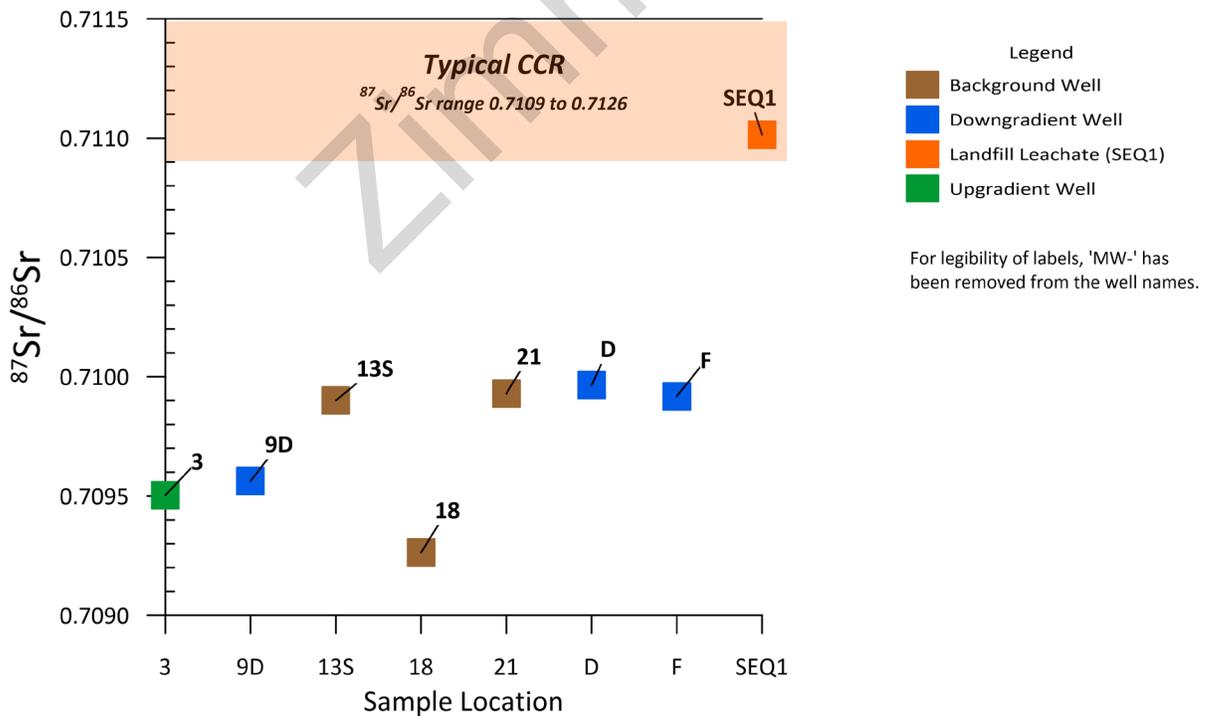


Figure A. Strontium Isotopic Ratios for Monitoring Well and Sampling Locations³.

The range of $^{87}\text{Sr}/^{86}\text{Sr}$ found in groundwater, 0.70926 to 0.70996, near Zimmer Landfill are below the published typical range of $^{87}\text{Sr}/^{86}\text{Sr}$ for CCR impacted waters indicating groundwater near Zimmer Landfill is not impacted by CCR³. The $^{87}\text{Sr}/^{86}\text{Sr}$ found in the landfill leachate sample (SEQ1), 0.71101, is within the published typical range of $^{87}\text{Sr}/^{86}\text{Sr}$ for CCR impacted waters (0.7109 to 0.7126) indicating leachate collected at location SEQ1 is impacted by CCR³. Figure A also shows that $^{87}\text{Sr}/^{86}\text{Sr}$ in groundwater near Zimmer Landfill are well grouped, and that the $^{87}\text{Sr}/^{86}\text{Sr}$ in landfill leachate (SEQ1) is distinctly different than groundwater near Zimmer Landfill. The $^{87}\text{Sr}/^{86}\text{Sr}$ in groundwater near Zimmer Landfill indicate that groundwater is not influenced by CCR impacted waters, including landfill leachate (SEQ1), therefore lithium in groundwater near Zimmer Landfill is from a source other than the Zimmer Landfill CCR unit and the associated landfill leachate.

3.2 LOE #2: Boron Isotopic Ratios in Groundwater Near the Zimmer Landfill are Within the Published Typical Range of Boron Isotopic Ratios for Groundwater and are Not Consistent With the Published Typical Boron Isotopic Ratios in CCR and CCR Impacted Waters.

Boron isotopic ratios ($\delta^{11}\text{B}$) for samples collected from groundwater monitoring wells and landfill leachate (SEQ1) on September 17, 18 and 27, 2018 are plotted in Figure B below. The published typical range of $\delta^{11}\text{B}$ for groundwater, shaded green in Figure B, is 10‰ to 40‰³. The area shaded orange in Figure B represents the published typical range of $\delta^{11}\text{B}$ for CCR and CCR impacted water, which has a distinctive negative $\delta^{11}\text{B}$ signature ranging from -70 ‰ to -1‰^{3,9}.

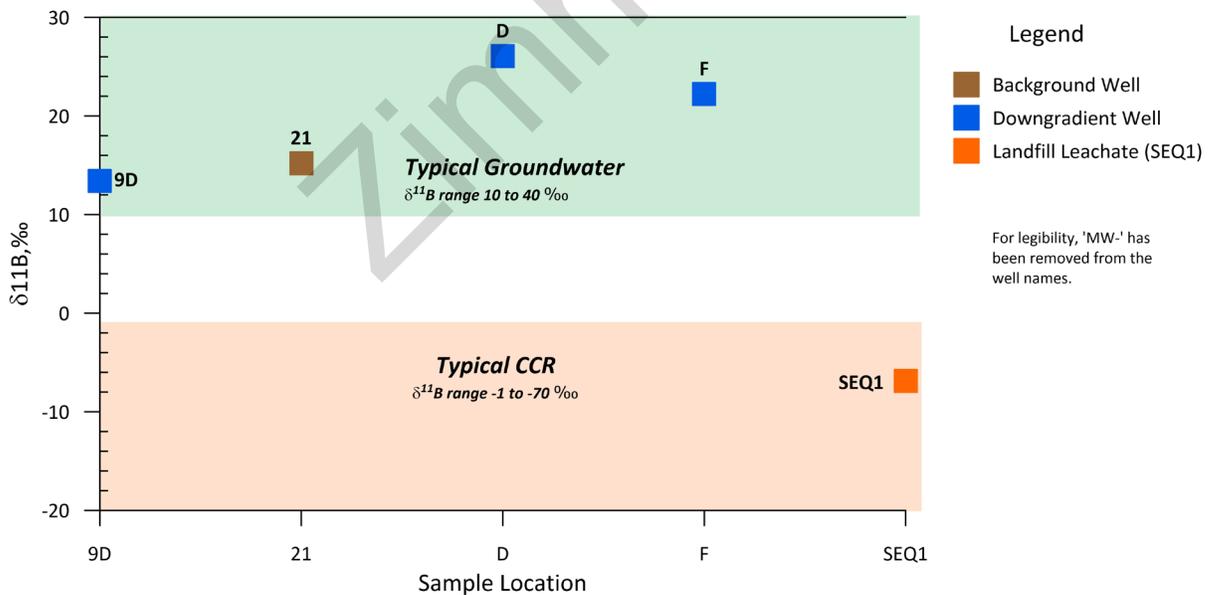


Figure B. Boron Isotopic Ratios for Monitoring Well and Sampling Locations³ (note: total boron concentrations at sample locations MW-3, MW-13S and MW-18 were below detection level and were not included).

The range of $\delta^{11}\text{B}$ found in groundwater, 13.43 to 26.07‰, near Zimmer Landfill are within the published typical range of $\delta^{11}\text{B}$ for groundwater (10‰ to 40‰), and are not consistent with the published typical range of $\delta^{11}\text{B}$ for CCR and CCR impacted water (-70 ‰ to -1‰) indicating groundwater near Zimmer Landfill is not impacted by CCR³. The $\delta^{11}\text{B}$ found in the landfill

leachate sample (SEQ1), -6.86‰, is within the published typical range of $\delta^{11}\text{B}$ for CCR and CCR impacted waters (-70 ‰ to -1‰) indicating leachate collected at location SEQ1 is impacted by CCR³. Figure B also shows that $\delta^{11}\text{B}$ in groundwater near Zimmer Landfill are well grouped, and that the $\delta^{11}\text{B}$ in landfill leachate (SEQ1) is distinctly different than groundwater near Zimmer Landfill. The $\delta^{11}\text{B}$ in groundwater near Zimmer Landfill indicate that groundwater is not influenced by CCR or CCR impacted waters, including landfill leachate (SEQ1), therefore lithium in groundwater near Zimmer Landfill is from a source other than the Zimmer Landfill CCR unit and the associated landfill leachate.

Zimmer

4. CONCLUSIONS

Based on the following two lines of evidence, it has been demonstrated that the lithium SSL at MW-F is not due to Zimmer Landfill but is from a source other than the CCR unit being monitored:

1. Strontium isotopic ratios in groundwater near the Zimmer Landfill are lower than the published typical range of strontium isotopic ratios for CCR impacted waters. This indicates that groundwater is not influenced by CCR impacted waters, including landfill leachate (SEQ1), therefore lithium in groundwater near Zimmer Landfill is from a source other than the Zimmer Landfill CCR unit and the associated landfill leachate.
2. Boron isotopic ratios in groundwater near the Zimmer Landfill are within the published typical range of boron isotopic ratios for groundwater and are not consistent with the published typical boron isotopic ratios in CCR and CCR impacted waters. This indicates that groundwater is not influenced by CCR or CCR impacted waters, including landfill leachate (SEQ1), therefore lithium in groundwater near Zimmer Landfill is from a source other than the Zimmer Landfill CCR unit and the associated landfill leachate.

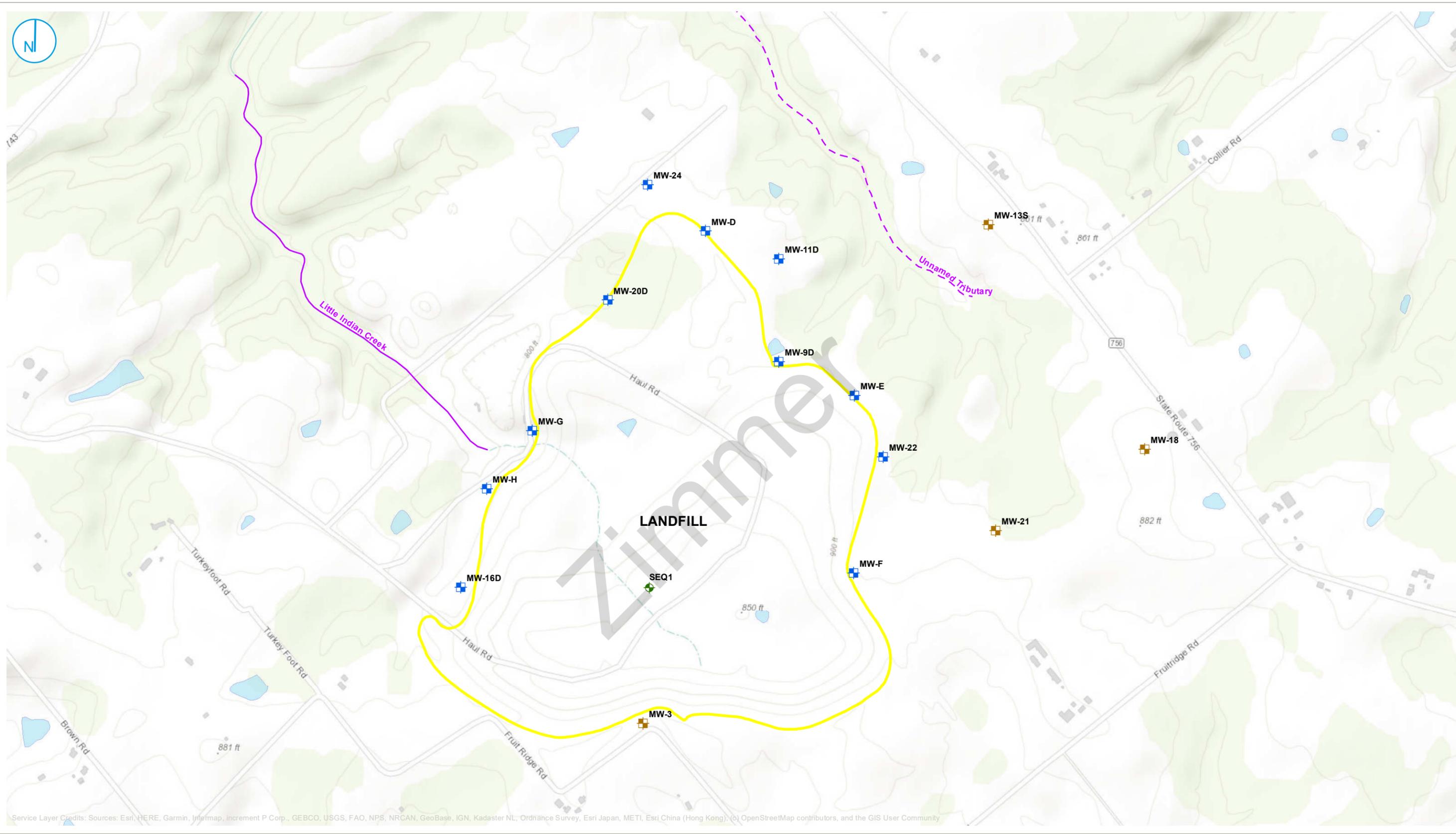
This information serves as the written ASD prepared in accordance with 40 C.F.R. § 257.95(g)(3)(ii) that the SSL observed during the A2D sampling event was not due to Zimmer Landfill. Therefore, a corrective measures assessment is not required, and Zimmer Landfill will remain in assessment monitoring.

5. REFERENCES

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FIGURES

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- ZIMMER LANDFILL CCR MONITORING WELL LOCATION
- ZIMMER LANDFILL BACKGROUND CCR MONITORING WELL LOCATION
- ZIMMER LANDFILL LEACHATE SAMPLE LOCATION
- CCR MONITORED UNIT
- NATIONAL HYDROGRAPHY DATASET
- PERENNIAL STREAM
- INTERMITTENT STREAM
- WATERBODY



MONITORING WELL AND SAMPLING LOCATION MAP

**ZIMMER LANDFILL (UNIT ID: 122)
ALTERNATE SOURCE DEMONSTRATION**
VISTRA ENERGY
ZIMMER POWER STATION
MOSCOW, OHIO

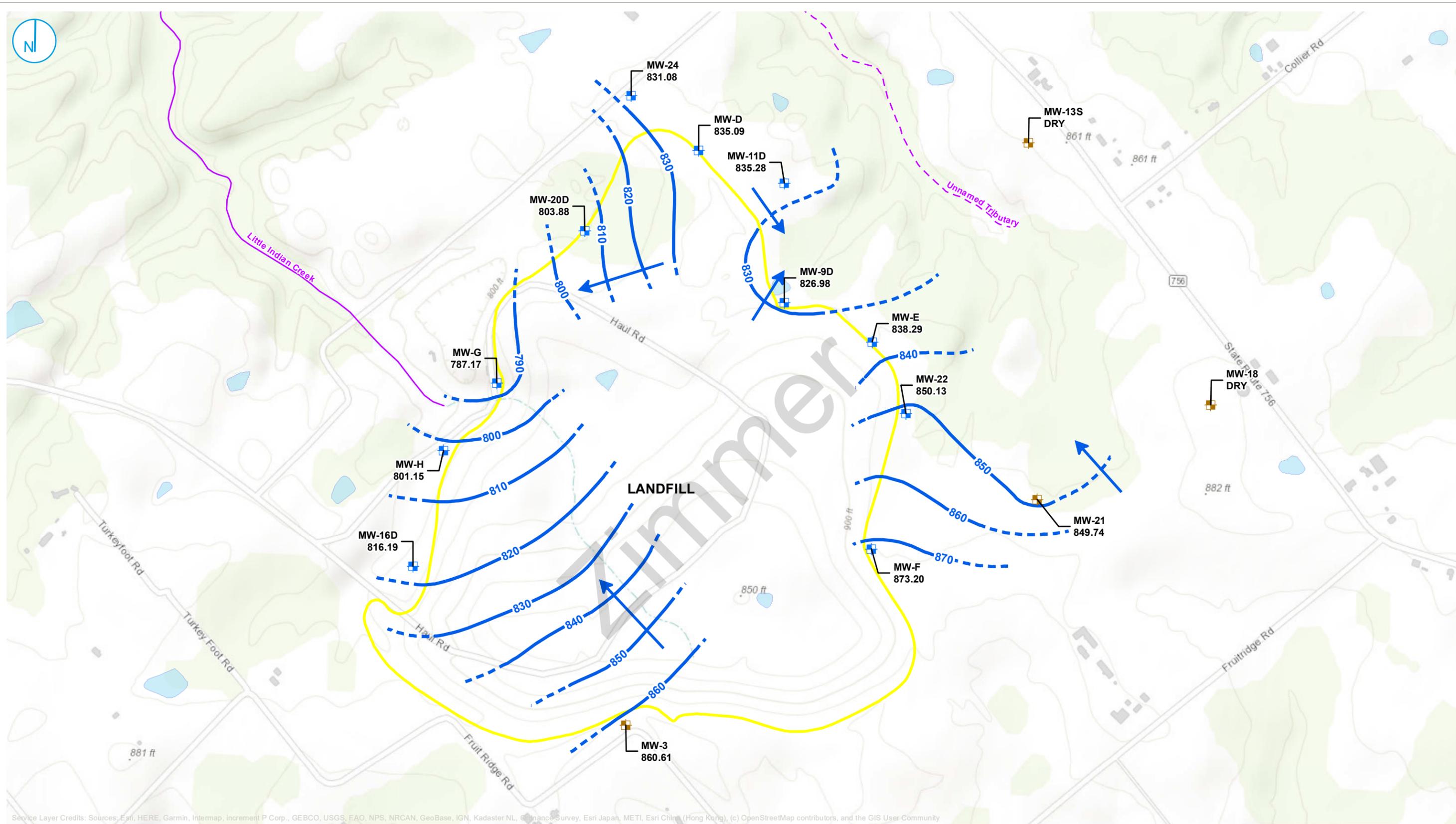
FIGURE 1

RAMBOLL US CORPORATION
A RAMBOLL COMPANY



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PROJECT: 169000XXXXX | DATED: 5/4/2020 | DESIGNER: galarmc
 Y:\Mapping\Projects\212285\MXD\Alt_Sources_Dem\Zimmer\Figure 2_GW Elevation Contours.mxd



- ZIMMER LANDFILL CCR MONITORING WELL LOCATION
- ZIMMER LANDFILL BACKGROUND CCR MONITORING WELL LOCATION
- GROUNDWATER ELEVATION CONTOUR (10-FT INTERVAL)
- - - INFERRERD GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION
- CCR MONITORED UNIT
- NATIONAL HYDROGRAPHY DATASET PERENNIAL STREAM
- - - NATIONAL HYDROGRAPHY DATASET INTERMITTENT STREAM
- WATERBODY



**GROUNDWATER ELEVATION CONTOUR MAP
 SEPTEMBER 10, 2019**

**ZIMMER LANDFILL (UNIT ID: 122)
 ALTERNATE SOURCE DEMONSTRATION**
 VISTRA ENERGY
 ZIMMER POWER STATION
 MOSCOW, OHIO

FIGURE 2

RAMBOLL US CORPORATION
 A RAMBOLL COMPANY



Intended for
Dynegy Zimmer, LLC

Date
October 26, 2020

Project No.
1940074924

40 C.F.R. § 257.95(g)(3)(ii): ALTERNATE SOURCE DEMONSTRATION ZIMMER LANDFILL

CERTIFICATIONS

I, Jacob J. Walczak, certify that the information in this report is accurate as of the date of my signature below. The content of this report is not to be used for other than its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.



Jacob J. Walczak
Senior Hydrogeologist
Ramboll Americas Engineering Solutions, Inc., f/k/a O'Brien & Gere Engineers, Inc.
Date: October 26, 2020

I, Nicole M. Pagano, a qualified professional engineer in good standing in the State of Ohio, certify that the information in this report is accurate as of the date of my signature below. The content of this report is not to be used for other than its intended purpose and meaning, or for extrapolations beyond the interpretations contained herein.



Nicole M. Pagano
Qualified Professional Engineer
85428
Ohio
Ramboll Americas Engineering Solutions, Inc., f/k/a O'Brien & Gere Engineers, Inc.
Date: October 26, 2020



ACRONYMS AND ABBREVIATIONS

40 C.F.R.	Title 40 of the Code of Federal Regulations
ASD	Alternate Source Demonstration
CCR	Coal Combustion Residuals
f/k/a	formerly known as
GWPS	Groundwater Protection Standard
NRT/OBG	Natural Resource Technology, an OBG Company
SSI	Statistically Significant Increase
SSL	Statistically Significant Level

Zimmer

ALTERNATE SOURCE DEMONSTRATION

Title 40 of the Code of Federal Regulations (40 C.F.R.) § 257.95(g)(3)(ii) allows the owner or operator of a Coal Combustion Residuals (CCR) unit 90 days from the date of determination of Statistically Significant Levels (SSLs) over Groundwater Protection Standards (GWPSs) of groundwater constituents listed in Appendix IV of 40 C.F.R. Part 257 to complete a written demonstration that a source other than the CCR unit being monitored caused the SSL(s), or that the SSL(s) resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality (Alternate Source Demonstration [ASD]).

This ASD has been prepared on behalf of Dynegy Zimmer, LLC, by Ramboll Americas Engineering Solutions, Inc., formerly known as (f/k/a) O'Brien & Gere Engineers, Inc. to provide pertinent information pursuant to 40 C.F.R. § 257.95(g)(3)(ii) for Zimmer Landfill located near Moscow, Ohio.

The most recent Assessment Monitoring sampling event (A3) was completed on April 8, 2020, and analytical data were received on April 27, 2020. Analytical data from all sampling events, from December 2015 through A3, were evaluated in accordance with the Statistical Analysis Plan¹ to determine any Statistically Significant Increases (SSIs) of Appendix III parameters over background concentrations or SSLs of Appendix IV parameters over GWPSs. That evaluation identified one SSL, as determined on July 27, 2020 and included in the Notification for Statistically Significant Levels of 40 C.F.R. Part 257 Appendix IV Constituents Above Groundwater Protection Standards for Zimmer Landfill dated August 13, 2020, at a downgradient monitoring well as follows:

- Lithium at well MW-F

In accordance with the Statistical Analysis Plan, MW-F was resampled on July 1, 2020 and analyzed for lithium to confirm the SSL. Following evaluation of analytical data from the resample event, no SSL remained. This ASD was completed by October 26, 2020, within 90 days of determination of the SSLs, as required by 40 C.F.R. § 257.95(g)(3)(ii).

¹ Natural Resource Technology, an OBG Company (NRT/OBG), 2017, Statistical Analysis Plan, Zimmer Power Station, Dynegy Zimmer, LLC, October 17, 2017.