



**US Army Corps of
Engineers**
Philadelphia District

2024 PEARCE CREEK ANNUAL REPORT

PEARCE CREEK CONFINED DISPOSAL FACILITY EARLEVILLE, MD 21919

Prepared For:
The Maryland Department of the Environment

Prepared By:
U.S. Army Corps of Engineers
Philadelphia District

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1.0 INTRODUCTION

This Annual Summary Report was prepared at the request of the Maryland Department of the Environment (MDE) in accordance with the MDE's approval of the Groundwater Monitoring Plan (GWMP), as part of renewing placement of dredge material by the U.S. Army Corps of Engineers, Philadelphia District (USACE) at the Pearce Creek Confined Disposal Facility (CDF). The MDE approved the GWMP on February 16, 2017.

The Pearce Creek CDF is located in Earleville, Cecil County, Maryland, immediately south of Pearce Creek and the eastern shore of the Elk River, a major tributary of the Chesapeake Bay. The CDF is bounded by residential properties to the west, by residential, agricultural, and undeveloped properties to the south and east, and by Pearce Creek and the Elk River to the north.

The purpose of the Annual Summary Report is to present groundwater sampling and water level data to monitor potential changes in groundwater quality resulting from the installation of an impermeable liner designed to mitigate the effects of future and past dredge disposal at the Pearce Creek CDF. The initial Annual Summary Report (prepared in 2016) summarized historical groundwater sampling performed at the site from 1996 (when wells were first installed) to 2016. The 2017 Annual Summary Report summarized the installation of monitoring wells agreed to as part of the GWMP, groundwater flow in the 3 primary water-bearing units, and the first 2 rounds of groundwater sampling from the new network of monitoring wells around the CDF. This 2024 Annual Summary Report summarizes the continued groundwater sampling of the network of 36 monitoring wells around the CDF.

Placement of dredge material into the CDF:

Year	Start Date	End Date
FY 18	December 2017	February 2018
FY 19	December 2018	January 2019
FY 20	December 2019	February 2020
FY 21	November 2020	December 2020
FY 22	February 2022	March 2022
FY 23	September 2022	March 2023
FY 24	December 2023	March 2024

2.0 FIELD WORK

In accordance with the GWMP, seventeen groundwater monitoring wells were drilled and installed at eleven locations along the perimeter of the CDF in May and June 2017. One planned monitoring well (CSW-30) was not installed due to a lack of saturated sand in the shallow Magothy formation at that location. Attachment B, Figure 1 presents the locations of the monitoring wells that are part of the GWMP. Well construction details are summarized in Attachment A, Table 1.

Following the well installation in 2017, the groundwater monitoring network is comprised of 36 monitoring wells. This includes 16 wells in the Magothy aquifer, 13 wells in the Upper Patapsco Shallow aquifer, and 7 wells in the Upper Patapsco Deep aquifer. In Attachment B, Figures 2, 3, and 4 show well locations in the Magothy, Upper Patapsco-Shallow, and Upper Patapsco-Deep aquifers, respectively. Geologic cross sections and fence diagrams presented in the 2017 Annual Summary Report show the vast amount of thick clay and silt units in the subsurface separating generally thinner, inter-fingered, laterally discontinuous water-bearing sands.

2.1 Groundwater Elevation Monitoring

To evaluate potential local seasonal variations in groundwater elevation and flow direction and to evaluate potential changes in hydraulic head due to the installation of the impermeable liner at the CDF, site-wide groundwater elevation data was manually obtained on April 9, 2024, and September 3, 2024, as part of the semi-annual sampling event. Water levels were measured over a short time span to make the data as synoptic as possible. The data were generally collected within a period of two hours. Local tidal charts were consulted to temporally place the data within the daily tidal periods.

Groundwater elevation data are presented in Attachment C. Groundwater elevation contour maps were generated for the Magothy, the Upper Patapsco-Shallow, and the Upper Patapsco-Deep aquifers for both April and September 2024 measurements. These figures are also included in Attachment C and show that groundwater flow in each aquifer was relatively consistent throughout the year and was similar to previous groundwater flow maps generated in the 2017 – 2023 annual reports. It is also noted that tidal influence is most pronounced in the Upper Patapsco-Shallow aquifer more so than within the Magothy or Upper Patapsco-Deep aquifers. One other note of interest is that Pearce Creek Lake seems to act as a constant-head boundary creating a groundwater mound extending beneath the CDF, especially for the Magothy aquifer, and to a lesser degree the Upper Patapsco-Shallow aquifer.

2.2 Groundwater Sampling

Two rounds of groundwater samples were collected from all wells that are part of the groundwater monitoring program. The first sampling event was completed in April 2024, and the second round of sampling was conducted in September 2024. Groundwater sampling was performed by personnel from the USACE Philadelphia. Monitoring well locations are shown in Attachment B, Figures 1 through 4, and construction details (depths, screened intervals, and aquifer) of these wells are specified in Attachment A, Table 1.

Groundwater sampling was conducted using standard U.S. Environmental Protection Agency (EPA) low stress (low flow) guidelines (<https://www.epa.gov/quality/low-stress-low-flow-purging-and-sampling-procedure-collection-groundwater-samples-monitoring>). Samples were collected following stabilization of groundwater quality parameters, and in accordance with the GWMP, analyzed using standard EPA and/or MDE methods for the following parameters:

- Total Metals: Aluminum, Arsenic, Beryllium, Cadmium, Calcium, Iron, Lead,

- Magnesium, Manganese, Nickel, Potassium, Sodium, and Zinc
- General Chemistry Parameters: Alkalinity, Total Dissolved Solids, Total Suspended Solids, Fluoride, Chloride, Bromide, Sulfate, Nitrogen (nitrite and nitrate), Nitrogen (nitrate), and Nitrogen (nitrite)
- Radiologic Parameters: Radium 226, Radium 228, Gross Alpha, and Gross Beta

Samples collected during both events were immediately placed in ice-filled coolers and shipped overnight via FedEx under chain-of-custody protocols. The samples were shipped to the USACE Engineer Research Development Center (ERDC) in Vicksburg, Mississippi for analysis of metals and general chemistry parameters and Pace National in Mt. Juliet, Tennessee for analysis of radiological parameters. Pace National is certified by the State of Maryland.

3.0 LABORATORY ANALYSIS AND GROUNDWATER SAMPLING RESULTS

In Attachment A, Tables 2 and 3 summarize the results for the 2024 spring and summer sampling events, respectively. Attachment A, Table 4 presents historical results from the 2017 – 2024 sampling of the new network of monitoring wells in the groundwater monitoring program. ***RAD data from the September 2024 sampling event is currently unavailable.***

The sampling results are compared with the Federal USEPA Maximum Contaminant Levels (MCLs) for drinking water quality and Secondary Drinking Water Regulations (non-mandatory standards based on aesthetics – taste, color, odor), as well as Groundwater Quality Standards established by the MDE.

4.0 FUTURE ACTIVITIES

- The current network of wells will continue to be sampled as part of the GWMP (a total of 36 monitor wells and piezometers), pending guidance from MDE. Groundwater sampling could possibly be lessened to once a year, as opposed to two events.
- Water levels and groundwater flow direction will continue to be monitored on a regular basis at the CDF.
- Placement of dredge material into the CDF in 2025 is scheduled to occur from January 2025 through March 2025.
- The USACE will develop a database for the project which in the future will allow better evaluation of groundwater chemistry changes over time.
- The tenth annual report will be submitted in February 2026. This report will include 2025 sampling results from the network of wells around the CDF. Groundwater quality trend plots (if applicable), groundwater elevation contour maps, and other pertinent information also will be included in subsequent annual reports.

ATTACHMENT A - TABLES

Table 1.
WELLS INSTALLED 2017 FOR THE GROUNDWATER MONITORING PROGRAM

Well Identifier	Well Total Depth	Borehole Total Depth	PVC Diameter	Screen Interval	Screen Elevation	Sand Pack Interval	Sand Pack Elevation	Northing	Easting	Elevation NAVD88			Aquifer
										Top of Casing	Top of PVC	Ground	
	feet bgs		inches	feet bgs	feet BMSL	feet bgs	feet BMSL	NAD83		feet AMSL			
CSW-27	50.5	56	4	40.5 - 50.5	8.58 - 18.58	34 - 56	2.08 - 24.08	641445.523	1598175.768	35.57	35.26	31.92	Magothy
CSW-28	140	146	4	130 - 140	97.89 - 107.89	124 - 146	91.89 - 113.89	641442.561	1598166.430	35.56	35.23	32.11	Patapsco - Shallow
CSW-29	47	51	4	37 - 47	8.84 - 18.84	31 - 51	2.84 - 22.84	642684.596	1597722.308	31.32	31.20	28.16	Magothy
CSW-30	-----		Well Not Installed - Magothy Aquifer Consisted Entirely of Clay										Magothy
CSW-31	145	156	4	135 - 145	113.88 - 123.88	129 - 156	107.88 - 134.88	644664.678	1600500.662	24.02	23.90	21.12	Patapsco - Shallow
CSW-32	53	56	4	48 - 53	25.22 - 30.22	42 - 56	19.22 - 33.22	643133.172	1601445.241	25.60	25.49	22.78	Magothy
CSW-33	166	167	4	161 - 166	138.23 - 143.23	155 - 167	132.23 - 144.23	643140.598	1601442.797	25.57	25.45	22.77	Patapsco - Shallow
CSW-34	196	216	4	191 - 196	158.44 - 163.44	185 - 203	152.44 - 170.44	641438.833	1598156.188	35.70	35.47	32.56	Patapsco - Deep
CSW-35	265	266	4	255 - 265	230.31 - 240.31	248 - 266	223.31 - 241.31	642576.531	1597167.435	28.02	27.82	24.69	Patapsco - Deep
CSW-36	210	276	4	200 - 210	178.93 - 188.93	191 - 215	169.93 - 193.93	641660.783	1601250.337	24.30	24.13	21.07	Patapsco - Deep
CSW-37	135	206	4	130 - 135	110.84 - 115.84	124 - 143	104.84 - 123.84	644963.200	1599108.262	22.04	21.84	19.16	Patapsco - Shallow
CSW-38	233.5	236	4	228.5 - 233.5	205.86 - 210.86	222.5 - 235	199.86 - 212.36	643929.086	1600999.147	26.64	26.16	22.64	Patapsco - Deep
CSW-39	285	286	4	275 - 285	247.35 - 257.35	264 - 286	236.35 - 258.35	644425.568	1598434.781	31.19	30.89	27.65	Patapsco - Deep
PZ-1	32	36	2	27 - 32	7.65 - 12.65	21 - 36	1.65 - 16.65	644964.826	1599115.090	22.63	22.51	19.35	Magothy
PZ-2	65	66	2	60 - 65	37.44 - 42.44	54 - 66	31.44 - 43.44	643933.022	1601006.901	25.66	25.45	22.56	Magothy
PZ-3	54	76	2	49 - 54	27.89 - 32.89	43 - 76	21.89 - 54.89	642586.996	1602043.597	24.03	23.87	21.11	Magothy
PZ-4	86	86.5	2	76 - 86	54.75 - 64.75	70 - 86.5	48.75 - 65.25	641654.704	1601244.735	24.38	24.20	21.25	Magothy
PZ-5	48.5	90	2	38.5 - 48.5	1.02 - 11.02	32 - 90	7.52 - 50.48	641686.897	1600070.702	42.75	42.62	39.52	Magothy
WELLS INSTALLED PRIOR TO 2017													
CSW-5	90		4	80 - 90	33.18 - 43.18			640418.877	1600881.043	47.03	46.82	46.82	Magothy
CSW-7	91		4	81 - 91	73.26 - 83.26			643973.655	1596467.431	8.05	7.74	7.74	Patapsco - Shallow
CSW-9	125		4	115 - 125	87.47 - 97.47			643685.642	1598170.755	31.22	30.85	27.53	Patapsco - Shallow
CSW-10	115		2	100 - 115	71.05 - 86.05			642664.840	1597714.757	32.21	31.91	28.95	Patapsco - Shallow
CSW-13	53		4	48 - 53	32.75 - 37.75			643662.830	1602744.431	17.81	17.26	15.25	Magothy
7A	16		4	11 - 16	+0.07 - 4.93			643813.575	1596529.126	11.52	11.07	11.07	Magothy
7B	222		4	217 - 222	206.22 - 211.22			643821.173	1596527.150	11.32	10.78	10.78	Patapsco - Deep
8A	89		4	79 - 89	55.48 - 65.48			643003.316	1595973.516	25.61	25.43	23.52	Patapsco - Shallow
8B	44		4	39 - 44	15.45 - 20.45			642997.164	1595969.647	25.79	25.49	23.55	Magothy
11A	198		4	188 - 198	167.22 - 177.22			645346.666	1599775.912	23.75	23.51	20.78	Patapsco - Deep
11C	30		4	20 - 30	+0.74 - 9.26			645349.364	1599787.526	23.88	23.51	20.74	Magothy
11R	128.5		4	118.5 - 128.5	97.80 - 107.80			645348.041	1599781.345	23.76	23.43	20.70	Patapsco - Shallow
12R	40		4	35 - 40	+1.69 - 3.31			640990.466	1599205.972	39.79	39.48	36.69	Magothy
13A	145		4	135 - 145	119.05 - 129.05			643691.094	1602757.833	19.72	19.35	15.95	Patapsco - Shallow
14R	118		4	108 - 118	71.36 - 81.36			640991.624	1599197.731	39.58	39.36	36.64	Patapsco - Shallow
16A	40		4	30 - 40	8.52 - 18.52			642637.393	1597186.522	24.41	24.18	21.48	Magothy
18B	87		4	77 - 87	50.26 - 60.26			644215.947	1598234.884	30.38	30.10	26.74	Patapsco - Shallow
21S	67		4	57 - 67	35.61 - 45.61			642126.368	1602756.547	24.13	23.93	21.39	Magothy
21D	150		4	145 - 150	123.86 - 128.86			642120.688	1602755.418	23.89	23.53	21.14	Patapsco - Shallow

bgs = below ground surface

AMSL = above mean sea level

BMSL = below mean sea level

Table 2
Spring 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/ SMCL	7A	7B	8A	8B	DUP-3 8B	11A	11C
Duplicate of:	(1)							
Date Sampled:		4/18/2024	4/18/2024	4/18/2024	4/18/2024	4/18/2024	4/22/2024	4/22/2024
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.045 J	0.0208 J	0.727	0.745	0.759	0.0902	7.43
Arsenic	0.01	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	0.0013 J
Beryllium	0.004	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.0034 J
Cadmium	0.005	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	7.78	14.4	60.1	22.8	23.6	8.45	16.5
Iron	0.30	8.7	16.4	0.368	0.0342 J	0.0396 J	8.56	8.1
Lead	0.015	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	2.92	3.16	32.9	18.9	19.5	1.87	11.5
Manganese	0.05	0.184	0.134	11.7	3.6	3.66	0.0902	4.25
Nickel ⁽²⁾	0.073	0.0032 J	0.0041 J	0.0534	0.0289	0.023	0.0027 J	0.0712
Potassium	NS	1.12	5.75	4.47	3.34	3.46	8.29	2.65
Sodium	NS	8.39	17.5	67.6	139	142	20.2	7.8
Zinc	5	0.0042 J	0.0116	0.0858	0.0588	0.0619	0.0047 J	0.154
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	11.7	34.4	102	167	166	18.4	8.39
Fluoride	2	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	6.99	22.2	347	183	206	17.2	151
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	7.87	< 0.0600 U	0.298	10.6	10.4	< 0.0600 U	1.91
Nitrogen, Nitrite	1	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrate+Nitrite	10	7.87	< 0.120 U	0.298 J	10.6	10.4	< 0.120 U	1.91
Radiochemistry		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha	15	0.13 U	2.01	4.45	2.19 J	2.82	0.568 J	2.22 J
Gross Beta ⁽³⁾	50	0.64 J	5.94	13.5	5.97	6.59	5.88	2.47 J
Radium-226 ⁽⁴⁾	5	-0.0278 U	0.431 J	1.06	1.14	0.893	1.34	0.72
Radium-228 ⁽⁴⁾	5	-0.01 U	1.40	7.64	3.15	3.05	0.874	1.91
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	9.36 J	41.1	5.27 J	< 5.00 U	< 5.00 U	58.9	< 5.00 U
Total Dissolved Solids	500	136.0	143	696	630	635	88	166
Total Solids	NS	144	150	698	630	638	116	190
Total Suspended Solids	NS	8.0 J	8.00 J	2.000 J	< 2.00 U	3.000 J	28.00	24.0

Table 2
Spring 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/ SMCL	11R	12R	13A	14R	16A	18B	21D
Duplicate of:								
Date Sampled:	⁽¹⁾	4/22/2024	4/22/2024	4/16/2024	4/17/2024	4/15/2024	4/15/2024	4/16/2024
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.196	0.289	0.378	7.22	0.0166 J	< 0.0160 U	0.857
Arsenic	0.01	< 0.0010 U	0.0014 J	< 0.0010 U	< 0.0010 U	< 0.0010 U	0.0010 J	< 0.0010 U
Beryllium	0.004	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.0038 J	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	7.25	486	17.6	176	42.6	52.8	34.2
Iron	0.30	17.5	16	4.44	310	11	28.2	0.991
Lead	0.015	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	1.67	70.9	3.06	165	30.8	3.06	0.177
Manganese	0.05	0.123	2.1	0.0675	145	16.2	0.165	0.0244
Nickel ⁽²⁾	0.073	0.0032 J	0.0051	0.0113	0.454	0.0083	0.0047 J	0.0232
Potassium	NS	1.43	11.1	14.9	17.7	7.54	1.9	17.8
Sodium	NS	7.71	450	14.7	274	25.1	9.33	50.1
Zinc	5	0.0056	0.0073	0.0143	0.557	0.0086	0.0047 J	0.0047 J
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	< 2.00 U	6.77	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	87.8	932	3.77 J	426	10	6.02	23.8
Fluoride	2	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	276	649	16	5950	248	7.68	27.6
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	< 0.0600 U	< 0.150 U	0.1390 H, J	< 0.0600 U	< 0.0600 U	< 0.0600 U	0.0946 H, J
Nitrogen, Nitrite	1	< 0.0600 U	< 0.150 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U
Nitrogen, Nitrate+Nitrite	10	< 0.120 U	< 0.300 U	0.1390 J	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U
Radiochemistry		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha	15	2.16	0.0339 U	0.86 J	43.1	0.0336 U	4.64	0.814 J
Gross Beta ⁽³⁾	50	1.99	16.9 J	13.5	27.1	6.58	2.93	15.6
Radium-226 ⁽⁴⁾	5	0.918	0.5	1.04	2.18	0.266 J	0.269 J	0.079 U
Radium-228 ⁽⁴⁾	5	2.43	-0.664 U	1.63	10.5	-0.0627 U	0.434 J	0.506
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	47.3	641	97.9 H	11.6	70.8 H	154 H	143 H
Total Dissolved Solids	500	90.0	3580	130	4010	48	190	259
Total Solids	NS	102.0	3630	146	4020	462	228	268
Total Suspended Solids	NS	12.00 J	44.0	16.0	12.00	414.00	38.0	9.0 J

Table 2
Spring 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/ SMCL	21S		CSW-5		CSW-7		CSW-9		CSW-10		CSW-13		CSW-27	
Duplicate of:															
Date Sampled:	⁽¹⁾	4/16/2024		4/18/2024		4/18/2024		4/15/2024		4/15/2024		4/16/2024		4/17/2024	
Total Inorganics		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Aluminum	0.05	40.8		0.0954		1.49		0.156		34.1		0.381		4.4	
Arsenic	0.01	< 0.0010	U	< 0.0010	U	< 0.0010	U	< 0.0010	U	< 0.0010	U	0.0012	J	0.0027	
Beryllium	0.004	0.0054		< 0.0020	U	0.0342		0.0082		0.0192		< 0.0020	U	0.0033	J
Cadmium	0.005	0.0033	J	< 0.0020	U	< 0.0020	U	< 0.0020	U	0.0034	J	< 0.0020	U	0.0087	
Calcium	NS	163		151		219		283		211		11.7		91.2	
Iron	0.30	232		458		248		678		372		39.5		103	
Lead	0.015	< 0.0020	U	< 0.0020	U	< 0.0020	U	< 0.0020	U	0.0024	J	< 0.0020	U	< 0.0020	U
Magnesium	NS	169		155		192		233		191		8.42		85.5	
Manganese	0.05	118		110		163		190		150		1.16		61.4	
Nickel ⁽²⁾	0.073	0.268		0.13		1.03		0.452		0.381		0.0285		0.438	
Potassium	NS	9.9		13.8		9.39		13.3		13.8		1.92		12	
Sodium	NS	301		269		309		397		386		35.2		115	
Zinc	5	0.177		0.162		0.219		0.0036	J	0.233		0.0816		0.943	
Anions		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Bromide	NS	2.34	J	< 2.00	U	2.11	J	2.77	J	3.16	J	< 2.00	U	< 2.00	U
Chloride	250	508		417		664		795		813		65		172	
Fluoride	2	< 2.00	U	< 2.00	U	< 2.00	U	< 2.00	U	2.870	J	< 2.00	U	< 2.00	U
Sulfate	250	3020		2770		2770		3720		3780		87.8		1030	
Nitrogen		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Nitrogen, Nitrate	10	0.0624	H, J	< 0.0600	U	< 0.0600	U	< 0.0600	U	< 0.0600	U	0.0945	H, J	0.0961	J
Nitrogen, Nitrite	1	< 0.0600	H, U	< 0.0600	U	< 0.0600	U	< 0.0600	U	< 0.0600	U	< 0.0600	H, U	< 0.0600	U
Nitrogen, Nitrate+Nitrite	10	< 0.120	U	< 0.120	U	< 0.120	U	< 0.120	U	< 0.120	U	< 0.120	U	< 0.120	U
Radiochemistry		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L	
Gross Alpha	15	14	J	-4.58	U	5.31	J	-3.27	U	51.9		1.42		1.75	U
Gross Beta ⁽³⁾	50	18.4		15.1		15.2		4.26	U	72		2.24		14	
Radium-226 ⁽⁴⁾	5	1.56		0.161	U	2.14		1.23		5.63		0.531		0.473	
Radium-228 ⁽⁴⁾	5	9.08		2		4.10		1.17		18.3		0.802		4.4	
Miscellaneous		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Total Alkalinity	NS	37.8	H	38.6		50.7		19.1	H	31.6	H	28.4	H	24.9	
Total Dissolved Solids	500	3840		3800		4120		5650		5800		359		1770	
Total Solids	NS	3860		3840		4160		5690		5830		362		1780	
Total Suspended Solids	NS	11.00		37.0		36.00		40.0		32.0		3.00	J	12.00	

Table 2
Spring 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	DUP-2	CSW-28	CSW-29	DUP-1	CSW-31	CSW-32	CSW-33
Duplicate of:	SMCL	CSW-27			CSW-29			
Date Sampled:	⁽¹⁾	4/17/2024	4/17/2024	4/15/2024	4/15/2024	4/23/2024	4/17/2024	4/17/2024
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	4.25	17.7	0.0498 J	0.0451 J	0.466	0.0596	0.0332 J
Arsenic	0.01	0.0021	< 0.0010 U	0.0118	0.0136	0.0010 J	0.0013 J	< 0.0010 U
Beryllium	0.004	0.0026 J	0.0056	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0085	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	88.7	226	84.4	86	26.6	152	21.6
Iron	0.30	102	406	133	136	31.3	562	5.89
Lead	0.015	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	83.7	216	69.8	71.2	2.66	83.7	3.03
Manganese	0.05	61.8	175	46.5	45.6	0.252	11.9	0.112
Nickel ⁽²⁾	0.073	0.432	0.695	0.0206	0.0198	0.0059	0.0359	0.0054
Potassium	NS	11.6	18.2	12.6	12.9	1.64	6.24	2.89
Sodium	NS	114	457	89.4	91.5	5.8	148	9.11
Zinc	5	0.908	0.254	0.0127	0.0114	0.468	0.0366	0.008
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	< 2.00 U	3.56 J	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	181	908	57.1	57.5	6.93	271	6.2
Fluoride	2	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	1070	3140	617	621	< 2.00 U	2070	13.4
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrite	1	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrate+Nitrite	10	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U
Radiochemistry		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha	15	-0.936 U	39.7	-0.651 U	-0.607 U	3.06	3.96 J	2.81
Gross Beta ⁽³⁾	50	12.4	20.7	10.9	12.8	2.7	7.3 J	3.14
Radium-226 ⁽⁴⁾	5	0.494	2.83	0.709	0.604	1.28	0.291 J	0.865
Radium-228 ⁽⁴⁾	5	3.77	5.64	-0.523 U	0.091 U	0.783	1.45	0.582
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	23.1	< 5.00 U	155 H	127 H	81.1	74.6	76.5
Total Dissolved Solids	500	1740	5330	1230	995	132.0	2990	122
Total Solids	NS	1750	5360	1310	1090	204	3030	128
Total Suspended Solids	NS	8.00 J	29.0	80.0	96.7	72.0	46.0	6.00 J

Table 2
Spring 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/ SMCL	CSW-34	CSW-35	CSW-36	CSW-37	CSW-38	CSW-39	PZ-1
Duplicate of:								
Date Sampled:	⁽¹⁾	4/17/2024	4/15/2024	4/16/2024	4/22/2024	4/23/2024	4/15/2023	4/22/2024
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.0431 J	0.247	0.0685	0.019 J	0.252	6.34	0.0883
Arsenic	0.01	< 0.0010 U	< 0.0010 U	0.0011 J	< 0.0010 U	< 0.0010 U	0.0016 J	< 0.0010 U
Beryllium	0.004	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0002 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0002 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	46.8	227	108	9.54	36.5	53.3	149
Iron	0.30	2.41	0.0241 J	1.09	22.9	0.511	12	81.4
Lead	0.015	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0002 U	< 0.0020 U	0.0026 J	< 0.0020 U
Magnesium	NS	0.554	0.0521	0.473	2.4	0.566	4.41	169
Manganese	0.05	0.0445	0.0033 J	0.0451	0.018	0.0247	0.164	19.6
Nickel ⁽²⁾	0.073	0.0064	0.0168	0.012	0.0003 J	0.0098	0.0102	0.0063
Potassium	NS	6.22	22.3	6.56	2.04	4.94	9.81	21.5
Sodium	NS	19	51.7	18.3	18.1	31.9	41.1	332
Zinc	5	0.0101	0.0215	0.0076	0.0004 J	0.0027 J	0.027	0.0025 J
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	3.23 J
Chloride	250	56	128	53.2	29.2	40.7	45.0	527
Fluoride	2	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	21.6	23.6	40.1	5.72 J	34	12.8	757
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	< 0.0600 U	< 0.0600 U	0.1430 H, J	< 0.0600 U	< 0.0600 U	< 0.0600 U	0.0673 J
Nitrogen, Nitrite	1	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrate+Nitrite	10	< 0.120 U	< 0.120 U	0.1430 J	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U
Radiochemistry		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha	15	1.71 J	6.91 J	1.65	2.24	-0.406 U	15.6	1.68 U
Gross Beta ⁽³⁾	50	6.6	15.6	6.36	2.75	4.26	10.6	21.2
Radium-226 ⁽⁴⁾	5	0.486 J	0.741	0.61	0.97	0.526	2.51	1.07
Radium-228 ⁽⁴⁾	5	1.16	0.27 J	0.483	1.01	1.33	1.02	0.489
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	43.2	683 H	219 H	64.4	28.4	97.7 H	663
Total Dissolved Solids	500	238	880	440	130	188	44	2510
Total Solids	NS	248	888	452	140	198	238	2600
Total Suspended Solids	NS	10.0	8.00 J	12	10.00 J	10.0 J	194	90.0

Table 2
Spring 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	PZ-2	PZ-3	PZ-4	PZ-5	RB-041724	RB-042324
Duplicate of:	SMCL						
Date Sampled:	⁽¹⁾	4/23/2024	4/16/2024	4/16/2024	4/23/2024	4/17/2024	4/23/2024
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.0250 J	10.2	14.9	0.149	< 0.0160 U	< 0.0160 U
Arsenic	0.01	0.0058	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U
Beryllium	0.004	< 0.0020 U	0.0051	0.0124	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.0048 J	< 0.0020 U	< 0.0020 U
Calcium	NS	20.2	105	97.4	57.9	0.0364 J	0.136
Iron	0.30	55.0	175	123	0.127	0.0167 J	< 0.0160 U
Lead	0.015	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	9.32	98	71.9	18.1	0.0313 J	0.0299 J
Manganese	0.05	1.00	75.4	41	16.5	0.0069	< 0.0020 U
Nickel ⁽²⁾	0.073	0.0069	0.201	0.211	0.134	0.0043 J	0.0028 J
Potassium	NS	1.33	8.77	7.1	6.3	< 0.0160 U	< 0.0160 U
Sodium	NS	44.3	189	106	12.2	0.0439 J	0.0292 J
Zinc	5	0.0063	0.19	0.164	0.423	< 0.0020 U	< 0.0020 U
Anions		mg/L	mg/L	mg/L	mg/L		
Bromide	NS	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	27.9	289	164	9.95	< 2.00 U	< 2.00 U
Fluoride	2	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	64.9	1870	1040	157	< 2.00 U	< 2.00 U
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	< 0.0600 U	0.118 H, J	0.0810 H, J	6.6100	0.1710 J	0.0927 J
Nitrogen, Nitrite	1	< 0.0600 U	< 0.0600 H, U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrate+Nitrite	10	< 0.120 U	< 0.120 U	< 0.120 U	6.6100	0.1710 J	< 0.120 U
Radiochemistry		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha	15	2.55	4.86 J	6.19	3.84	-0.0515 U	-0.0044 U
Gross Beta ⁽³⁾	50	2.27 J	11.1	9.27	8.45	-0.399 U	-0.109 U
Radium-226 ⁽⁴⁾	5	1.03	0.512 J	2.18	1.51	0.292 J	1.37
Radium-228 ⁽⁴⁾	5	1.31	3.15	4.95	1.59	0.0898 U	0.531 J
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	83.8	87.5 H	< 5.00 U, H	114.00	< 5.00 U	< 5.00 U
Total Dissolved Solids	500	284	2200	1620	472	8.00 J	< 8.00 U
Total Solids	NS	376	2200	1620	472	8.00 J	6 J
Total Suspended Solids	NS	92.0	7.0 J	3.00 J	< 4.00 U	< 2.00 U	< 4.00 U

Table 2
Spring 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Data Qualifiers:

J -- Value is considered estimated due to exceedance of technical quality control criteria or because result is less than the Limit of Quantitation (LOQ).

U -- Value is a non-detected result as reported by the laboratory.

H -- The sample was extracted and/or analyzed outside of the EPA recommended holding time.

NA -- No result is available/applicable for this parameter in this sample.

NS -- Not Specified

⁽¹⁾ MCL = Maximum Contaminant Level National Primary and Secondary Drinking Water Regulations, August 2009.

⁽²⁾ The Nickel screening level is the Maryland Department of the Environment (MDE) Groundwater Cleanup Standard.

⁽³⁾ The Gross Beta screening value is 4 millirems per year which cannot be applied to the value reported for Gross Beta in pCi/L, therefore guidance purposes, the Gross Beta results will be compared with the 50 pCi/L screening level provided in the Code of Federal Regulations (CFR) and Code of Maryland Regulations (COMAR) sampling and analysis requirements.

⁽⁴⁾ MCL is for Ra-226 and Ra-228 combined.

Bold values exceed the EPA MCL

Italicized values exceed the EPA secondary standard

Bold, italicized values exceed the MDE standard or COMAR standard.

Table 3
Summer 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	7A		7B		8A		8B		11A		11C		11R
Duplicate of:	SMCL													
Date Sampled:	⁽¹⁾	9/5/2024		9/5/2024		9/5/2024		9/5/2024		9/9/2024		9/9/2024		9/9/2024
Total Inorganics		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L
Aluminum	0.05	< 0.0800 U		< 0.0800 U		1.04		0.632		0.135 J		8.41		0.168 J
Arsenic	0.01	< 0.0010 U		< 0.0010 U		< 0.0010 U		< 0.0010 U		< 0.0010 U		< 0.0010 U		< 0.0010 U
Beryllium	0.004	< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		0.0068		< 0.0020 U
Cadmium	0.005	< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U
Calcium	NS	5.03		14.8		38.3		20.9		8.62		54.3		7.03
Iron	0.30	15.0		17.6		0.351		< 0.0800 U		8.13		19.3		17.1
Lead	0.015	< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U
Magnesium	NS	2.09		3.14		20		16.5		1.86		19.3		1.63
Manganese	0.05	0.201		0.14		10.4		3.22		0.0849		9.65		0.113
Nickel ⁽²⁾	0.073	< 0.0020 U		< 0.0020 U		0.0346		0.0186		< 0.0020 U		0.0794		< 0.0020 U
Potassium	NS	1.14		6.24		3.97		3.46		9.11		3.86		1.43
Sodium	NS	6.38		18.1		48.7		133		20.8		19.4		7.62
Zinc	5	0.0039 J		0.007		0.138		0.0835		0.0084		0.273		0.0038 J
Anions		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L
Bromide	NS	< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U
Chloride	250	9.14		34.2		< 2.00 U		148		15.4		21.9		4.3 J
Fluoride	2	< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U
Sulfate	250	5.27 J		22.3		< 2.00 U		197		12.8		270		13.2
Nitrogen		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L
Nitrogen, Nitrate	10	2.44 H		0.1050 H, J		< 0.0600 H, U		11.3 H		< 0.0600 U		< 0.0600 U		< 0.0600 U
Nitrogen, Nitrite	1	< 0.0600 H, U		< 0.0600 H, U		< 0.0600 H, U		< 0.0600 H, U		< 0.0600 U		< 0.0600 U		< 0.0600 U
Nitrogen, Nitrate+Nitrite	10	2.44		< 0.120 U		< 0.120 U		11.3		< 0.120 U		< 0.120 U		< 0.120 U
Radiochemistry ⁽⁵⁾		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L
Gross Alpha	15													
Gross Beta ⁽³⁾	50													
Radium-226 ⁽⁴⁾	5													
Radium-228 ⁽⁴⁾	5													
Miscellaneous		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L
Total Alkalinity	NS	10.9		45.4		< 5.00 U		< 5.00 U		49.1 H		7.3 H, J		24.9 H
Total Dissolved Solids	500	50		128		452		590		60		476		8.0 J
Total Solids	NS	82		132		452		590		78		544		24.0
Total Suspended Solids	NS	32.00		4.00 J		< 4.00 U		< 4.00 U		18.00 J		68.0		16.0

Table 3
Summer 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	12R	13A	14R	16A	18B	21D	21S
Duplicate of:	SMCL							
Date Sampled:	⁽¹⁾	9/11/2024	9/4/2024	9/11/2024	9/10/2024	9/5/2024	9/4/2024	9/4/2024
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.425	0.468	8.03	< 0.0800 U	< 0.0800 U	0.923	37.4
Arsenic	0.01	0.0025	<0.0010 U	0.005	0.0013 J	< 0.0010 U	< 0.0010 U	< 0.0010 U
Beryllium	0.004	< 0.0020 U	<0.0020 U	0.0043 J	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.0056
Cadmium	0.005	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.0038 J
Calcium	NS	468	17.8	183	38	44.6	23	153
Iron	0.30	17.3	4.27	333	12.4	24.5	1.53	224
Lead	0.015	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	68.6	2.8	168	23.2	2.57	0.254	156
Manganese	0.05	23.2	0.065	144	13.2	0.147	0.0352	119
Nickel ⁽²⁾	0.073	0.0404	< 0.0020 U	0.506	0.0044 J	< 0.0020 U	< 0.0020 U	0.281
Potassium	NS	11.4	15.1	19.5	7.73	1.82	16.9	11
Sodium	NS	468	14	300	18.7	7.95	40.4	285
Zinc	5	0.108	0.0155	1.68	0.0068	0.0056	0.0041 J	0.836
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	7.04	< 2.00 U	2.24 J	< 2.00 U	< 2.00 U	< 2.00 U	2.05 J
Chloride	250	1060	3.36 J	411	7.56	4.90 J	17.2	379
Fluoride	2	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	629	15.6	2240	207	< 2.00 U	25.6	2450
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	0.82	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 H, U	0.0898 H, J
Nitrogen, Nitrite	1	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 H, U	< 0.0600 H, U
Nitrogen, Nitrate+Nitrite	10	0.82	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.300 U
Radiochemistry ⁽⁵⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha	15							
Gross Beta ⁽³⁾	50							
Radium-226 ⁽⁴⁾	5							
Radium-228 ⁽⁴⁾	5							
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	545	103	< 5.00 U	63.5	162	98.5	29.1
Total Dissolved Solids	500	3600	112	3950	389	180	136	3480
Total Solids	NS	3630	116	3960	398	222	142	3490
Total Suspended Solids	NS	27	4.0 J	6.00 J	9.0 J	42.0	6.0 J	8.00 J

Table 3
Summer 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	DUP-1		CSW-5		DUP-2		CSW-7		CSW-9		DUP-3		CSW-10
Duplicate of:	SMCL	21S				CSW-5						CSW-9		
Date Sampled:	⁽¹⁾	9/4/2024		9/5/2024		9/5/2024		9/5/2024		9/10/2024		9/10/2024		9/11/2024
Total Inorganics		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L
Aluminum	0.05	36.8		< 0.0800 U		0.0944 J		1.44		0.13 J		0.138 J		38.9
Arsenic	0.01	< 0.0010 U		< 0.0010 U		< 0.0010 U		< 0.0010 U		< 0.0010 U		< 0.0010 U		< 0.0010 U
Beryllium	0.004	0.0047 J		< 0.0020 U		< 0.0020 U		0.0377		0.0084		0.0086		0.0183
Cadmium	0.005	0.0029 J		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		0.0029 J
Calcium	NS	153		147		148		214		260		258		249
Iron	0.30	223		448		451		247		646		643		453
Lead	0.015	< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		0.0029 J
Magnesium	NS	154		144		145		183		206		206		220
Manganese	0.05	118		105		117		168		181		171		141
Nickel ⁽²⁾	0.073	0.278		0.138		0.146		1.11		0.478		0.454		0.36
Potassium	NS	10.7		14.3		14.5		9.7		13.6		13.7		18.3
Sodium	NS	280		259		262		304		370		373		463
Zinc	5	0.799		0.161		0.158		3.5		0.0149		0.0161		1.74
Anions		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L
Bromide	NS	2.06 J		< 2.00 U		< 2.00 U		2.25 J		2.81 J		2.81 J		3.24 J
Chloride	250	384		324		323		517		609		615		753
Fluoride	2	< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U
Sulfate	250	2460		1830		1840		1890		30500		3120		2840
Nitrogen		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L
Nitrogen, Nitrate	10	< 0.0600 H, U		< 0.0600 H, U		< 0.0600 H, U		1.1900 H		< 0.0600 U		< 0.0600 U		< 0.0600 U
Nitrogen, Nitrite	1	< 0.0600 H, U		< 0.0600 H, U		< 0.0600 H, U		< 0.0600 H, U		< 0.0600 U		< 0.0600 U		< 0.0600 U
Nitrogen, Nitrate+Nitrite	10	< 0.120 U		< 0.120 U		< 0.120 U		1.190		< 0.120 U		< 0.120 U		< 0.120 U
Radiochemistry ⁽⁵⁾		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L
Gross Alpha	15													
Gross Beta ⁽³⁾	50													
Radium-226 ⁽⁴⁾	5													
Radium-228 ⁽⁴⁾	5													
Miscellaneous		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L
Total Alkalinity	NS	29.5		100		97.9		54.2		5.79 J		<5.00 U		27.5
Total Dissolved Solids	500	3280		3560		< 8.00 U		3960		5680		5150		5220
Total Solids	NS	3300		3600		< 4.00 U		3980		5680		5870		5240
Total Suspended Solids	NS	16.00		42.0		42.0		22.0		< 4.00 U		720.0		17

Table 3
Summer 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-13		CSW-27		CSW-28		CSW-29		CSW-31		CSW-32		CSW-33		CSW-34	
Duplicate of:	SMCL																
Date Sampled:	⁽¹⁾	9/4/2024		9/11/2024		9/11/2024		9/11/2024		9/9/2024		9/10/2024		9/10/2024		9/11/2024	
Total Inorganics		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Aluminum	0.05	0.495		0.985		14.4		0.289		< 0.0800 U		< 0.0800 U		< 0.0800 U		< 0.0800 U	
Arsenic	0.01	< 0.0010 U		0.0026		< 0.0010 U		0.0115		< 0.0010 U		0.0145		< 0.0010 U		< 0.0010 U	
Beryllium	0.004	< 0.0020 U		< 0.0020 U		0.0054		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U	
Cadmium	0.005	< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U	
Calcium	NS	8		76.1		229		73.6		17.5		136		22.3		67.6	
Iron	0.30	26.3		174		433		104		21.3		477		5.92		0.489	
Lead	0.015	< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U		< 0.0020 U	
Magnesium	NS	5.91		81.8		214		61.2		2.02		75.6		2.95		< 0.0800 U	
Manganese	0.05	0.908		52.8		174		43.9		0.167		18.7		0.117		0.011	
Nickel ⁽²⁾	0.073	0.0293		0.0968		0.702		0.0175		< 0.0020 U		0.041		< 0.0020 U		0.0256	
Potassium	NS	1.7		13		19.3		13		1.79		7.63		2.97		7.81	
Sodium	NS	30.6		175		473		85		5.84		133		9.28		24.2	
Zinc	5	0.123		0.29		1.76		0.0204		0.0189		0.0759		0.0064		0.0120	
Anions		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Bromide	NS	< 2.00 U		< 2.00 U		3.54 J		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U	
Chloride	250	58.5		256		874		47.7		6.78		212		5.79 J		94.7	
Fluoride	2	< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U		< 2.00 U	
Sulfate	250	79		1030		2470		585		4.12 J		1400		14.5		27.3	
Nitrogen		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Nitrogen, Nitrate	10	< 0.0600 H, U		< 0.0600 U		< 0.0600 U		0.0943 J		< 0.0600 U		< 0.0600 U		< 0.0600 U		< 0.0600 U	
Nitrogen, Nitrite	1	< 0.0600 H, U		< 0.0600 U		< 0.0600 U		< 0.0600 U		< 0.0600 U		< 0.0600 U		< 0.0600 U		< 0.0600 U	
Nitrogen, Nitrate+Nitrite	10	< 0.120 U		< 0.120 U		< 0.120 U		< 0.120 U		< 0.120 U		< 0.120 U		< 0.120 U		< 0.120 U	
Radiochemistry⁽⁵⁾		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L		pCi/L	
Gross Alpha	15																
Gross Beta ⁽³⁾	50																
Radium-226 ⁽⁴⁾	5																
Radium-228 ⁽⁴⁾	5																
Miscellaneous		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L		mg/L	
Total Alkalinity	NS	< 5.00 U		49		< 5.00 U		123		59.2 H		17.9		78.4		55.5	
Total Dissolved Solids	500	163		1770		5290		895		62.0		< 8.00 U		89		397	
Total Solids	NS	178		1780		5300		918		90		68		96		406	
Total Suspended Solids	NS	15.00		8.00 J		15.0		23.0		28.0		100.0		7.00 J		9.00 J	

Table 3
Summer 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-35	CSW-36	CSW-37	CSW-38	CSW-39	PZ-1	PZ-2	PZ-3
Duplicate of:	SMCL								
Date Sampled:	⁽¹⁾	9/10/2024	9/4/2024	9/9/2024	9/10/2024	9/9/2024	9/9/2024	9/10/2024	9/4/2024
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.17 J	< 0.0800 U	< 0.0800 U	0.155 J	0.129 J	< 0.0800 U	< 0.0800 U	8.98
Arsenic	0.01	< 0.0010 U	0.0017 J	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	0.0043	< 0.0010 U
Beryllium	0.004	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	0.0050 J
Cadmium	0.005	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	215	73.4	9.58	58.5	18.2	159	18.5	89.2
Iron	0.30	< 0.0800 U	0.423	23.3	0.13 J	1.85	86.9	48.3	151
Lead	0.015	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	< 0.0800 U	0.2 J	2.36	0.193 J	1.3	183	7.79	82
Manganese	0.05	< 0.0020 U	0.0128	0.171	0.0052	0.0352	20.6	0.956	70.2
Nickel ⁽²⁾	0.073	0.0114	0.0049 J	< 0.0020 U	0.0032 J	< 0.0020 U	0.0032 J	0.0026 J	0.201
Potassium	NS	22.4	6.84	2.31	5.42	9.11	25.2	1.41	8.53
Sodium	NS	46.5	17.6	18.7	32	44.4	369	43	161
Zinc	5	0.0172	0.0057	0.0039 J	0.0036 J	0.0047 J	0.0037 J	0.0059	0.453
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	3.45 J	< 2.00 U	< 2.00 U
Chloride	250	138	43.2	29.2	41.7	61.6	563	26.6	216
Fluoride	2	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	25.5	45.2	< 2.00 U	40.7	12.5	715	62.3	1020
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U
Nitrogen, Nitrite	1	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U
Nitrogen, Nitrate+Nitrite	10	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U
Radiochemistry ⁽⁵⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha	15								
Gross Beta ⁽³⁾	50								
Radium-226 ⁽⁴⁾	5								
Radium-228 ⁽⁴⁾	5								
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	467	132	43.6 H	115	44.9 H	663 H	73.5	< 5.00 U
Total Dissolved Solids	500	658	243	2880.0	553	130	< 8.00 U	146	1970
Total Solids	NS	664	248	2890.0	558	144	74	238	1970
Total Suspended Solids	NS	6.00 J	5.00 J	9.00 J	5.0 J	14	130.0	92.0	4.00 J

Table 3
Summer 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	PZ-4		RB-090924	
Duplicate of:	SMCL				
Date Sampled:	⁽¹⁾	9/4/2024		9/9/2024	
Total Inorganics		mg/L		mg/L	
Aluminum	0.05	14.7		< 0.0800	U
Arsenic	0.01	< 0.0010	U	< 0.0010	U
Beryllium	0.004	0.0124		< 0.0020	U
Cadmium	0.005	< 0.0020	U	< 0.0020	U
Calcium	NS	96.2		0.0816	J
Iron	0.30	121		< 0.0800	U
Lead	0.015	< 0.0020	U	< 0.0020	U
Magnesium	NS	68.8		< 0.0800	U
Manganese	0.05	47.1		0.0023	J
Nickel ⁽²⁾	0.073	0.251		< 0.0020	U
Potassium	NS	7.45		< 0.0800	U
Sodium	NS	112		< 0.0800	U
Zinc	5	0.471		< 0.0020	U
Anions		mg/L		mg/L	
Bromide	NS	< 2.00	U	< 2.00	U
Chloride	250	169		< 2.00	U
Fluoride	2	< 2.00	U	< 2.00	U
Sulfate	250	840		< 2.00	U
Nitrogen		mg/L		mg/L	
Nitrogen, Nitrate	10	< 0.0600	H, U	< 0.0600	U
Nitrogen, Nitrite	1	< 0.0600	H, U	< 0.0600	U
Nitrogen, Nitrate+Nitrite	10	< 0.120	U	< 0.120	U
Radiochemistry⁽⁵⁾		pCi/L		pCi/L	
Gross Alpha	15				
Gross Beta ⁽³⁾	50				
Radium-226 ⁽⁴⁾	5				
Radium-228 ⁽⁴⁾	5				
Miscellaneous		mg/L		mg/L	
Total Alkalinity	NS	< 5.00	U	< 5.00	H, U
Total Dissolved Solids	500	1730		< 6.00	U
Total Solids	NS	1740		< 4.00	U
Total Suspended Solids	NS	5.00	J	< 2.00	U

Table 3
Summer 2024 Groundwater Sampling Results
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Data Qualifiers:

B -- Analyte is found in the associated blank as well as in the sample.

J -- Value is considered estimated due to exceedance of technical quality control criteria or because result is less than the Limit of Quantitation (LOQ).

J5 -- The sample matrix interfered with the ability to make any accurate determination; spike value is high.

U -- Value is a non-detected result as reported by the laboratory.

H -- The sample was extracted and/or analyzed outside of the EPA recommended holding time.

NA -- No result is available/applicable for this parameter in this sample.

NS -- Not Specified

⁽¹⁾MCL = Maximum Contaminant Level National Primary and Secondary Drinking Water Regulations, August 2009.

⁽²⁾The Nickel screening level is the Maryland Department of the Environment (MDE) Groundwater Cleanup Standard.

⁽³⁾The Gross Beta screening value is 4 millirems per year which cannot be applied to the value reported for Gross Beta in pCi/L, therefore guidance purposes, the Gross Beta results will be compared with the 50 pCi/L screening level provided in the Code of Federal Regulations (CFR) and Code of Maryland Regulations (COMAR) sampling and analysis requirements.

⁽⁴⁾MCL is for Ra-226 and Ra-228 combined.

⁽⁵⁾September RAD data is not available.

Bold values exceed the EPA MCL

Italicized values exceed the EPA secondary standard

Bold, italicized values exceed the MDE standard or COMAR standard.

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	7A																
Sample Number:	SMCL	7A-20170711	7A-20171012	7A-20180508	7A-20181024	7A	7A	7A_052020	7A	7A	7A	7A	7A	7A	7A	7A	7A	7A
Date Sampled:	(1)	7/11/2017	10/12/2017	5/8/2018	10/24/2018	7/8/2019	11/21/2019	5/20/2020	09/22/2020	4/27/2021	9/20/2021	5/4/2022	8/31/2022	4/25/2023	8/28/2023	4/18/2024	9/5/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.82	0.046 J	0.08 J	0.066 J	0.0596	0.455	0.121	0.0732	0.0656	0.040 U	0.0640	0.0849	0.0872 J	< 0.0800 U	0.045 J	< 0.0800 U	
Arsenic	0.01	0.003 U	0.003 U	0.003 U	0.003 U	0.0019 J	0.0019 J	0.0007 J	0.0010 U	0.001 U	0.001 U	0.0010 U	0.0011 J	< 0.0010 U	0.0011 J	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.000069 J	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.00047 J	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.003 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	5.2	5	5.1	5.5	6.38	5.87	6.04	5.57	5.81	7.1	5.29	5.59	6.38	6.38	7.78	5.03	
Iron	0.3	15	12	13	13	21.1	15.3	16.4	13.1	9.04	10.1	13.8	15.1	16.0	18.1	8.7	15	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0005 J	0.00038 J	0.0018 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	2.2	1.9	2.2	2.2	2.77	2.34	2.18	2.26	2.17	2.47	1.95	2.17	2.40	2.64	2.92	2.09	
Manganese	0.05	0.2	0.2	0.52	0.2 J	0.221	0.209	0.238	0.201	0.176	0.161	0.191	0.178	0.208	0.246 J	0.184	0.201	
Nickel ⁽²⁾	0.073	0.0024 J	0.0031 J	0.0049 J	0.005 UJ	0.002 U	0.0019 J	0.003 U	0.0004 U	0.002 U	0.0038 J	0.0004 J	0.0020 U	0.0030 J	< 0.0020 U	0.0032 J	< 0.0020 U	
Potassium	NS	1.2	1.1	0.98 J	1.3 J	1.16	1.15	1.08	1.29	1.19	1.36	1.14	1.20	1.15	1.52	1.12	1.14	
Sodium	NS	10	6.3	6.4	6.8	8.28	6.69	10.1	10.4	9.95	9.71	9.25	6.87	7.10	9.03	8.39	6.38	
Zinc	5	0.02 U	0.02 U	0.02 U	0.0097 J	0.0031 J	0.02 U	0.015 U	0.0023 U	0.002 U	0.0796 J	0.0025	0.0020 U	< 0.0020 U	0.0020 J	0.0042 J	0.0039 J	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.5 U	0.1 U	0.37 J	0.2 J	0.0301	0.50 U	0.2 U	0.2 U	0.1 U	0.2 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	13	7.9	8.9	7.8	14.8	10.1	11.5	10.1 U	9.83	14	8.68	9.02	10.9	11.5	11.7	9.14	
Fluoride	2	0.085 J	0.058 J	0.1	0.068 J	0.0497	0.083 J	0.085 J	0.200 U	0.1 U	0.2 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	2.3	0.59	1.6	1 UJ	4.85	1.9 J	14.5	9.18 U	8.78	8.98	8.02	3.35	3.46 J	7.33	6.99	5.27 J	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	0.41	0.05	0.93	0.03 J	3.99	1.3	3.5	6.35	5.81	5.5	4.21	2.86	3.32	6.76 H	7.87	2.44 H	
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 R	0.00474 J	0.010 U	0.005 U	0.0600 U	0.03 U	0.06 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 H, U	
Nitrogen, Nitrate-Nitrite	10	1.50	0.31	0.45	0.014 J	3.99	1.3	3.5	6.35	5.81	5.5	4.21	2.86	3.32	6.76	7.87	2.44	
		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	0.856 U	1.45 U	0.288 U	-0.454 U	1.1 U	0.127 U	-0.364 U	1.3	0.136 U	-0.0863 U	0.0735 U	0.507 J	2.10	0.576 J	0.13 U		
Gross Beta ⁽⁴⁾	50	0.915 U	1.5 U	1.67 J	1.26 J	3.2	1.22 U	3.53 U	2.7	-0.0276 U	5.27	1.35 J	0.223 U	3.94	1.49 J	0.64 J		
Radium-226 ⁽⁵⁾	5	0.188 U	0.0293 U	0.155 J	0.188 U	0.4	0.489 U	0.135 U	0.8 U	-0.275 U	0.19 J	0.193	0.275	1.41	0.531	-0.0278 U		
Radium-228 ⁽⁵⁾	5	0.28 U	0.549 J	0.171 U	0.333 U	0.8 U	1.14 U	-0.167 U	0.9 U	0.0518 U	0.534 J	0.561	0.547	5.02	0.534	-0.01 U		
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	51 U	45	21	30	8.2 J	28	33	21.3	5.00 U	5	5.00 UJ	18.9	17.8	10.6	9.36 J	10.9	
Total Dissolved Solids	500	140	93	83	76	104	74	112	73	155 J	111	117	130	93.0	198	136.0	50	
Total Solids	NS															144	82	
Total Suspended Solids	NS	34	27	53	30 J	50	47.3	12.6	23	15 J	15	9.00 J	28.0	11.0	4.00 J	8.0 J	32.00	
Field Parameters																		
pH (S.U.)	6.5-8.5	6.29	5.49	6.14	6.26	NA	NA	5.94	6.05	5.29	5.30	6.30	6.12	6.06	5.87	5.42	6.13	
Specific Conductivity (mS/cm)	NS	0.166	0.131	0.118	0.122	NA	NA	0.116	0.105	0.132	0.154	0.161	0.128	0.147	0.168	0.184	0.150	
Temperature (°C)	NS	20.84	20.01	24.04	18.01	NA	NA	14.86	18.09	12.83	17.96	11.96	18.98	12.48	18.75	11.45	18.37	
Turbidity (NTU)	NS	19.1	13.9	7.62	16.3	NA	NA	21.9	8.2	8.4	-4.2	10.1	6.4	0.0	0.0	2.1	8.5	
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.00	0.00	NA	NA	0.00	0.00	0.00	7.70	0.00	0.00	0.00	0.00	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-42	-15	-26	-8	NA	NA	-28	-28	99	-1	-18	69	96	-3	90	1	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	7B																	
Sample Number:	SMCL	7B-20170711	7B-20171012	7B-20180508	7B-20181024	7B	DUP-2	7B	DUP-11219	7B_052020	7B	7B	7B	7B	7B	7B	7B	7B	7B
Date Sampled:	(1)	7/11/2017	10/12/2017	5/8/2018	10/24/2018	7/10/2019	7/10/2019	11/21/2019	11/21/2019	5/20/2020	09/22/2020	4/27/2021	9/20/2021	5/4/2022	8/31/2022	4/25/2023	8/28/2023	4/18/2024	9/5/2024
Duplicate of:							7B		7B										
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.28	0.019 J	0.031 J	0.05 U	0.0255	0.0212	0.05 U	0.0132 J	0.018 J	0.008 U	0.008 U	0.008 U	0.0080 U	0.0080 U	< 0.0800 U	< 0.0800 U	0.0208 J	< 0.0800 U
Arsenic	0.01	0.003 U	0.003 U	0.003 U	0.003 U	0.001 U	0.001 U	0.002 U	0.002 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	0.0025	< 0.0010 U	< 0.0010 U
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.002 U	0.001 U	0.001 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.003 U	0.003 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	25	21	19	19	17.6	17.4	16.1	16.6	19.1	16.4	15.3	14.9	15.3	15.6	16.1	15.1	14.4	14.8
Iron	0.3	22	21	18	19	18.3	18.3	15.5	16.1	19.1	18.2	16.4	15.5	17.3	17.5	17.0	17.6	16.4	17.6
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0004 U	0.002 U	0.002 U	0.0028 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	3.7	3.3	3.2	3.4	3.36	3.45	2.97	3.06	3.22	3.29	3.05	2.86	3.00	3.03	3.09	3.22	3.16	3.14
Manganese	0.05	0.2	0.17	0.16	0.16 J	0.141	0.148	0.129	0.134	0.271	0.155	0.131	0.123	0.136	0.126	0.147	0.147 J	0.134	0.14
Nickel ⁽²⁾	0.073	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.002 U	0.004 U	0.004 U	0.0022 U	0.0006 J	0.002 U	0.002 U	0.0005 J	0.0020 U	0.0044 J	0.004 J	0.0041 J	< 0.0020 U
Potassium	NS	8.7	8.4	11	12 J	11.9	11.9	11.1	11.3	15.6	9.62	8.97	8.07	8.08	7.57	6.64	6.35	5.75	6.24
Sodium	NS	21	20	20	21	24.1	24	21	22.4	26.7	22	19.9	20.8	19.5	17.8	18.4	18.4	17.5	18.1
Zinc	5	0.02	0.02 U	0.02 U	0.01 J	0.0101	0.0038 J	0.0038 J	0.02 U	0.005 U	0.0046 U	0.002 U	0.0914	0.0042	0.0020 U	< 0.0020 U	0.0041 J	0.0116	0.007
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.24 J	0.14 J	0.44 J	0.32 J	0.0698	0.0693	0.50 U	0.50 U	0.23 J	0.2 U	0.134 J	0.2 U	0.130 J	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	37	37	38	37	19.6	19.5	36.4	37.3	35.8	37.3 U	32.5	32.5	31.8	35.5	38.3	35.5	34.4	34.2
Fluoride	2	0.07 J	0.04 J	0.093 J	0.043 J	0.0173	0.0167	0.065 J	0.19 J	0.08 J	0.2 U	0.1 U	0.2 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	22	22	24	19 J	11.3	11.2	22.1	21.7	21.2	23.8 U	18.4	19	22.4	24.1	23.9	23.4	22.2	22.3
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	0.027	0.05 U	0.05 U	0.003 U	0.003 U	0.11 U	0.11 U	0.1 U	0.06 U	0.1 U	0.06 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	0.1050 H, J
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 R	0.003 U	0.003 U	0.010 U	0.012	0.0032 J	0.06 U	0.0304 J	0.06 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 H, U
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.025 U	0.06 J	0.006 U	0.006 U	0.10 U	0.10 U	0.095 U	0.12 U	0.0782 J	0.12 U	0.0600 U	0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	2.54 J	1.28 U	1.94 J	2.31 J	3.1	1.4	0.38 U	5.64	3.19 U	2.3	1.15	2.59	1.73	1.35	1.45 U	1.89	2.01	
Gross Beta ⁽⁴⁾	50	7.62	7.5	11.4	9.54	16	12.2	12.6	10.3	20.9	14.4	8.3	10.9	10.9	6.93	14.3	7.79	5.94	
Radium-226 ⁽⁵⁾	5	0.894 U	0.826 J	0.754 J	0.868 U	1.4	0.7	1.15	0.669	1.29	1.0 U	-0.1 U	0.5	0.644	0.905	0.555	1.05	0.431 J	
Radium-228 ⁽⁵⁾	5	0.95 J	0.924 J	1.02	0.723 U	0.9	0.9	1.82 U	1.56 U	0.191 U	1.2	0.88	0.705	1.19	1.27	2.20	1.89	1.40	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	710	45	44	45	54	56.5	50.5	49	60	61.9	40.2	49.6	18.4	42.1	33.7	31.4	41.1	45.4
Total Dissolved Solids	500	180	180	160	150	164	168	155	137	163	127	207 J	160	171	177	144	157	143	128
Total Solids	NS																	150	132
Total Suspended Solids	NS	40	22	27	22 J	15.5	16	16.8	14.4	21.7	11	15 J	9.5	9.00	5.00 J	2.00 J	5.00 J	8.00 J	4.00 J
Field Parameters																			
pH (S.U.)	6.5-8.5	2.17	6.02	6.15	6.74	NA	NA	NA	NA	6.92	6.48	6.04	6.22	6.62	6.34	6.20	6.09	5.98	6.25
Specific Conductivity (mS/cm)	NS	0.129	0.348	0.356	0.345	NA	NA	NA	NA	0.311	0.201	0.259	0.270	0.310	0.262	0.285	0.261	0.303	0.283
Temperature (°c)	NS	17.73	15.12	15.47	15.05	NA	NA	NA	NA	14.73	14.85	15.05	14.49	14.04	15.56	14.69	15.83	13.97	16.30
Turbidity (NTU)	NS	9.18	2.58	2.04	4.52	NA	NA	NA	NA	0.0	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Dissolved Oxygen (mg/L)	NS	0.06	0.7	1.97	0.00	NA	NA	NA	NA	0.00	0.00	0.00	0.00	1.80	0.00	0.00	0.00	0.00	0.00
Oxidation-Reduction Potential (mV)	NS	107	-75	-140	-65	NA	NA	NA	NA	-106	-78	-8	-116	-62	47	60	-13	-6	-5

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	8A																	
Sample Number:	SMCL	8A-20170713	8A-20171012	8A-20180508	8A-20181018	8A	8A	8A_052020	DUP_052020	8A	8A	8A	8A	8A	8A	DUP-1	8A	8A	8A
Date Sampled:	⁽¹⁾	7/13/2017	10/12/2017	5/8/2018	10/18/2018	7/8/2019	11/21/2019	5/20/2020	5/20/2020	09/22/2020	4/27/2021	9/30/2021	5/4/2022	8/31/2022	4/25/2023	4/25/2023	8/28/2023	4/18/2024	9/5/2024
Duplicate of:									8A										
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	2.7	2.5	2.3	1.8	1.9	1.6	1.74	1.75	1.51	1.28	1.23	1.34	1.20	1.28	1.24	1.32	0.727	1.04
Arsenic	0.01	0.0054	0.01	0.004	0.0042	0.0013 J	0.0068	0.0034	0.0035	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	< 0.0010 U	0.0084	< 0.0010 U	< 0.0010 U
Beryllium	0.004	0.0026	0.0029	0.0024	0.0017	0.002 U	0.0018	0.0023	0.0023	0.002	0.0015 J	0.002 U	0.0017 J	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0023	0.0009	0.00056	0.00087	0.0009 J	0.00064 J	0.00062 J	0.00062 J	0.0009 J	0.0009 J	0.002 U	0.0007 J	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	74 J	75	63	57	53.7	51.5	53.2	57.9	50.4	45.2	42.2	43.5	44.2	44.9	44.7	41.6	60.1	38.3
Iron	0.3	16	15	13	11	9.47	8.99	8.41	9.45	6.63	4.67	2.83	1.97	1.56	1.22	1.24	1.22	0.368	0.351
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 J	0.0011 J	0.0014 U	0.0023 U	0.002 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	38	37	33	29	30	25.7	27.3	30.8	27.9	24.4	21.4	22.9	23.0	22.3	21.9	22.6	32.9	20
Manganese	0.05	19 J	21	19	15	14.7	13.8	13	13	14.2	11.9	10.9	11.9	11.3	11.3	12.3	11.8	11.7	10.4
Nickel ⁽²⁾	0.073	0.058	0.057	0.052	0.049	0.0469	0.0377	0.0354	0.0354	0.0418	0.0349	0.0369	0.0330	0.0178	0.0327	0.0348	0.0369	0.0534	0.0346
Potassium	NS	5.7	6.1	5.5	5.1	5.27	4.56	4.79	4.82	4.83	4.47	3.99	4.40	4.53	4.39	4.29	4.27	4.47	3.97
Sodium	NS	90 J	86	74	66	67.7	62	62.2	69.3	64.5	56	50.1	55.4	56.7	51.5	51.3	51.3	67.6	48.7
Zinc	5	0.4	0.36	0.33	0.29	0.2985	0.237	0.263 U	0.264 U	0.239	0.192	0.169	0.0190	0.158	0.143	0.152	0.145	0.0858	0.138
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.42 J	0.41	0.76	0.4 J	0.282	0.50 U	0.2 U	0.2 U	0.6 U	0.244 J	2.11	0.204 J	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	120 J	110	98	100	78.9	79.7	74.7	75.1	94.2 U	80	384	69.6	78.2	71.7	72.3	70.1	102	< 2.00 U
Fluoride	2	0.94	0.96	1	0.89 J	0.643	1	0.86	0.86	0.676	0.554	0.5 U	0.476	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	560 J	430	430	390	290	375	344	341	361 U	308	2510	251	313	271	278	274	347	< 2.00 U
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	0.0029 J	0.05 U	0.05 U	0.11	0.11 U	0.16	0.1 U	0.06 U	0.03 U	0.15 U	0.251	0.465	0.670	0.634	0.931 H	0.298	< 0.0600 H, U
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.003	0.010 U	0.16	0.05 U	0.12 U	0.03 U	0.15 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 H, U
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.025 U	0.012 J	0.11	0.10 U	0.005 U	0.095 U	0.06 U	0.06 U	0.3 U	0.251	0.465	0.670	0.634	0.931	0.298 J	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	10.9	10	13.4	14	24.8	14.5	12.2	5.59 U	19.0	6.5	8.62	8.08	5.58	0.414 J	9.33	3.52	4.45	
Gross Beta ⁽⁴⁾	50	21.1	15.6	16.1	14.7	34.9	14	13.1	13.1	31.0	15.7	15.6	17.0	14.1	1.26 J	12.0	12.1	13.5	
Radium-226 ⁽⁵⁾	5	1.94	1.76	1.69	1.85	8.2	1.5	2.22	2.63	5.7	7.16	1.25	1.25	1.55	0.578	1.70	3.10	1.06	
Radium-228 ⁽⁵⁾	5	9.59	9.57	9.15	8.07	6.1	8.9	4.97	6.84	6.8	1.63	8.83	6.81	6.68	0.446 J	7.14	9.09	7.64	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	5 U	5 U	5 U	5 U	5 U	5.0 U	4 U	4 U	5 U	5 U	5 U	5.00 U	5.00 U	< 5.00 U	< 5.00 U	< 5.00 U	5.27 J	< 5.00 U
Total Dissolved Solids	500	920	880	850	720	694	577	550	587	584	738 J	523	596	553	476	518	546	696	452
Total Solids	NS																698	452	
Total Suspended Solids	NS	8.2	1.8	1 U	1 U	2.4	4.0 U	2 U	2 U	2 U	10 U	1 J	0.400 J	5.00 J	< 2.00 U	< 2.00 U	< 2.00 U	2.000 J	< 4.00 U
Field Parameters																			
pH (S.U.)	6.5-8.5	4	3.9	3.86	4.24	NA	NA	3.90	NA	4.19	3.55	3.85	4.05	3.83	3.54	NA	3.83	3.88	5.07
Specific Conductivity (mS/cm)	NS	0.561	1.26	1.19	1.12	NA	NA	0.848	NA	0.583	0.705	0.673	0.852	0.741	0.748	NA	0.676	1.06	0.724
Temperature (°C)	NS	18.14	15.44	16.18	15.04	NA	NA	15.21	NA	15.53	14.97	15.1	14.57	15.76	15.24	NA	15.77	14.35	16.08
Turbidity (NTU)	NS	3.43	0.87	1.2	1.81	NA	NA	0.0	NA	1.7	1.9	0.0	0.0	0.0	0.0	NA	0.0	1.0	0.0
Dissolved Oxygen (mg/L)	NS	1.35	0.96	0.3	0.00	NA	NA	0.00	NA	0.00	0.00	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00
Oxidation-Reduction Potential (mV)	NS	217	288	244	277	NA	NA	273	NA	234	334	244	360	357	265	NA	153	246	296

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	8B																	
Sample Number:	SMCL	8B-20170713	8B-20171012	8B-20180508	8B-20181018	8B	8B	8B_052020	8B	DUP-2	8B	8B	8B	8B	8B	8B	8B	DUP-3	8B
Date Sampled:	(1)	7/13/2017	10/12/2017	5/8/2018	10/18/2018	7/8/2019	11/21/2019	5/20/2020	09/22/2020	9/22/2020	4/27/2021	9/20/2021	5/4/2022	8/31/2022	4/25/2023	8/28/2023	4/18/2024	4/18/2024	9/5/2024
Duplicate of:										8B									
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	1.6	1.6	1.5	1.5	1.38	1.09	1.15	1.33	1.36	1.02	1.02	0.934	0.936	0.872	0.861	0.745	0.759	0.632
Arsenic	0.01	0.0021 J	0.0033	0.0015 J	0.002 J	0.001 U	0.0019 J	0.0011 J	0.001 U	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	0.0138	< 0.0010 U	< 0.0010 U	< 0.0010 U
Beryllium	0.004	0.0029 U	0.003	0.0025	0.0026	0.002 J	0.0023	0.0026 J	0.0025	0.0025	0.0018 J	0.0021 J	0.0019 J	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0015	0.001	0.00078	0.0011	0.0011 J	0.00070 J	0.00079 J	0.001 J	0.001 J	0.0008 J	0.002 U	0.0009 J	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	56 J	53	50	47	45.2	36.8	43.2	41.2	42.4	33.9	32.4	30.6	33.5	29.1	24.7	22.8	23.6	20.9
Iron	0.3	0.076 U	0.23	0.055 J	0.41	0.0619	0.164	0.0955	0.04 U	0.04 U	0.04 U	0.04 U	0.0333 J	0.0168 J	< 0.0800 U	< 0.0800 U	0.0342 J	0.0396 J	< 0.0800 U
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0044	0.0015 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	36	35	34	32	32.5	30.7	38.5	31.9	32.4	26.1	26.6	25.0	25.5	22.5	21.4	18.9	19.5	16.5
Manganese	0.05	8.8 J	8.8	7.8	7.6	7.31	4.95	5.18	6.68	6.81	5.2	4.46	4.64	5.11	4.35	3.77	3.6	3.66	3.22
Nickel ⁽²⁾	0.073	0.043	0.044	0.041	0.039	0.0364	0.0267	0.0282	0.0324	0.0327	0.0274	0.0275	0.0255	0.0174	0.0246	0.0223	0.0289	0.023	0.0186
Potassium	NS	4.4	4.7	4.8	4.5	4.77	4.15	4.26	4.52	4.62	4.17	4	3.94	4.04	3.97	3.84	3.34	3.46	3.46
Sodium	NS	170 J	190	190	190	208	224	205	205	203	182	207	194	167	181	170	139	142	133
Zinc	5	0.21	0.19	0.2	0.18	0.183	0.146	0.151 U	0.153	0.158	0.13	0.193	0.0231	0.129	0.0952	0.0985	0.0588	0.0619	0.0835
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.32 J	0.26	0.63	0.35 J	0.212	0.50 U	0.24 J	0.2 U	0.6 U	0.222 J	0.218 J	0.207 J	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	300	310	300	340	268	334	310	367	372	309	323	274	290	241	245	167	166	148
Fluoride	2	0.39	0.33	0.47	0.4 J	0.29	0.38	0.37 J	0.37	0.361	0.231	0.296	0.222 J	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	290 J	250	270	250	179	254	227 J	268 U	272 U	223	203	197	261	220	238	183	206	197
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	1.8	2.0	9	1	9.57	13.2	11.4	10.3	10.4	9.83	10.7	9.62	10.6	11.0	11.8 H	10.6	10.4	11.3 H
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.003 U	0.010 U	0.0032 J	0.06 U	0.06 U	0.03 U	0.06 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U
Nitrogen, Nitrate-Nitrite	10	6.3	10	7.8	9.4	9.57	13.2	11.4	10.3	10.4	9.83	10.7	9.62	10.6	11.0	11.8	10.6	10.4	11.3
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	2.91 U	5.1	7.27	1.06 U	19.2	4.8	-0.234 U	11.7	9.1	4	4.45	2.17	1.58 J	2.15	3.03 J	2.19 J	2.82	
Gross Beta ⁽⁴⁾	50	11.1	7.72	9.68	8.8	16.3	7.1	13.7	14.7	17.3	6.78	8.79	9.46	6.58	7.46	7.43	5.97	6.59	
Radium-226 ⁽⁵⁾	5	0.801 U	1.28	1.2	1.36	3.7	0.7	1.87	4.2	3.8	4.35	1.26	0.884	1.41	0.771	1.97	1.14	0.893	
Radium-228 ⁽⁵⁾	5	3.42	4.06	4.39	3.6	4.2	4.1	2.92 J	3.9	4.0	0.9	4.2	2.95	3.04	1.51	3.81	3.15	3.05	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	5 U	5 U	5 U	5 U	5 U	5.0 U	4 U	5 U	5 U	5 U	7.08	5.00 UJ	5.00 U	< 5.00 U	< 5.00 U	< 5.00 U	< 5.00 U	< 5.00 U
Total Dissolved Solids	500	890	990	1000	1000	1020	874	877	888	914	932 J	938	922	844	702	760	630	635	590
Total Solids	NS																630	638	590
Total Suspended Solids	NS	1 U	1 U	1 U	1 U	1.6 J	4.0 U	2 U	2 U	2 U	10 U	0.8	0.400 U	2.00 J	< 2.00 U	4.00 J	< 2.00 U	3.000 J	< 4.00 U
Field Parameters																			
pH (S.U.)	6.5-8.5	4.09	3.97	4.19	4.25	NA	NA	4.28	4.1	NA	3.76	3.76	4.24	3.94	3.72	3.99	3.93	NA	4.93
Specific Conductivity (mS/cm)	NS	1.57	1.69	1.56	1.72	NA	NA	1.470	1.18	NA	1.16	1.54	1.75	1.39	1.47	1.18	1.11	NA	0.979
Temperature (°c)	NS	19.84	17.55	19.21	16.25	NA	NA	16.17	15.31	NA	15.43	15.02	14.99	15.77	15.52	16.15	15.11	NA	16.86
Turbidity (NTU)	NS	1.4	3.54	1.85	4.37	NA	NA	2.4	0.4	NA	0.6	0.0	0.0	0.0	0.0	0.0	2.9	NA	0.0
Dissolved Oxygen (mg/L)	NS	0.15	0.54	1.68	2.15	NA	NA	3.22	1.33	NA	2.69	35.5	7.75	NA	0.00	3.97	2.63	NA	4.11
Oxidation-Reduction Potential (mV)	NS	396	220	380	380	NA	NA	363	227	NA	364	435	409	375	336	207	265	NA	289

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	11A																			
Sample Number:	SMCL	11A-20170706	DUP-02-20170706	11A-20171010	DUP-03-20171010	11A-20180430	11A-20181017	11A	DUP-1	11A	11A_051920	11A	11A	11A	11A	11A	11A	11A	11A	11A	
Date Sampled:	⁽¹⁾	7/6/2017	7/6/2017	10/10/2017	10/10/2017	4/30/2018	10/17/2018	7/9/2019	7/9/2019	11/22/2019	5/19/2020	9/21/2020	4/21/2021	9/27/2021	5/5/2022	8/30/2022	4/24/2023	8/21/2023	4/22/2024	9/9/2024	
Duplicate of:			11A-20170706		11A-20171010				11A												
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Aluminum	0.05	0.26	0.26	0.036 UJ	0.024 UJ	0.019 J	0.055 J	0.132	0.104	0.050 U	0.155	0.0389 J	0.0288 J	0.0636 J	0.0431	0.0451	< 0.0800 U	0.0980 J	0.0902	0.1350 J	
Arsenic	0.01	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.001 U	0.001 U	0.0020 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.002 U	0.0010 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	15	16	17 J	16 J	16	15	14.1	14	16.5	13.5	9.97	8.55	9.1	9.00	8.80	9.73	8.24	8.45	8.62	
Iron	0.3	8.9	8.8	5.9 J	5.8 J	6	8.3	9.05	8.88	8.08	12.1	8.73	8.58	9.04	8.90	8.66	8.88	8.67	8.56	8.13	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0004 U	0.0020 U	0.00036 J	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	2.5	2.6	2.6 J	2.5 J	2.2	2.4	2.26	2.3	2.09	1.97	1.93	1.74	1.76	1.81	1.81	1.93	1.82	1.87	1.86	
Manganese	0.05	0.15	0.16	0.19 J	0.17 J	0.11	0.4	0.121	0.125	0.154	0.14	0.112	0.0926	0.0905	0.0975	0.0858	0.0952	0.0857 J	0.0902	0.0849	
Nickel ⁽²⁾	0.073	0.005 U	0.005 U	0.005 UJ	0.005 UJ	0.005 U	0.005 U	0.002 U	0.002 U	0.0019 J	0.003 U	0.00054 J	0.019	0.002 U	0.0004 U	0.0020 U	0.005 J	< 0.0020 U	0.0027 J	< 0.0020 U	
Potassium	NS	28	29 J	30	30	29	26	19.5	19.3	26.6	22.2	12.1	9.66	9.22	8.94	7.06	9.40	7.16	8.29	9.11	
Sodium	NS	34	34 J	33 J	33 J	33	30	28.9	28.6	34.8	31.1	22.9	19.2	19.6	21.1	18.8	21.9	19.3	20.2	20.8	
Zinc	5	0.045	0.041	0.02 UJ	0.02 UJ	0.02 U	0.02	0.0321	0.0318	0.0107 J	0.0475	0.008	0.0054	0.0139	0.0043	0.0028 J	< 0.0020 U	0.0032 J	0.0047 J	0.0084	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Bromide	NS	0.5 U	0.5 U	0.066 J	0.064 J	0.22 J	0.38 J	0.075	0.0651	0.50 U	0.2 U	0.2 U	0.1 U	0.5 U	0.100 U	2.00 U	< 0.200 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	17	17	17	17	17	17	18	18.1	16.5	18.7	16.3	1	14 J	13.8	15.5	17.7	16.5	18.4	15.4	
Fluoride	2	0.086 J	0.083 J	0.063 J	0.058 J	0.085 J	0.046 J	0.0519	0.0551	0.089 J	0.092 J	0.2 U	0.1 U	0.5 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	12	12	14	14	14	14	14.2	14.3	14.7	12.9	14.9	13.2	11.7 J	10.4	13.5	14.0	14.2	17.2	12.8	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Nitrogen, Nitrate	10	ND	ND	ND	ND	0.05 U	0.05 U	0.006 U	0.006 U	0.11 U	0.1 U	0.06 U	0.03 U	0.15 U	0.0300 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrite	1	ND	ND	ND	ND	0.05 U	0.05 UJ	0.006 U	0.006 U	0.013	0.005 U	0.06 U	0.03 U	0.15 U	0.0300 U	0.00600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.14 J	0.025 U	0.025 U	0.025 U	0.025 U	0.11	0.012 U	0.012 U	0.10 U	0.095 U	0.12 U	0.06 U	0.3 U	0.0600 U	0.00300 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	
Gross Alpha ⁽³⁾	15	0.47 U	1.55 U	2.22 J	2.7 J	0.333 U	0.522 U	1.3	3.2	2.06 U	3.42 U	2.7	1.3 U	1.37	2.54	0.836 J	1.22	1.07 J	0.568 J		
Gross Beta ⁽⁴⁾	50	19.7	21.1	26.1	25.9	25.9	21.2	23.7	25.3	24.5	16.1	7.5	5.67	10.6	12.0	7.29	8.15	8.99	5.88		
Radium-226 ⁽⁵⁾	5	0.653 J	0.699 J	0.96 J	0.862 J	0.769 J	0.872 U	0.8	0.9	1.04	1.39	0.7	0.407	0.415 J	0.591	1.29	0.651	0.982	1.34		
Radium-228 ⁽⁵⁾	5	0.488 J	0.288 U	0.576 J	0.807 J	0.503 J	1.1 U	0.7 U	0.7 U	-0.516 U	-0.849 U	1.4	-0.0266 U	0.82	0.647	0.450	1.47	0.0547 U	0.874		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Total Alkalinity	NS	100	120	110	110	120	110	89.2	93.9	113	98.5	62.9	58.9	53.3	42.1	49.8	46.2	46.4	58.9	49.1 H	
Total Dissolved Solids	500	130	130	200	240	190	190	160	170	181	152	132	125	132	127	121	103	107	88	60	
Total Solids	NS																		116	78	
Total Suspended Solids	NS	26	24	12	13	11	15	18	20	14.2	24	12	3 J	8	4.80	7.00 J	5.00 J	3.00 J	28.00	18.00 J	
Field Parameters																					
pH (S.U.)	6.5-8.5	7.08	NA	7.1	NA	7.14	7.18	NA	NA	NA	7.24	6.17	6.14	6.32	6.54	6.20	6.16	6.06	5.72	5.81	
Specific Conductivity (mS/cm)	NS	0.31	NA	0.392	NA	0.404	0.358	NA	NA	NA	0.292	0.158	0.186	0.194	0.224	0.184	0.217	0.198	0.234	0.219	
Temperature (°C)	NS	15.51	NA	16.65	NA	14.56	14.44	NA	NA	NA	15.36	14.28	14.2	13.69	13.68	15.16	14.18	14.92	13.54	14.80	
Turbidity (NTU)	NS	30	NA	5.99	NA	9.83	20.1	NA	NA	NA	37.9	5.7	0.0	11.4	0.0	0.9	0.0	0.0	7.1	5.1	
Dissolved Oxygen (mg/L)	NS	0.00	NA	0.00	NA	0.00	0.00	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.63	
Oxidation-Reduction Potential (mV)	NS	-69	NA	-175	NA	-125	-115	NA	NA	NA	-123	-50	80	-47	-27	57	56	13	8	28	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	11C																
Sample Number:	SMCL	11C-20170706	11C-20171009	11C-20180501	11C-20181016	11C	11C	11C_051920	11C	11C	11C	11C	11C	11C	11C	11C	11C	11C
Date Sampled:	⁽¹⁾	7/6/2017	10/9/2017	5/1/2018	10/16/2018	7/9/2019	11/22/2019	5/19/2020	09/21/2020	4/21/2021	9/21/2021	5/5/2022	8/30/2022	4/24/2023	8/21/2023	4/22/2024	9/9/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	5.7	4	6	17	J 5.69	4.06	5.22	6.22	6.65	7.57	2.58	4.92	4.80	5.33	7.43	8.41	
Arsenic	0.01	0.003 U	0.0024 J	0.003 U	0.0036	0.0028	0.0041	0.0013 J	0.0019 J	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	0.0015 J	0.0013 J	<0.0010 U	
Beryllium	0.004	0.0027	0.0014	0.0022	0.0092	0.0047 J	0.0052	0.0033	0.0038	0.0047	0.0055 J	0.0026	0.0027 J	0.0024 J	0.0022 J	0.0034 J	0.0068	
Cadmium	0.005	0.0002 J	0.00017 J	0.0032	0.0021	0.0016 J	0.00050 J	0.0012 J	0.0017 J	0.0014 J	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	31	37	21	56	45.2	52.2	28.5	26.9	18.7	54.7	25.9	49.4	34.3	44.5	16.5	54.3	
Iron	0.3	32	39	19	30	26.6	24.7	11.5	14.6	7.95	16.6	15.6	16.9	16.0	20.5	8.1	19.3	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0006 J	0.00042 J	0.00047 J	0.002 U	0.0004 J	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	<0.0020 U	
Magnesium	NS	22	27	17	27	18	17.9	16.3	14.7	9.22	17.5	16.1	22.7	19.2	24.1	11.5	19.3	
Manganese	0.05	12	16	8.6	17	10.8	10	6.4	7.53	4.54	9.18	7.24	10.8	8.93	12.5	4.25	9.65	
Nickel ⁽²⁾	0.073	0.062	0.044	0.057	0.17	0.174	0.076	0.084	0.127	0.0956	0.117	0.0766	0.107	0.127	0.173	0.0712	0.0794	
Potassium	NS	4.4	4.8	3.4	4.7	4.35	3.8	3.51	3.83	2.98	3.93	3.61	4.46	4.10	4.81	2.65	3.86	
Sodium	NS	27	34	21	27	14.5	17.9	16.4	16.4	7.75	16.8	17.1	19.9	21.7	24.6	7.8	19.4	
Zinc	5	0.16	0.11	0.26	0.54	0.563	0.308	0.217	0.267	0.161	0.194	0.0659	0.226	0.289	0.482	0.154	0.273	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Anions																		
Bromide	NS	0.26 J	0.24 J	0.27 J	5 U	0.129	0.50 U	0.12 J	0.2 U	0.1 U	0.274 J	0.128 J	2.00 U	< 0.200 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	20	31	18 J	19	12.7	16.3	15.2	11.7	5.84	12	10.5	19.4	19.7	24.1	8.39	21.9	
Fluoride	2	0.29	0.44	0.27 J	0.9 J	0.406	0.79	0.29	0.354	0.359	0.687	0.351	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	120	110	110	350	207	243	145	155	180	260	95.0	182	126	216	151	270	
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen																		
Nitrogen, Nitrate	10	0.0081 J	0.0061	1.5	0.088	0.718	0.11 U	1.2	0.762	3.03	0.06 U	0.509	0.00300 U	1.06	< 0.0600 U	1.91	< 0.0600 U	
Nitrogen, Nitrite	1	0.0073 J	ND	0.05 U	0.05 U	0.0097 J	0.010 U	0.023	0.06 U	0.03 U	0.06 U	0.0300 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.051 UJ	0.044 J	1.2	0.094	0.728	0.10 U	1.2	0.762	3.03	0.12 U	0.509	0.00600 U	1.06	< 0.120 U	1.91	< 0.120 U	
		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Radiochemistry ⁽⁶⁾																		
Gross Alpha ⁽³⁾	15	5.47	0.427 U	2.79	7.58	3.3	5.85	4.55 U	5.4	3.96	5.19	1.83	3.98	2.01	4.45	2.22 J		
Gross Beta ⁽⁴⁾	50	5.75 U	2.51 J	4.66	4.03	8.9	5.93	4.59 J	13.0	4.4	7.2	7.07	6.05	5.57	8.39	2.47 J		
Radium-226 ⁽⁵⁾	5	0.115 U	0.123 J	0.082 U	0.395 U	0.5	0.431 U	0.208 U	1.2	0.149 J	0.64	0.280	0.339	0.164 U	0.345	0.72		
Radium-228 ⁽⁵⁾	5	0.936 J	0.961 J	0.589	1.42	0.8	1.79 U	-0.254 U	1.5	1.52	3.27	1.28	1.11	0.954	0.880	1.91		
		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Miscellaneous																		
Total Alkalinity	NS	69	200	83	44	5 U	13.5	32	34.7	5 U	7.23	66.5	84.9	74.0	87.0	<5.00 U	7.3 H, J	
Total Dissolved Solids	500	360	450	350	530	455	457	302	388	320	536	359	480	369	551	166	476	
Total Solids	NS															190	544	
Total Suspended Solids	NS	71	62	13	75	65	30.5	34.8	54	12	40	17.3	52.0	21.0	31.0	24.0	68.0	
Field Parameters																		
pH (S.U.)	6.5-8.5	5.87	6.22	5.73	5.5	NA	NA	5.65	5.64	4.56	5.23	6.03	5.86	5.66	5.84	4.32	6.66	
Specific Conductivity (mS/cm)	NS	0.225	0.782	0.426	0.78	NA	NA	0.378	0.281	0.286	0.512	0.444	0.562	0.504	0.607	0.366	0.644	
Temperature (°C)	NS	17.56	23.37	17.04	16.96	NA	NA	14.48	15.06	12.78	14.27	12.66	14.71	12.79	14.21	11.52	18.02	
Turbidity (NTU)	NS	24.8	19.8	19.8	63.4	NA	NA	38.1	6.6	88.8	57.7	0.4	0.0	0.0	0.2	10.0	19.4	
Dissolved Oxygen (mg/L)	NS	0.00	0.00	1.42	0.00	NA	NA	0.00	0.00	0.00	0.00	4.77	0.00	0.00	0.00	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-53	-91	4	104	NA	NA	102	39	234	118	35	91	80	34	234	18	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	11R																	
Sample Number:	SMCL	11R-20170706	11R-20171009	11R-20180430	11R-20181017	11R	11R	11R_051920	11R	11R	DUP-1-11R	11R	DUP-3-11R	11R	11R	11R	11R	11R	11R
Date Sampled:	(1)	7/6/2017	10/9/2017	4/30/2018	10/17/2018	7/9/2019	11/22/2019	5/19/2020	9/21/2020	4/21/2021	4/21/2021	9/27/2021	9/27/2021	5/5/2022	8/30/2022	4/24/2023	8/21/2023	4/22/2024	9/9/2024
Duplicate of:																			
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.044 J	0.044 J	0.039 J	0.18	0.191	0.505	0.419	0.176	0.141	0.125	0.321	0.281	0.275	0.347	0.200 J	0.589	0.196	0.168 J
Arsenic	0.01	0.003 U	0.003 U	0.003 U	0.003 U	0.001 U	0.00028 J	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U
Beryllium	0.004	0.00027 J	0.00035 J	0.0004 U	0.0004 U	0.00023 J	0.00025 J	0.00026 J	0.0004 U	0.0004 U	0.0004 U	0.0002 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	9	8.5	8.8	7.7	7.43	7.7	8.13	7.07	6.92	6.98	7.18	7.03	7.36	6.95	7.91	6.91	7.25	7.03
Iron	0.3	19	19	18	15	22.6	17.7	17.6	17.3	16.7	16.8	16.9	16.2	17.3	16.4	17.4	17.0	17.5	17.1
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.00038 J	0.00023 J	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	1.7	1.6	1.7	1.5	1.76	1.57	1.57	1.59	1.48	1.49	1.5	1.47	1.55	1.57	1.65	1.59	1.67	1.63
Manganese	0.05	0.14	0.13	0.13	0.15	0.124	0.12	0.127	0.131	0.117	0.118	0.117	0.112	0.124	0.116	0.135	0.121 J	0.123	0.113
Nickel ⁽²⁾	0.073	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.0040 U	0.003 U	0.0005 J	0.0033 J	0.0096 J	0.0024 J	0.002 U	0.0004 U	0.0020 U	0.0036 J	< 0.0020 U	0.0032 J	< 0.0020 U
Potassium	NS	1.9	2	2.3	2.3	1.9	2.11	1.95	1.68	1.52	1.51	1.57	1.61	1.63	1.50	1.56	1.61	1.43	1.43
Sodium	NS	9.6	9	9.7	8.2	8.59	8.03	8.51	8.4	7	7.02	7.03	7.54	7.94	7.66	7.98	7.73	7.71	7.62
Zinc	5	0.01 J	0.02 U	0.02 U	0.02 U	0.0036 J	0.0077 J	0.0075 J	0.0029	0.0032	0.0035	0.0093 J	0.0113	0.0038	0.0024 J	< 0.0020 U	0.0033 J	0.0056	0.0038 J
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.5 U	0.1 U	0.5 U	0.5 U	0.0219 J	0.50 U	0.2 U	0.2 U	0.1 U	0.1 U	0.5 U	0.5 U	0.100 U	2.00 U	< 0.200 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	4.1	5	4.4	4.4	4.06	4.1	5.2	3.96 J	1 U	1 U	5 U	5 U	3.44	3.87	4.62 J	4.28 J	87.8	4.3 J
Fluoride	2	0.079 J	0.052 J	0.082 J	0.04 J	0.0432	0.088 J	0.086 J	0.2 U	0.1 U	0.1 U	0.5 U	0.5 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	12	13	27	13	13.8	14.2	14.6	14.6	13.7	13.7	11.9 J	11.5 J	10.4	13.8	13.9	14.4	276	13.2
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 U	0.05 U	0.006 U	0.11 U	0.35	0.06 U	0.03 U	0.03 U	0.15 U	0.15 U	0.0300 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.006 U	0.0052	0.005 U	0.06 U	0.03 U	0.03 U	0.15 U	0.15 U	0.0300 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrate-Nitrite	10	0.014 U	0.025 U	0.025 U	0.025 U	0.012 U	0.10 U	0.35	0.12 U	0.06 U	0.06 U	0.3 U	0.3 U	0.0600 U	0.00600 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	1.14 U	1.43 J	2.97 J	0.908 U	1.4	5.87	2.19 U	2.3	1.32 J	1.55 J	2.51	1.49	2.89	2.42	2.13	3.01	2.16	
Gross Beta ⁽⁴⁾	50	2.66 U	2.14 J	4.22	2.55 J	4.3	5.34	4.15 U	4.4	1.42 J	1.45 J	3.51	4.44	7.45	2.35	2.33	3.13	1.99	
Radium-226 ⁽⁵⁾	5	0.775 J	0.812 J	0.912 J	0.862 U	0.6	1.45	0.84 J	1.4	1.14	1.05	0.697	0.784	0.724	0.512	0.996	1.17	0.918	
Radium-228 ⁽⁵⁾	5	0.489 J	1.08	0.3 U	0.46 U	1.2	0.373 U	0.518 U	0.9 U	0.628	0.415 J	0.872 J	0.95	1.05	0.486	0.933	0.731	2.43	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	29	36	58	5 U	24.5	26.5	52.5	38.5	46.9	45.8	40	39.7	29.0	25.5	29.4	25.1	47.3	24.9 H
Total Dissolved Solids	500	59	83	92 U	85	67	186	78	77	99	69 J	199 J	98 J	86.0	75.0	81.0	81.0	90.0	8.0 J
Total Solids	NS																	102.0	24.0
Total Suspended Solids	NS	26	33	4.9	29	41	14.2	18.3	27	5 J	23 J	5.33	6	12.0	11.0	3.00 J	11.0	12.00 J	16.0
Field Parameters																			
pH (S.U.)	6.5-8.5	6.16	5.85	6.09	6.22	NA	NA	6.31	6.08	5.94	NA	6.08	NA	6.29	5.98	5.89	5.76	5.54	5.69
Specific Conductivity (mS/cm)	NS	0.151	0.152	0.189	0.156	NA	NA	0.143	0.097	0.129	NA	0.131	NA	0.149	0.130	0.148	0.142	0.165	0.146
Temperature (°C)	NS	18.38	16.42	15.33	13.97	NA	NA	14.27	15.21	14.13	NA	13.82	NA	14.44	14.77	14.23	14.85	13.37	15.88
Turbidity (NTU)	NS	10.8	26	1.14	19.7	NA	NA	17.6	6	2.9	NA	8.6	NA	5.0	5.8	0.0	3.9	13.1	2.1
Dissolved Oxygen (mg/L)	NS	0.00	0.88	0.00	0.00	NA	NA	0.00	0.00	0.00	NA	0.00	NA	0.00	0.00	0.00	0.00	0.00	0.00
Oxidation-Reduction Potential (mV)	NS	1	-19	-22	-3	NA	NA	-36	-43	69	NA	-32	NA	-16	71	69	32	12	23

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	12R																
Sample Number:	SMCL	12R-20170711	12R-20171016	12R-20180509	12R-20181025	12R	12R	12R	12R_051820	12R	12R	12R	12R	12R	12R	12R	12R	12R
Date Sampled:	(1)	7/11/2017	10/16/2017	5/9/2018	10/25/2018	7/16/2019	11/20/2019	11/19/2019	5/18/2020	09/29/2020	4/28/2021	9/29/2021	5/11/2022	9/8/2022	5/1/2023	8/30/2023	4/22/2024	9/11/2024
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.17	0.12	0.14	0.09 J	0.336	NA	0.0592	0.103	2.24	0.0854	0.0892 J	0.346	0.615	0.315	1.07	0.289	0.425
Arsenic	0.01	0.0017 J	0.0021 J	0.0022 J	0.0017 J	0.0017 J	NA	0.0011 J	0.0013 J	0.0029	0.0015 J	0.001 U	0.0010 U	0.0020	0.0011 J	0.008	0.0014 J	0.0025
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	NA	0.0010 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	NA	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	1000	1500	1500	1300	779	NA	768	779	857	742	657	619	616	820	590	486	468
Iron	0.3	0.96	0.66	0.99	0.69	2.86	NA	2.79	5.89	31.3	12.1	27.7	24.1	23.2	10.2	25.3	16	17.3
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	NA	0.00095 J	0.00017 J	0.0009 J	0.0004 U	0.002 U	0.0005 J	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	0.58	0.36	1.6	1.4	11.2	NA	12	25.9	46.1	44.4	55.4	54.9	62.8	65.5	75.1	70.9	68.6
Manganese	0.05	0.14	0.11	0.39	0.32	1.84	NA	1.82	4.88	16.8	12.4	17	16.6	18.6	14.3	23.5	2.1	23.2
Nickel ⁽²⁾	0.073	0.045	0.057	0.05	0.05	0.0418	NA	0.0144	0.0165	0.0553	0.0464	0.042	0.0498	0.0601	0.0650	0.0634	0.0051	0.0404
Potassium	NS	13	12	11	12	12.1	NA	10.6	10.3	10.7	10.9	10.4	10.7	11.4	11.1	11.1	11.1	11.4
Sodium	NS	410	290	240	260	346	NA	301	287	334	340	378	392	417	415	453	450	468
Zinc	5	0.022	0.011 J	0.013 J	0.02	0.0285	NA	0.10 U	0.0133 J	0.144	0.0513	0.0905	0.0514	0.108	0.0366	0.118	0.0073	0.108
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	12	12	11	8.5 J	8.45	8.8	NA	7	7.93	7.41	7.34	4.61	6.09	7.22	6.62	6.77	7.04
Chloride	250	2600	2300	2200	1800 J	1540	NA	1530	1710	1530	1320	1340	837	883	1520	1020	932	1060
Fluoride	2	1 U	0.06 UJ	1 U	1 UJ	0.02	0.24	NA	0.18 J	0.259	0.1 U	0.5 U	0.200 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	190	250	260	440 J	393	NA	491	594	811	695	753	457	0.200 U	712	617	649	629
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	0.010 J	0.0021 J	0.037 J	0.036 J	0.0704	0.11 U	NA	0.58	0.329	0.875 J	0.5 UJ	0.705	0.199 J	0.296 H	0.0802 J	< 0.150 U	0.82
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.35	0.006 U	0.033	NA	0.088	0.348	0.249 J	0.177 J	0.525	1.50 B	< 0.0600 H, U	< 0.0600 U	< 0.150 U	< 0.0600 U
Nitrogen, Nitrate-Nitrite	10	0.095	0.013 J	0.1	0.24 U	0.0704	0.10 U	NA	0.67	0.677	1.12 J	0.656 J	1.23	1.70	0.296 H, J	< 0.120 U	< 0.300 U	0.82
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	15.5 U	12.4 U	1.98 U	19.6 U	6.9 U	NA	0.133 U	3.9 U	5.3 U	-4.18 U	5.82 J	6.11 J	-2.11 U	16.5	8.21 J	0.0339 U	
Gross Beta ⁽⁴⁾	50	2.01 U	7.7 U	21.6 U	17.8 U	15.6	NA	5.18 U	3.95 U	18.9	-3.96 U	6 J	15.9 J	15.2 J	18.1	12.0 J	16.9 J	
Radium-226 ⁽⁵⁾	5	2.25	0.913 J	0.48 J	0.742 J	0.7	0.412 U	NA	0.263 U	0.4	0.558 J	0.171 U	0.339 J	0.205 J	0.535	0.553	0.5	
Radium-228 ⁽⁵⁾	5	1.53	1.58 U	0.799 J	0.988 J	0.8	0.616 U	NA	0.0554 U	0.8 U	0.0204 U	-0.0248 U	0.0884 U	0.273 J	0.0872 U	0.849	-0.664 U	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	5 U	580	820	760	5 U	50.5	NA	69.5	291	297	407	386	455	493	540	641	545
Total Dissolved Solids	500	11000	11000	10000	8300	4220	NA	3760	4500	4300	4190	4100	4160	4320	3880	4130	3580	3600
Total Solids	NS																3630	3630
Total Suspended Solids	NS	32	19	45	200	92.9	NA	38.3	22.5	82	44	55	58.6	50.0	41.0	64	44.0	27
Field Parameters																		
pH (S.U.)	6.5-8.5	13.18	12.87	11.66	9.68	NA	NA	NA	7.23	NA	NA	NA	NA	NA	NA	NA	NA	NA
Specific Conductivity (mS/cm)	NS	7.17	10.7	6.12	5.37	NA	NA	NA	5.59	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temperature (°C)	NS	24.84	17.26	19.52	17.65	NA	NA	NA	17.12	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity (NTU)	NS	6.51	6.93	5.58	6.85	NA	NA	NA	6.1	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Oxygen (mg/L)	NS	0.00	1.94	0.00	1.69	NA	NA	NA	0.00	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxidation-Reduction Potential (mV)	NS	-80	23	-195	-53	NA	NA	NA	-130	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	13A																
Sample Number:	SMCL	13A-20170630	13A-20171003	13A-20180502	13A-20181019	13A	13A	13A_051420	13A	13A	13A	13A	13A	13A	13A	13A	13A	13A
Date Sampled:	⁽¹⁾	6/30/2017	10/3/2017	5/2/2018	10/19/2018	7/15/2019	11/22/2019	5/14/2020	09/17/2020	4/20/2021	9/27/2021	5/3/2022	9/8/2022	4/26/2023	8/22/2023	4/16/2024	9/4/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	7.3	0.37	1.5	0.23 J	1.3	2.66	0.398	1.37	2.31	0.721	2.91	2.49	0.701	1.48	0.378	0.468	
Arsenic	0.01	0.0018 J	0.003 U	0.003 U	0.003 U	0.0032 U	0.0012 J	0.0011 J	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	<0.0010 U	
Beryllium	0.004	0.00066	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0002 U	0.00016 J	0.0005 U	0.0004 U	0.0004 U	0.0002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	<0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.003 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	23	23	26	31	21.3	26.8	33.5	20.7	18.6	25.3	18.6	18.0	19.6	17.0	17.6	17.8	
Iron	0.3	3.8	1.5	1.2	0.9	4.76	1.18	0.686	2.06	4.54	2.35	4.79	5.20	3.24	4.06	4.44	4.27	
Lead	0.015	0.0083	0.0022 J	0.0013 J	0.0025 U	0.0071	0.0015 J	0.00028 J	0.0007 U	0.0025	0.002 U	0.0017 J	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	2.1	1.2	1	0.99	2.66	0.736	0.582	1.56	2.5	1.57	2.63	2.86	2.34	2.71	3.06	2.8	
Manganese	0.05	0.039	0.026	0.022 U	0.023	0.0618	0.0173	0.0134	0.0364 J	0.0584	0.0359	0.0632	0.0671	0.0582	< 0.0800 U	0.0675	0.065	
Nickel ⁽²⁾	0.073	0.022	0.0027 J	0.0028 J	0.005 UJ	0.0086 J	0.0052	0.0026 J	0.0028	0.0044	0.003 J	0.0023	0.0029 J	0.0059	0.0024 J	0.0113	< 0.0020 U	
Potassium	NS	33	29	27	27 J	19.2	22.7	21	20.9	16	15.8	17.0	16.0	16.4	15.3	14.9	15.1	
Sodium	NS	32	29	28	28	18.5	28	25.1	21.1	13.9	17.6	15.6	13.0	15.5	14.7	14.7	14	
Zinc	5	0.035	0.02 U	0.02 U	0.02 U	0.0392	0.0055 J	0.015 U	0.0081	0.0157	0.0159	0.0149	0.0078 J	0.0024	0.0235	0.0143	0.0155	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.5 U	0.1 U	0.5 U	0.5 U	0.0294 J	0.50 U	0.19 J	0.2 U	0.1 U	0.5 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	3	3.6	3.8	4.4	2.68	4.9	5.6	3.55 J	2.76 J	5 U	2.34 J	2.83 J	3.4 J	2.82 J	3.77 J	3.36 J	
Fluoride	2	0.16	0.15	0.14	0.12	0.0919	0.18 J	0.21	0.22	0.1	0.5 U	0.105 J	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	13	13	50	13	13.7	13.5	13	15.2	14.3	12.6 J	10.6	15.1	14.5	14.6	16	15.6	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	0.0016 J	0.05 U	0.05 U	0.006 U	0.11 U	0.1 U	0.06 U	0.03 U	0.15 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	0.1390 H, J	< 0.0600 H, U	
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 UJ	0.006 U	0.012	0.005 U	0.06 U	0.03 U	0.15 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	<0.0600 H, U	< 0.0600 H, U	
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.025 U	0.025 U	0.012 U	0.10 U	0.095 U	0.12 U	0.06 U	0.3 U	0.0600 U	0.120 U	< 0.120 U	< 0.120 U	0.1390 J	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	4.6	3.93	0.918 U	0.793 U	4.3	1.87 U	5.08 J	3.9	3.14	1.54	1.91	2.59	6.80 J	1.69	0.86 J		
Gross Beta ⁽⁴⁾	50	27.1	27.3	22.8	17.9	22	19.1	18	26.7	12.6	15.1	19.9	17.5	17.4	14.9	13.5		
Radium-226 ⁽⁵⁾	5	0.578 J	0.427 J	0.394 J	0.591 U	1.5	0.89	0.214 U	0.6	0.372 J	0.227 J	0.973	0.578	2.02	1.39	1.04		
Radium-228 ⁽⁵⁾	5	0.663 J	1.15	0.132 U	0.315 U	0.9	0.857 U	-0.614 U	0.9 U	0.336	0.482 J	0.621	1.02	9.23	1.57	1.63		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	110	90	74	85	102	74.5	92.5	78.8	97.3	65.9	97.8	88.8	97.3	94.7	97.9 H	103	
Total Dissolved Solids	500	260	230	250	160	202	132	181	126 J	165	131	150	130	139	104	130	112	
Total Solids	NS															146	116	
Total Suspended Solids	NS	86	69	25	60	176	57.3	16.8	44	65	47	48.3	40.0	11.0	64.0	16.0	4.0 J	
Field Parameters																		
pH (S.U.)	6.5-8.5	10.41	10.26	10.42	10.53	NA	NA	11.70	9.99	7.48	10.07	7.43	6.42	7.59	6.92	7.15	4.13	
Specific Conductivity (mS/cm)	NS	0.103	0.325	0.367	0.36	NA	NA	0.550	0.174	0.211	0.224	0.245	0.217	0.236	0.221	0.260	0.240	
Temperature (°c)	NS	21.26	14.51	16.98	13.64	NA	NA	13.89	14.1	14.19	15	13.35	14.47	13.85	14.2	13.71	14.26	
Turbidity (NTU)	NS	135	63.7	17.8	8.21	NA	NA	7.4	20	129	30.4	113	44.1	14.2	31.4	9.1	11.6	
Dissolved Oxygen (mg/L)	NS	0.00	0.67	0.38	0.00	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-109	-84	-211	-119	NA	NA	-84	-220	-88	-242	-157	33	-120	-74	-128	55	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	14R																			
Sample Number:	SMCL	14R-20170630	14R-20171010	14R-20180504	14R-20181018	DUP-02-20181018	14R	14R	14R_051820	DUP_051820	14R	14R	14R	14R	14R	DUP-2	14R	DUP-3	14R	14R	14R
Date Sampled:	⁽¹⁾	6/30/2017	10/10/2017	5/4/2018	10/18/2018	10/18/2018	7/16/2019	11/19/2019	5/18/2020	5/18/2020	09/29/2020	4/28/2021	9/28/2021	5/11/2022	8/31/2022	8/31/2022	5/1/2023	5/1/2023	8/30/2023	4/17/2024	9/11/2024
Duplicate of:						14R-20181018				14R											
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	18	15	15 J	13	13	15.2	11.6	14.8	12.5	12.6	9.93	9.33	8.38	8.36	8.15	6.47	6.34	7.23	7.22	8.03
Arsenic	0.01	0.013	0.012	0.015	0.011	0.011	0.0065	0.0157	0.0161	0.0169	0.0095	0.0091	0.0043	0.0043	0.0045	0.0041	0.0067	0.0068	0.0127	< 0.0010 U	0.005
Beryllium	0.004	0.0078	0.0069	0.0075	0.006	0.006	0.0056 J	0.0064	0.0064	0.0067	0.0051	0.0033	0.0043 J	0.0021	0.0020 U	0.0020 U	0.0031 J	0.0030 J	0.0037 J	0.0038 J	0.0043 J
Cadmium	0.005	0.02 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	270	220 J	240	220	210	221	215	200	220	207	206	197	188	202	204	202	196	181	176	183
Iron	0.3	420	360 J	390	350	350	354	357	310	339	352	343	330	324	333	346	341	331	333	310	333
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0029	0.0021	0.0022	0.0005 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	230	210 J	210	180	180	211	191	177	193	198	192	180	181	182	182	178	172	172	165	168
Manganese	0.05	230	190 J	200	180	170	200	170	161	198	172	166	151	146	158	154	147	150	150	145	144
Nickel ⁽²⁾	0.073	0.9	0.7 J	0.77	0.64	0.63	0.727	0.622	0.843	0.709	0.675	0.523	0.627	0.357	0.245	0.227	0.500	0.477	0.500	0.454	0.506
Potassium	NS	24	22	22	19	19	21.1	19	23	19.9	19	19.3	17.9	17.9	19.0	18.6	18.0	17.3	17.8	17.7	19.5
Sodium	NS	440	390 J	400	330	330	390	339	326	355	360	351	328	307	321	307	292	285	285	274	300
Zinc	5	2.2	1.8 J	1.9	1.7	1.7	1.63	1.76	2.2	2.24	1.57	1.43	1.24	0.101	1.59	1.55	1.33	1.23	1.43	0.557	1.68
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	4.6 J	2.6	4.4 J	2.5	2.5	2.21	1.5	3.6	3.5	2.46	2.39	2.44	2.03	2.26 J	2.35 J	< 5.00 U	< 5.00 U	< 2.00 U	< 2.00 U	2.24 J
Chloride	250	680	620	650	610	610	528	484	576	615 J	598	527	506	404	442	454	954	980	424	426	411
Fluoride	2	1.3 J	0.17	1.1 J	0.74	0.68	0.262	0.83	0.84	0.79	0.687	0.1 U	0.74	0.512 J	2.00 U	2.00 U	< 5.00 U	< 5.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	3600	2600	3000	2800	2800	2370	2730	2730	3620 J	2380	2880	2730	2740	2290	2340	5950	5810	2770	5950	2240
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 U	0.05 U	0.05 U	0.006 U	0.11 U	0.19	0.1 U	0.06 U	0.03 U	0.15 U	0.0600 U	0.0600 U	0.0600 U	< 0.150 H, U	< 0.150 H, U	< 0.0600 U	<0.0600 U	< 0.0600 U
Nitrogen, Nitrite	1	ND	ND	0.05 UJ	0.05 U	0.05 U	0.006 U	0.010 U	0.005 U	0.005 U	0.06 U	0.03 U	0.15 U	0.0600 U	0.0600 U	0.0600 U	< 0.150 H, U	< 0.150 H, U	< 0.0600 U	<0.0600 U	< 0.0600 U
Nitrogen, Nitrate-Nitrite	10	0.067 U	0.025 U	0.025 UJ	0.043 J	0.039 J	0.012 U	0.10 U	0.19	0.095 U	0.12 U	0.06 U	0.3 U	0.120 U	0.120 U	0.120 U	< 0.300 H, U	< 0.300 H, U	< 0.120 U	<0.120 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	44.4	23.4 U	31.4 U	26.4 U	5.18 U	20.1	11 U	10.5 U	NA	16.4	8.64 J	4.75 J	1.54 U	17.3	7.62 J	18.2	22.5	53.5	43.1	
Gross Beta ⁽⁴⁾	50	34.6	30.5	32.7	26.1 J	16.1 J	68.7	30.7	27.5 J	NA	56.1	71.9	23	38.8	24.7	25.3	21.5	29.9	29.2	27.1	
Radium-226 ⁽⁵⁾	5	1.3	1.69	1.74	1.58	1.4	10.7	1.41	1.3	NA	1.8	10.6	1.46	3.56	2.08	1.79	2.32	2.56	3.73	2.18	
Radium-228 ⁽⁵⁾	5	10.4	9.61	12	10.5	10.8	11.6	11.3	11 J	NA	8.8	0.481	12.2	11.2	8.45	8.14	7.26	7.98	8.13	10.5	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	NA	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	5 U	5 U	5 U	5 U	5 U	5 U	5 U	4 U	4 U	5 U	5 U	5 U	6.03 J	6.20 J	10.1	< 5.00 U	5.44 J	9.81 J	11.6	< 5.00 U
Total Dissolved Solids	500	5500	5300	5100	4900	5000	5170	4310	4760	4720	4530	4550	4740	4550	4220	4330	3940	3160	4170	4010	3950
Total Solids	NS																			4020	3960
Total Suspended Solids	NS	9.1	10	6.7	3.8	4.4	0.364 U	7	8.2	7.8	18	10 U	0.4 U	2.00 J	9.00 J	8.00 J	7.00 J	9.00 J	5.00 J	12.00	6.00 J
Field Parameters																					
pH (S.U.)	6.5-8.5	4.42	4.37	4.03	4.42	NA	NA	NA	4.54	NA	4.4	4.04	4.31	4.42	4.14	NA	3.81	NA	4.32	4.29	4.62
Specific Conductivity (mS/cm)	NS	5.57	5.19	5.18	5.17	NA	NA	NA	5.00	NA	4.34	4.85	4.85	5.92	4.83	NA	5.45	NA	4.2	4.49	5.26
Temperature (°c)	NS	18.87	16.54	17.36	15.14	NA	NA	NA	14.80	NA	14.29	14.27	14.98	13.57	14.48	NA	14.24	NA	14.79	14.24	15.33
Turbidity (NTU)	NS	1.58	1.4	3.13	0.85	NA	NA	NA	2.3	NA	7.8	0.0	0.0	0.0	0.0	NA	0.0	NA	0.0	2.1	0.0
Dissolved Oxygen (mg/L)	NS	0.00	0.73	0.21	0.00	NA	NA	NA	0.00	NA	0.00	0.00	0.00	0.00	0.00	NA	0.00	NA	0.00	0.00	0.00
Oxidation-Reduction Potential (mV)	NS	150	202	134	207	NA	NA	NA	174	NA	190	221	191	183	271	NA	282	NA	167	180	184

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	16A																	
Sample Number:	SMCL	16A-20170713	16A-20171013	16A-20180507	16A-20181025	DUP-04-20181025	16A	DUP-3	16A	16A_051420	16A	16A	16A	16A	16A	16A	16A	16A	16A
Date Sampled:	(1)	7/13/2017	10/13/2017	5/7/2018	10/25/2018	10/25/2018	7/11/2019	7/11/2019	11/19/2019	5/14/2020	9/24/2020	4/26/2021	9/21/2021	5/2/2022	9/7/2022	4/27/2023	8/29/2023	4/15/2024	9/10/2024
Duplicate of:						16A-20181025		16A											
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.031 J	0.05 U	0.026 J	0.024 J	0.038 J	0.0293	0.0289	0.0242 J	0.0429 J	0.0214 J	0.0101 J	0.0431 J	0.0154 J	0.0096 J	< 0.0800 U	< 0.0800 U	0.0166 J	< 0.0800 U
Arsenic	0.01	0.003 U	0.0019 J	0.003 U	0.003 U	0.0016 J	0.0017 J	0.0016 J	0.0022	0.0016 J	0.001 U	0.0016 J	0.001 U	0.0010 U	0.0013 J	0.0013 J	< 0.0010 U	< 0.0010 U	0.0013 J
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.002 U	0.000076 J	0.000082 J	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0004 U	0.0004 U	0.00022 J	0.0004 U	0.00016 J	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	86 J	82 J	64	67	68	61.2	61.4	65.6	75.6	59.9	52.6	55	56.4	53.4	53.3	53.5	42.6	38
Iron	0.3	31	27 J	20	22	22	23.5	24.2	21.3	22.7	19.1	14.5	15.2	13.3	14.3	12.7	14.5	11	12.4
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0004 U	0.0017 J	0.00043 J	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	54	49 J	42	42	42	38.4	38.4	39.4	47.4	37.6	34	35	37.6	33.6	32.1	35.6	30.8	23.2
Manganese	0.05	29 J	32 J	26	25	24	25.1	23.7	21.4	20.8	23.8	19.6	19.9	21.7	18.1	18.9	20.0	16.2	13.2
Nickel ⁽²⁾	0.073	0.0065	0.0061	0.0066	0.0057	0.0065	0.0087 J	0.0083 J	0.0072	0.0057	0.0068	0.0057	0.0065 J	0.0065	0.0068 J	0.0086	0.0092	0.0083	0.0044 J
Potassium	NS	11	12	10	11	11	10.1	10.1	10.5	11.9	9.65	9.23	8.69	9.50	9.10	8.46	8.97	7.54	7.73
Sodium	NS	52 J	49 J	38	40	41	36	36.2	38.2	46	37.8	32.6	31.6	33.3	30.9	27.6	28.9	25.1	18.7
Zinc	5	0.011 J	0.02 U	0.0099 J	0.011 J	0.055 J	0.0153	0.606	0.10 U	0.0092 J	0.0086	0.0078	0.012	0.0080	0.0086 J	0.0062	0.0067	0.0086	0.0068
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.44 J	0.48	0.5 U	5 UJ	5 UJ	0.29	0.287	0.24 J	0.4 J	0.295 J	0.247 J	0.253 J	0.269 J	2.00 U	< 0.200 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	31	31	25	28 J	28 J	25.4	25.5	24.2	24.3	21	16	15.1	13.9	14.2	11.3	13.4	10	7.56
Fluoride	2	0.1 U	0.066 J	0.1 U	1 UJ	1 UJ	0.02	0.02	0.11 J	0.056 J	0.2 U	0.1 U	0.2 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	510 J	460	440	420 J	420 J	282	283	387	365	360	329	328	331 J	371	323	327	248	207
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	0.018	0.072	0.05 U	0.05 U	0.006 U	0.006 U	0.11 U	0.18	0.06 U	0.0372 J	0.06 U	0.0300 U	0.0600 U	< 0.0600 U	0.127 J	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.05 U	0.006 U	0.006 U	0.010 U	0.005 U	0.06 U	0.03 U	0.06 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrate-Nitrite	10	0.057	0.025 U	0.032 J	0.025 U	0.025 U	0.012 U	0.012 U	0.10 U	0.18	0.12 U	0.06 U	0.12 U	0.0600 U	0.120 U	< 0.120 U	0.127 J	< 0.120 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	-1.35 U	0.878 U	6.03	3.56 U	3.65 U	5.9	2.8 U	3.36 U	1.27 U	1.4 U	0.119 U	1.12 J	1.51	0.729 J	5.04 U	1.35 J	0.0336 U	
Gross Beta ⁽⁴⁾	50	9.31	10.8	6.5	9.12	7.72	18.6	15	12.2	9.25	14.8	7.8	9.46	10.6	6.34	4.96 U	9.81	6.58	
Radium-226 ⁽⁵⁾	5	0.227 U	0.343 J	0.345 U	0.564 U	0.391 U	1.4	1.4	0.354 U	0.241 U	0.8 U	0.989	0.752	0.0442 U	0.151 J	1.17	0.715	0.266 J	
Radium-228 ⁽⁵⁾	5	1.14 U	1.33	0.622 J	1.23	0.978 J	1.1	0.8	0.675 U	0.818 U	1.1	0.21	0.48 J	1.05	1.43	3.12	1.55	-0.0627 U	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	110	120	64	110 UJ	5 U	103	106	73	77.5	71.7	75.5	61.8	153	72.1	75.3	74.4	70.8 H	63.5
Total Dissolved Solids	500	890	830	770	730	720	640	668	645	634	631	688	626	202	670	557	567	48	389
Total Solids	NS																	462	398
Total Suspended Solids	NS	49	5.2	12	41	38	20	16.3	4.9	10.5	9 J	18	8	50	4.00 J	3.00 J	21.0	414.00	9.0 J
Field Parameters																			
pH (S.U.)	6.5-8.5	6	5.82	5.93	5.95	NA	NA	NA	NA	5.75	5.96	5.65	5.78	5.87	5.35	5.37	5.73	5.77	5.79
Specific Conductivity (mS/cm)	NS	1.14	1.24	1.04	1.13	NA	NA	NA	NA	0.879	0.574	0.674	0.687	0.916	0.710	0.778	0.676	0.713	0.619
Temperature (°C)	NS	21.74	18.2	21.53	17.96	NA	NA	NA	NA	16.69	15.97	16.47	17.43	15.69	16.66	16.09	16.55	16.18	16.49
Turbidity (NTU)	NS	7.83	5.43	9.95	19.2	NA	NA	NA	NA	22.4	5.5	5.3	22.7	9.8	6.1	0.0	12.4	25.1	9.0
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.00	0.00	NA	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oxidation-Reduction Potential (mV)	NS	37	-6	47	35	NA	NA	NA	NA	39	8	72	52	39	67	141	97	64	91

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	18B																		
Sample Number:	SMCL	18B-20170712	18B-20171017	18B-20180507	DUP-03-20180507	18B-20181022	18B	18B	18B_051520	18B	18B	18B	18B	18B	18B	DUP-2	18B	18B	18B	
Date Sampled:	(1)	7/12/2017	10/17/2017	5/7/2018	5/7/2018	10/22/2018	7/9/2019	11/22/2019	5/15/2020	09/23/2020	4/19/2021	9/21/2021	5/2/2022	8/29/2022	4/27/2023	4/27/2023	8/23/2023	4/15/2024	9/5/2024	
Duplicate of:					18B-20180507															
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Aluminum	0.05	0.036 J	0.05 U	0.05 U	0.018 J	0.018 J	0.004 U	0.0469 J	0.013 J	0.008 U	0.008 U	0.04 U	0.0080 U	0.0080 U	< 0.0800 U	< 0.0800 U	< 0.0800 U	< 0.0160 U	< 0.0800 U	
Arsenic	0.01	0.003 U	0.002 J	0.0015 J	0.0015 J	0.003 U	0.001 U	0.0014 J	0.0014 J	0.001 U	0.001 J	0.001 U	0.0010 U	0.0012 J	< 0.0010 U	< 0.0010 U	0.002	0.0010 J	< 0.0010 U	
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0010 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	51	46	44	45	41	46.4	52	48.9	47.9	45.7	45.9	44.6	46.9	48.1	49.3	46.7	52.8	44.6	
Iron	0.3	24	19	19	20	18	22.1	25.9	25.5	25.3	24.4	24.1	25.3	25.4	25.1	25.6	25.7	28.2	24.5	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0020 U	0.001 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	2.7	2.2	2.4	2.4	2	2.53	2.49	2.36	2.73	2.63	2.52	2.56	2.58	2.71	2.73	2.80	3.06	2.57	
Manganese	0.05	0.17	0.16	0.15	0.15	0.13	0.136	0.159	0.16	0.171	0.172	0.15	0.174	0.142	0.152	0.160	0.173 J	0.165	0.147	
Nickel ⁽²⁾	0.073	0.004 J	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.004 U	0.003 U	0.0016 J	0.0014 J	0.0023 J	0.0015 J	0.0020 U	0.0047 J	0.0051	< 0.0020 U	0.0047 J	< 0.0020 U	
Potassium	NS	4.9	5.1	2.9	3	4.5	3.89	2.22	2.42	2.04	1.88	2.1	1.75	1.88	1.78	1.82	1.89	1.9	1.82	
Sodium	NS	14	13	8.2	8.3	11	11	7.81	7.41	7.99	7.31	7.76	7.21	7.34	7.58	7.76	8.32	9.33	7.95	
Zinc	5	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.002 U	0.02 U	0.015 U	0.0035	0.0013 J	0.0144	0.0056	0.0020 U	< 0.0020 U	< 0.0020 U	0.0033 J	0.0047 J	0.0056	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Bromide	NS	0.22 J	0.11 J	0.22 J	0.22 J	0.23 J	0.0968	0.50 U	0.17 J	0.2 U	0.0551	0.2 U	0.100 U	2.00 U	< 0.200 U	< 0.200 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	15	15	8.5	8.4	16	10.8	7.2	7	4.51 J	5.71	4.89 J	3.92	4.58	4.21 J	4.27 J	5.40 J	6.02	4.90 J	
Fluoride	2	0.089 J	0.04 J	0.07 J	0.071 J	0.067 J	0.0309	0.074 J	0.088 J	0.2 U	0.0325	0.2 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	0.53 J	0.88 U	0.97 J	0.99 J	1	0.394 J	2.1	7.4	2 U	0.1 U	2 U	1 UJ	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	7.68	< 2.00 U	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Nitrogen, Nitrate	10	ND	0.0027 J	0.03 J	0.031 J	0.041 J	0.0196 J	0.11 U	0.1 U	0.06 U	0.003 UJ	0.06 U	0.0300 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.05 U	0.015 J	0.036	0.0081 J	0.12 U	0.00857 J	0.06 U	0.0300 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 UJ	0.025 U	0.025 U	0.071	0.0346 J	0.10 U	0.095 U	0.06 U	0.00857 J	0.12 U	0.0600 U	0.00600 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	
Gross Alpha ⁽³⁾	15	0.363 U	0.106 U	0.827 U	2.64 J	1.16 U	1.7	3.39 U	3.45 J	1.5 U	0.463 J	0.798 J	1.06	1.38	1.02 U	8.58	2.70	4.64		
Gross Beta ⁽⁴⁾	50	8.61	2.76 J	2.2 J	2.06 J	3.3 J	4.8	2.65 U	2.4 U	3.2	1.18 J	1.93 J	3.95	1.85	12.7	12.3	1.63	2.93		
Radium-226 ⁽⁵⁾	5	0.62 J	0.316 J	0.42 J	0.534 J	0.525 U	0.7	1.18	0.592 J	0.8	-0.7 U	0.4	0.138 J	0.159 J	0.805	1.16	0.880	0.269 J		
Radium-228 ⁽⁵⁾	5	1.19	0.472 U	0.374 J	0.567 J	0.316 U	0.6 U	0.126 U	1.24 U	0.9	0.347	4.51	1.14	0.999	0.522 J	0.785	1.04	0.434 J		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Total Alkalinity	NS	150	140	160 J	89 J	140	144	143	137	162	145	148	153	149	150	150	152	154 H	162	
Total Dissolved Solids	500	190 U	200 J	190	250	210	130	203	191	164	39	202	202	189	189	174	200	190	180	
Total Solids	NS																	228	222	
Total Suspended Solids	NS	55	41	47	47	43	46	49.7	44	52	23	47.7	50	47.0	47.0	50.0	22.0	38.0	42.0	
Field Parameters																				
pH (S.U.)	6.5-8.5	7.24	6.98	6.78	NA	6.98	NA	NA	6.82	7.06	6.87	6.82	6.89	6.53	6.37	NA	6.68	6.24	6.06	
Specific Conductivity (mS/cm)	NS	0.335	0.415	0.406	NA	0.372	NA	NA	0.342	0.238	0.305	0.311	0.370	0.317	0.371	NA	0.331	0.402	0.362	
Temperature (°C)	NS	24.21	13.6	17.97	NA	17.07	NA	NA	15.95	16.77	15.43	15.17	14.87	15.84	14.93	NA	16.00	15.35	17.73	
Turbidity (NTU)	NS	29.9	14.3	3.03	NA	9.15	NA	NA	0.0	3.3	0.0	0.1	0.0	1.9	0.0	NA	0.0	1.1	0.0	
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.00	NA	1.9	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-111	-162	-133	NA	-144	NA	NA	-159	-181	-109	-177	-166	-77	-80	NA	-94	-121	-72	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	21D																
Sample Number:	SMCL	21D-20170710	21D-20171004	21D-20180502	21D-20181024	21D	21D	21D_051420	21D	21D	21D	21D	21D	21D	21D	21D	21D	21D
Date Sampled:	(1)	7/10/2017	10/4/2017	5/2/2018	10/24/2018	7/15/2019	11/26/2019	5/14/2020	9/16/2020	4/20/2021	9/27/2021	5/11/2022	9/1/2022	4/26/2023	8/22/2023	4/16/2024	9/4/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	18	0.29 J	0.55	1.2	1.48	0.95	0.811	4.53	2.14	1.29	1.83	1.93	6.21	5.01	0.857	0.923	
Arsenic	0.01	0.0016 J	0.003 U	0.003 U	0.003 U	0.0034	0.010 U	0.00053 J	0.0028	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.0094	0.0012	0.00074	0.00032 J	0.002 U	0.005 U	0.0005 U	0.0009 J	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.015 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	26	19 J	52	66	49.7	82.5	127	65.5	58.5	98.2	38.4	30.2	26.8	15.4	34.2	23	
Iron	0.3	12	3.7 J	1.7	1.4	1.73	0.306	0.126	3.27	0.763	1.07	1.39	1.55	2.26	2.66	0.991	1.53	
Lead	0.015	0.016	0.0025 U	0.0025 U	0.0025 U	0.0006 J	0.010 U	0.00041 J	0.005	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	1.3	0.51 J	0.24 J	0.14 J	0.26	2.5 U	0.25 U	0.481	0.147	0.196	0.208	0.277	0.45	0.533	0.177	0.254	
Manganese	0.05	0.12	0.093 J	0.047	0.019 J	0.0443	0.0065 J	0.004	0.0648	0.028 J	0.0315	0.0384 J	0.0333	0.0418	< 0.0800 U	0.0244	0.0352	
Nickel ⁽²⁾	0.073	0.02	0.0027 J	0.005 U	0.0032 J	0.0043 J	0.020 U	0.0013 J	0.0116	0.0107	0.003 J	0.0019 J	0.0020 U	0.007	0.002 J	0.0232	< 0.0020 U	
Potassium	NS	37	26	40	40 J	33.6	38.8	39.1	29.3	27	47.7	20.8	19.3	18.8	17.3	17.8	16.9	
Sodium	NS	60	47 J	80	82	76.1	82.3	92.3	68.3	66.6	122	53.7	46.6	46.5	37.5	50.1	40.4	
Zinc	5	0.024	0.02 U	0.02 U	0.02 U	0.0087 J	0.10 U	0.015 U	0.0062	0.0066	0.0825	0.0037	0.0020 U	0.0020 J	0.0064	0.0047 J	0.0041 J	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.5 U	0.1 U	0.5 U	0.52	0.207	0.24 J	0.58	0.267 J	0.263 J	0.5 U	0.200 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	11	8	27	38	44	54.6	67.7	53.6	53.3	39.7	23.7	32.2	22.0	12.8	23.8	17.2	
Fluoride	2	0.22	0.18 J	0.2	0.26 J	0.228	0.34	0.31	0.278	0.247	0.5 U	0.228 J	2.00 U	< 2.00 U	< 2.00 U	< 0.0600 H, U	< 2.00 U	
Sulfate	250	15	14	28	28 J	28.5	37.1	40.5	38.5	41.5	37.6	38.7	43.8	26.7	19.6	27.6	25.6	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	0.0021 J	0.05 U	0.05 U	0.006 U	0.11 U	0.1 U	0.06 UJ	0.03 U	0.15 U	0.0600 U	0.0600 U	< 0.0600 U	< 0.0600 U	0.0946 H, J	< 0.0600 H, U	
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 R	0.006 U	0.010 U	0.005 U	0.12 U	0.03 U	0.15 U	0.0600 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 H, U	
Nitrogen, Nitrate-Nitrite	10	0.025 UJ	0.025 U	0.025 U	0.025 UJ	0.012 U	0.10 U	0.095 U	0.06 UJ	0.06 U	0.3 U	0.120 U	0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽⁵⁾	15	61.1	4.08	5.01	4.31	4.2	2.26 U	1.04 U	12.7	2.15 J	1.03 J	0.551 J	-0.147 U	1.12 J	4.56	0.814 J		
Gross Beta ⁽⁴⁾	50	93.1	28.4	32.3	35.7	43.8	35	29	45.7	22.7	18.5	20.8	14.4	7.43	17.6	15.6		
Radium-226 ⁽⁵⁾	5	1.44 U	0.591 J	0.546 J	0.815 U	1	0.87	1.11	0.6	-0.0938 U	0.438 J	0.219 J	0.137 J	0.849	0.625	0.079 U		
Radium-228 ⁽⁵⁾	5	1.4	0.225 U	0.213 U	0.54 U	0.8 U	1.14 U	-0.366 U	0.9	0.0338	-0.827 U	0.141 U	0.883	0.000 U	0.839	0.506		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	180	150	110	240	212	350	427	192	227	199	166	202	78.2	94.6	143 H	98.5	
Total Dissolved Solids	500	1100 J	450	420	450	502	523	569	337	454	406	331	348	224	141	259	136	
Total Solids	NS														268		142	
Total Suspended Solids	NS	200	230	80	77 J	104	17.7	5.4	103	14	3.67	15.0	8.00 J	50.0	43.0	9.0 J	6.0 J	
Field Parameters																		
pH (S.U.)	6.5-8.5	10.68	10.68	11.26	11.91	NA	NA	12.75	11.57	12.85	11.89	11.70	11.05	11.59	10.2	11.64	6.3	
Specific Conductivity (mS/cm)	NS	0.17	0.415	1.07	1.34	NA	NA	2.42	0.762	1.01	0.821	0.725	0.480	0.433	0.284	0.649	5.01	
Temperature (°c)	NS	18.99	13.93	14.84	13.76	NA	NA	13.69	14.4	13.56	14.14	13.41	14.37	13.92	14.31	15.23	14.22	
Turbidity (NTU)	NS	>1000	535	121	111	NA	NA	8.0	42.3	20.9	4.3	20.1	12.7	86.8	82.1	14.8	0.0	
Dissolved Oxygen (mg/L)	NS	0.00	0.44	0.65	0.00	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49	
Oxidation-Reduction Potential (mV)	NS	-53	-159	-300	-220	NA	NA	-205	-65	-238	-187	-219	-30	-65	45	-197	114	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	21S																		
Sample Number:	SMCL	21S-20170710	21S-20171004	21S-20180502	21S-20181024	21S	21S	DUP-112619	21S_051420	21S	21S	21S	21S	21S	DUP-3	21S	21S	21S	21S	DUP-1
Date Sampled:	(1)	7/10/2017	10/4/2017	5/2/2018	10/24/2018	7/15/2019	11/26/2019	11/26/2019	5/14/2020	09/16/2020	4/20/2021	9/27/2021	5/11/2022	9/1/2022	9/1/2022	4/26/2023	8/22/2023	4/16/2024	9/4/2024	9/4/2024
Duplicate of:								21S												
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	55	40 J	50	52	51.2	53.5	52.6	54.8	48	43.1	41.2	40.8	39.0	39.4	40.9	37.9	40.8	37.4	36.8
Arsenic	0.01	0.0063	0.0065	0.017	0.0052	0.005	0.031	0.0305	0.0201	0.001 U	0.0041	0.001 J	0.0010 U	0.0010 U	0.00100 U	0.0015 J	0.005	< 0.0010 U	< 0.0010 U	< 0.0010 U
Beryllium	0.004	0.0068	0.0073	0.0068	0.0075	0.0055 J	0.0071	0.007	0.0069	0.0027	0.0047	0.005 J	0.0035	0.0020 U	0.0020 U	0.0045 J	0.0046 J	0.0054	0.0056	0.0047 J
Cadmium	0.005	0.0079	0.0038	0.004	0.0057	0.0042	0.0046 J	0.0049 J	0.0038	0.0039	0.0037	0.0036 J	0.0037	0.0029 J	0.0028 J	0.0031 J	0.0031 J	0.0033 J	0.0038 J	0.0029 J
Calcium	NS	210	170 J	210	210	196	227	227	270	183	176	184	175	172	173	185	148	163	153	153
Iron	0.3	290	290 J	270	260	269	294	291	375	261	247	249	244	248	249	242	223	232	224	223
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 J	0.0033 J	0.0031 J	0.0013 J	0.0039	0.00055 J	0.002 U	575 U	0.0020 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	190	160 J	200	200	202	211	207	254	184	177	175	178	170	171	172	155	169	156	154
Manganese	0.05	170	170 J	170	170 J	165	183	184	159	151	141	136	138	119	123	128	115	118	119	118
Nickel ⁽²⁾	0.073	0.37	0.39 J	0.4	0.39 J	0.388	0.515	0.514	0.493	0.346	0.252	0.376	0.256	0.0793	0.0869	0.334	0.284	0.268	0.281	0.278
Potassium	NS	11	9.3	12	12 J	12.1	10.3	10.2	12.3	11.2	11.3	10.3	10.8	10.8	11.0	11.2	10.1	9.9	11	10.7
Sodium	NS	360	290 J	360	360	374	401	398	477	360	315	327	330	301	308	317	277	301	285	280
Zinc	5	1.1	1 J	1.1	1.1	1	1.66	1.59	1.75	0.578	0.652	0.825	0.0372	0.815	0.818	0.899	0.847	0.177	0.836	0.799
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	2.6	2.6	2.8	5 U	2.19	1.2	1.2	2.6	2.75	2.62	2.47	2.19	2.55 J	NA	2.36 J	< 2.00 U	2.34 J	2.05 J	2.06 J
Chloride	250	610	610	500	560	443	609	552	528	543	570	498	394	505	NA	402	419	508	379	384
Fluoride	2	2.5 U	0.084 J	0.24	0.61 J	0.0424	0.31	0.29	0.31	0.43	0.301	0.5 U	0.329 J	2.00 U	NA	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	1 U	2500	3400	2900 J	2890	2530	2960	6580	1770	2730	2810	2440	2850	NA	2640	2570	3020	2450	2460
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 U	0.05 U	0.377	0.11 U	0.11 U	0.1 U	0.06 UJ	0.03 U	0.15 U	0.0600 U	0.0600 U	NA	< 0.0600 U	< 0.0600 U	0.0624 H, J	0.0898 H, J	< 0.0600 H, U
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 R	0.006 U	0.010 U	0.010 U	0.0049 J	0.06 UJ	0.03 U	0.15 U	0.0600 U	0.0600 U	NA	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 H, U	< 0.0600 H, U
Nitrogen, Nitrate-Nitrite	10	0.025 UJ	0.025 U	0.025 U	0.086 J	0.377	0.10 U	0.10 U	0.095 U	0.12 U	0.06 U	0.3 U	0.120 U	0.120 U	NA	< 0.120 U	< 0.120 U	< 0.120 U	< 0.300 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	1.46 U	10 U	2.14 U	15.1 U	35.6	16.8	20	22.9	21.0	17.4 J	28.6	14.4	10.4 J	11.6	6.43	27.0	14 J		
Gross Beta ⁽⁴⁾	50	1.42 U	41.4	14.3 U	20.4	48.3	28.5	28.3	21.3	53.6	29.2	46.8	24.1	18.0	20.0	11.6	21.4	18.4		
Radium-226 ⁽⁵⁾	5	0.208 U	1.44	1.58	1.77	8.5	1.1	1.51	1.36	6.0	9.91	1.26	3.72	1.41	1.20	1.90	1.86	1.56		
Radium-228 ⁽⁵⁾	5	-0.486 U	10.2	9.55	10.1	7.4	14.9	15.4	7.48	8.4	0.509	11.4	9.76	9.99	8.99	3.34	11.3	9.08		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	5 U	5 U	5 U	5 U	5 U	5.0 U	5.0 U	4 U	64.3	39.8	5 U	5.00 UJ	5.00 U	NA	44.6	35.9	37.8 H	29.1	29.5
Total Dissolved Solids	500	4700 J	5700	4600	4600	5000	2220	7.0 J	4480	4520	4300	4570	4760	4360	NA	3990	3510	3840	3480	3280
Total Solids	NS																	3860	3490	3300
Total Suspended Solids	NS	5.6	2.5	1.1	1 U	2.6	2.6 J	2.1 J	3 J	2 U	2 U	1.5 J	1.00 J	7.00 J	NA	4.00 J	5.00 J	11.00	8.00 J	16.00
Field Parameters																				
pH (S.U.)	6.5-8.5	3.34	3.49	3.86	3.67	NA	NA	NA	3.46	3.6	3.52	3.51	3.47	3.27	NA	2.79	3.48	3.47	6.30	NA
Specific Conductivity (mS/cm)	NS	4.6	4.93	4.59	5.03	NA	NA	NA	5.96	4.53	4.76	4.69	5.94	4.70	NA	5.72	4.02	4.58	5.01	NA
Temperature (°c)	NS	19.87	17.98	20.22	13.15	NA	NA	NA	14.35	13.87	13.30	13.29	12.88	13.83	NA	13.27	13.89	13.76	13.69	NA
Turbidity (NTU)	NS	2.98	2.85	1	0.81	NA	NA	NA	9.5	0.00	0.0	1.50	0.0	0.0	NA	0.0	0.0	0.0	0.0	NA
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.00	0.00	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	NA
Oxidation-Reduction Potential (mV)	NS	299	236	277	265	NA	NA	NA	251	255	294	315	332	356	NA	385	254	311	114	NA

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-5																		
Sample Number:	SMCL	CSW-5-20170712	DUP-03-20170712	CSW-5-20171017	CSW-5-20180509	DUP-04-20180509	CSW-5-20181025	CSW-5	CSW-5	CSW-5_052220	CSW-5	CSW-5	CSW-5	CSW-5	CSW-5	CSW-5	CSW-5	CSW-5	CSW-5	DUP-2
Date Sampled:	(1)	7/12/2017	7/12/2017	10/17/2017	5/9/2018	5/9/2018	10/25/2018	7/16/2019	11/21/2019	5/22/2020	09/22/2020	4/19/2021	9/30/2021	5/10/2022	8/29/2022	4/25/2023	8/21/2023	4/18/2024	9/5/2024	9/5/2024
Duplicate of:		CSW-5-20170712	CSW-5-20170712			CSW-5-20180509														
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.19	0.23	0.028 J	0.022 J	0.025 J	0.05 J	0.171	0.253	0.42 J	0.0866	0.304	0.231	0.0080 U	0.0080 U	< 0.0800 U	0.122 J	0.0954	< 0.0800 U	0.0944 J
Arsenic	0.01	0.0032	0.0035	0.0033	0.0027 J	0.0027 J	0.0026 J	0.001 J	0.0036	0.0038 J	0.0031	0.0045	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	0.0059	< 0.0010 U	< 0.0010 U	< 0.0010 U
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.000082 J	0.005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0005	0.00049 J	0.00036 J	0.0004 J	0.00042 J	0.00017 J	0.0004 U	0.00098 J	0.0014 J	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	260	260	230	200	190	200	195	210	183	188	185	179	170 J	168	184	147	151	147	148
Iron	0.3	630	590	620	590	610	560	513	618	504	540	518	489	486	482	521	463	458	448	451
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0025	0.0025 J	0.002 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	260	270	200	180	170	180	196	195	167	185	185	166	169	163	167	151	155	144	145
Manganese	0.05	170	160	180	150	160	150	160	150	128	138	130	113	119	106	123	105	110	105	117
Nickel ⁽²⁾	0.073	0.24	0.25	0.2	0.18	0.18	0.18	0.193	0.183	0.21	0.172	0.119	0.169	0.0963	0.142	0.147	0.131	0.13	0.138	0.146
Potassium	NS	19	20	17	14	14	15	15.8	14.8	17	15.6	15.1	14	14.5	15.6	14.9	13.8	13.8	14.3	14.5
Sodium	NS	440	450	350	300	290	310	348	343	281	332	304	286	301	299	302	262	269	259	262
Zinc	5	0.22	0.23	0.18	0.17 J	0.17 J	0.18	0.178	0.185	0.518 U	0.144	0.134	0.121	0.101	0.143	0.162	0.162	0.162	0.161	0.158
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	2.9 J	2.9 J	2.4	4.5 J	3.3 J	2.2 J	1.86	0.98	2.1	2.45	2.36	0.5 U	1.83	2.05 J	2.02 J	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	480	490	500	450	430	440 J	376	422	389	454	480	69.4	320	362	356	375 H	417	324	323
Fluoride	2	1 U	1 U	0.06 U	1 U	1 U	0.1 U	0.02	0.28	0.34	0.2 U	0.1 U	0.737	0.200 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	3200	3200	2800	3000	3200	3200 J	2400	3730	2970	1810	2980	246	1410	2030	1820	2580 H	2770	1830	1840
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	ND	0.05 U	0.05 U	0.05 U	0.0662	0.11 U	0.12	0.06 U	0.03 U	0.15 U	0.0600 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 H, U
Nitrogen, Nitrite	1	ND	ND	ND	0.05 U	0.05 U	0.05 U	0.006 U	0.013	0.0038 J	0.05 U	0.03 U	0.15 U	0.0600 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 H, U	< 0.0600 H, U
Nitrogen, Nitrate-Nitrite	10	0.25 U	0.025 U	0.025 U	0.025 U	0.025 U	0.081 U	0.0662	0.10 U	0.12	0.12 U	0.06 U	0.3 U	0.120 U	0.00600 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	1.23 U	12.2 U	5.73 U	29.9 U	14.4 U	-2.08 U	8.2 U	-2.62 U	4.84 U	6.2 U	-2.37 U	0.75 U	19.0	-0.118 U	7.97 J	3.15 J	-4.58 U		
Gross Beta ⁽⁴⁾	50	17.5 J	9.7 U	1.02 U	11.8 U	19 J	9.4 U	26.1	18.2	16.3	26.3	-3.07 U	16.6	31.3	0.271 J	8.89 J	6.78 J	15.1		
Radium-226 ⁽⁵⁾	5	0.497 J	0.763 J	0.399 J	0.289 J	0.254 J	0.605 J	2	0.469 U	0.551 J	1.7 U	2.32	0.29	0.603	0.111 U	2.23	0.624	0.161 U		
Radium-228 ⁽⁵⁾	5	1.92	1.56	1.28 U	1.97	1.19	1.84	1.5	0.65 U	2.07 J	1.4	0.557	1.52	1.86	0.872	4.43	1.26	2		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	78	82	120	15 J	5 U	94 U	79.5	16	102	115	45.2	38.3	81.4	46.0	50.1	21.6	38.6	100	97.9
Total Dissolved Solids	500	4600	6400	5300 J	4900	4900	4900	5050	4180	4620	4490	4300	4730	4680	4230	482	3700	3800	3560	< 8.00 U
Total Solids	NS																	3840	3600	< 4.00 U
Total Suspended Solids	NS	130	140	10 U	33	31	72	43	87.7	61	71	15	43	39.0	19.0	14.0	46.0	37.0	42.0	42.0
Field Parameters																				
pH (S.U.)	6.5-8.5	5.55	NA	5.31	5.29	NA	5.48	NA	NA	5.39	5.41	5.46	5.35	5.54	5.25	5.18	5.37	5.25	5.25	NA
Specific Conductivity (mS/cm)	NS	3.83	NA	5.34	4.98	NA	4.84	NA	NA	4.84	4.35	4.58	4.67	5.79	4.27	5.64	4.17	4.52	4.82	NA
Temperature (°C)	NS	27.88	NA	14.47	16.9	NA	14.56	NA	NA	15.98	15.98	15.02	14.75	14.94	16.08	15.48	15.95	14.89	16.08	NA
Turbidity (NTU)	NS	9.28	NA	1.67	3	NA	5.51	NA	NA	39.2	0.00	9.9	13.90	0.0	0.6	0.0	0.0	3.5	0.4	NA
Dissolved Oxygen (mg/L)	NS	0.00	NA	0.93	0.00	NA	0.00	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.89	NA
Oxidation-Reduction Potential (mV)	NS	62	NA	36	25	NA	67	NA	NA	41	33	56	43	35	98	147	87	67	69	NA

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-7																	
Sample Number:	SMCL	CSW-7-20170711	CSW-7-20171017	DUP-04-20171017	CSW-7-20180508	CSW-7-20181024	CSW-7	CSW-7	CSW-7_052020	CSW-7	CSW-7	CSW-7	CSW-7	CSW-7	CSW-7	CSW-7	CSW-7	CSW-7	
Date Sampled:	(1)	7/11/2017	10/17/2017	10/17/2017	5/8/2018	10/24/2018	7/10/2019	11/21/2019	5/20/2020	09/22/2020	4/27/2021	9/20/2021	5/4/2022	8/31/2022	4/25/2023	8/28/2023	4/18/2024	9/5/2024	
Duplicate of:				CSW-7-20171017															
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Aluminum	0.05	0.24	0.14	0.14	0.12	0.11	0.282	0.202	0.22 J	0.22	0.192	0.338	0.445	0.533	0.722	0.968	1.49	1.44	
Arsenic	0.01	0.0042	0.0053	0.0041	0.0044	0.0038	0.0033	0.0071	0.0046 J	0.0039	0.0047	0.0016 J	0.0015 J	0.0013 J	0.0030	< 0.0010 U	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.0041	0.0035	0.0042	0.0035	0.0027	0.0042 J	0.0058	0.0069 J	0.0056	0.0059	0.0098 J	0.0092	0.0020 U	0.0225	0.0273	0.0342	0.0377	
Cadmium	0.005	0.00049 J	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.02 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	300	310	290	240	180	242	300	318	227	219	222	229	228	230	210	219	214	
Iron	0.3	320	320	300	280	220	269	321	323	254	242	248	254	256	249	243	248	247	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.00090 J	0.0014 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	250	250	230	210	140	215	255	272	195	189	186	199	193	182	186	192	183	
Manganese	0.05	230	260	260	190	660 J	213	222	181	176	159	152	161	156	162	159	163	168	
Nickel ⁽²⁾	0.073	1.4	1.6	1.5	1.3	0.85 J	1.35	1.57	2.03	1.19	0.944	1.12	0.766	0.0783	1.01	0.993	1.03	1.11	
Potassium	NS	13	13	13	11	8.2 J	12	11.8	12.1	10.6	10.2	9.59	10.6	10.6	9.21	9.37	9.39	9.7	
Sodium	NS	410	420	390	340	240	365	439	456	344	315	301	327	302	304	296	309	304	
Zinc	5	4	4.3	4	3.6	2.4	3.32	4.95	6.88 U	3.14	2.91	2.8	0.0374	3.47	3.41	3.73	0.219	3.5	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Bromide	NS	25 U	2.7	2.7	2.6	4.4 J	1.21	1.3	2.5	2.49	2.15	2.2	2.02	2.49 J	2.13 J	2.01 J	2.11 J	2.25 J	
Chloride	250	730	720	790	550	500	490	657	642	569	551	499	477	522	467	502	664	517	
Fluoride	2	5 U	0.06 U	0.06 U	0.077 J	1 U	0.01	0.093 J	0.12 J	0.2 U	0.1 U	0.335	0.184 J	2.00	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	3000	2500	2500	1 U	1800 J	2810	3200	2860	1560	2260	2430	2330	2.00	1670	2260	2770	1890	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Nitrogen, Nitrate	10	ND	ND	0.0018 J	0.05 U	0.05 U	0.0554	0.11 U	0.1 U	0.06 U	0.03 U	0.06 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	1.1900 H	
Nitrogen, Nitrite	1	ND	ND	ND	0.05 U	0.05 R	0.003 U	0.0032 J	0.005 U	0.06 U	0.03 U	0.06 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 H, U	
Nitrogen, Nitrate-Nitrite	10	0.25 U	0.025 UJ	0.025 UJ	0.025 U	0.077 J	0.0554	0.10 U	0.095 U	0.12 U	0.06 U	0.12 U	0.0600 U	0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	1.190	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	
Gross Alpha ⁽³⁾	15	4.6 U	11.5 U	-6.61 U	7.76 U	3.3 U	15.1	11.8	2.6 U	14.7	1.23 U	0 U	1.46 J	6.39 J	7.26	18.0	5.31 J		
Gross Beta ⁽⁴⁾	50	14	10.6 U	1.54 U	15.4	11.7	27.2	17.1	23.4	33.3	9.72 J	19.4 J	27.3	14.9	15.6	11.8 J	15.2		
Radium-226 ⁽⁵⁾	5	2.14	1.78	1.59	1.89	1.87	3.8	0.946	2.56	4.7	5.64	1.63	1.79	2.17	2.35	3.24	2.14		
Radium-228 ⁽⁵⁾	5	4.81	4.13	3.37	4.31	3.31	4.1	4.67	4.67	4.4	2.49	3.69	3.23	4.56	8.00	5.43	4.10		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Total Alkalinity	NS	21 U	58	57	5 U	5 U	50.6	37	47.5	65	33.9	12.3	5.00 UJ	51.5	42.8	18.1	50.7	54.2	
Total Dissolved Solids	500	4700	5400 J	5400 J	4200	3500	4660	4570	4750	4020	4220 J	3970	4160	3940	3730	3670	4120	3960	
Total Solids	NS																4160	3980	
Total Suspended Solids	NS	30	4.6 U	1 U	13	94 J	41	15.9	10.7	2 U	24 J	14	16.0	12.0	6.00 J	20.0	36.00	22.0	
Field Parameters																			
pH (S.U.)	6.5-8.5	5.43	5.39	NA	5.38	5.3	NA	NA	4.91	5.31	5.24	5.05	5.37	5.09	4.91	5.08	4.97	6.90	
Specific Conductivity (mS/cm)	NS	4.9	5.32	NA	4.81	5.04	NA	NA	5.56	3.98	4.52	4.7	6.09	4.55	5.72	4.61	4.97	5.33	
Temperature (°C)	NS	22.72	17.57	NA	21.06	16.68	NA	NA	15.62	17.28	14.89	14.73	14.24	15.65	14.79	16.14	14.12	16.68	
Turbidity (NTU)	NS	11.4	2.22	NA	6.2	16.5	NA	NA	1.5	8.5	14.1	0.7	31.2	0.0	0.0	0.0	80.2	0.9	
Dissolved Oxygen (mg/L)	NS	0.00	0.00	NA	0.00	0.00	NA	NA	0.00	0.00	0.00	17.10	0.00	0.00	0.00	0.00	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	78	24	NA	74	97	NA	NA	91	52	69	44	58	149	150	87	107	10	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-9																	
Sample Number:	SMCL	CSW-9-20170712	CSW-9-20171006	CSW-9-20180501	CSW-9-20181023	CSW-9	CSW-9	CSW-9_051320	CSW-9	CSW-9	DUP-3-CSW-9	CSW-9	CSW-9	CSW-9	CSW-9	CSW-9	CSW-9	CSW-9	DUP-3
Date Sampled:	(1)	7/12/2017	10/6/2017	5/1/2018	10/23/2018	7/10/2019	11/18/2019	5/13/2020	09/29/2020	4/26/2021	4/26/2021	9/30/2021	5/2/2022	9/7/2022	4/27/2023	8/29/2023	4/15/2024	9/10/2024	9/10/2024
Duplicate of:																			
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.18	0.036 J	0.045 J	0.064 J	0.115	0.0709	0.0469 J	0.0791	0.036 J	0.0329 J	0.123 J	0.0199 J	0.0080 U	< 0.0800 U	0.148 J	0.156	0.13 J	0.138 J
Arsenic	0.01	0.003 U	0.0023 J	0.003 U	0.0022 J	0.001 U	0.0012 J	0.00054 J	0.001 J	0.0015 J	0.0013 J	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	0.0048	< 0.0010 U	< 0.0010 U	< 0.0010 U
Beryllium	0.004	0.0088	0.0088 J	0.0086	0.0081	0.0069 J	0.0113	0.0095	0.0018 J	0.0063	0.0066	0.0076 J	0.0055	0.0059 J	0.0076	0.0083	0.0082	0.0084	0.0086
Cadmium	0.005	0.00057	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	320	270 J	290	270	254	303	274	235	259	259	265	259	264	283	250	283	260	258
Iron	0.3	620	620 J	610	660	572	611	630	648	599	596	614	611	633	672	639	678	646	643
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0116	0.00032 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	260	200 J	210	210	206	221	185	190	206	206	203	209	207	209	205	233	206	206
Manganese	0.05	180	190 J	180	190	206	204	172	143	169	169	168	170	172	185	174	190	181	171
Nickel ⁽²⁾	0.073	0.59	0.53 J	0.53	0.48	0.531	0.6	0.468	0.305	0.369	0.347	0.532	0.429	0.285	0.435	0.429	0.452	0.478	0.454
Potassium	NS	16	13 J	14	14	14.3	14.3	14	12.4	13.8	13.9	13.3	14.0	14.1	13.2	12.8	13.3	13.6	13.7
Sodium	NS	350	350 J	370	360	367	415	332	335	374	378	362	368	357	375	355	397	370	373
Zinc	5	0.02	0.01 J	0.017 J	0.016 U	0.0315	0.123	0.0119 J	0.0024	0.0239	0.0235	0.0215	0.0203	0.0221	0.0193	0.0104	0.0036 J	0.0149	0.0161
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	3.1 J	2.6	2.4	50 U	1.03	2.2	2.8	0.115	2.53	2.57	2.61	2.43	3.40 J	< 0.200 U	2.75 J	2.77 J	2.81 J	2.81 J
Chloride	250	650	680	590	630	500	660	562	31.7	639	646	641	562	604	619	692	795	609	615
Fluoride	2	1 U	0.06 U	0.1 UJ	10 U	0.01	0.19 J	0.1 J	0.01 U	0.1 U	0.1 U	0.5 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	3400	2900	2800	2900	3190	3280	7040	128	1720 J	2870 J	3060	3040 J	2700	3030	3310	3720	30500	3120
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 U	0.05 U	0.151	0.11 U	0.1 U	0.003 U	0.03 U	0.03 U	0.15 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.003 U	0.010 U	0.019	0.003 U	0.03 U	0.03 U	0.15 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.025 U	0.08 UJ	0.151	0.10 U	0.095 U	0.006 U	0.06 U	0.06 U	0.3 U	0.0600 U	0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	13 U	-1.42 U	-3.05 U	6.01 U	10.4	8.12 U	4.08 U	6.3 U	-6 U	-3.34 U	3.31 U	5.11 J	-9.74 U	-0.445 U	< 2.84 U	-3.27 U		
Gross Beta ⁽⁴⁾	50	4.02 U	13.6 U	7.08 U	10.7 U	17.8	12.6	9.01 U	17.7	-0.274 U	11.4 J	15.1 J	19.4	-12.3 U	9.41	19.2	4.26 U		
Radium-226 ⁽⁵⁾	5	0.854 J	0.728 J	0.662 J	0.973 U	1.8	1.92	0.768 J	0.8	0.782	1.33	0.712	0.872	0.557 J	0.552	1.17	1.23		
Radium-228 ⁽⁵⁾	5	1.32	2.11 U	1.27	0.861 J	2	1.49	1.01 U	1.1	0.72	0.856	2.42	1.70	1.24	3.16	2.01	1.17		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	43	22	83	5 U	38.5	30	54	9.31 J	9.85 J	5.84 J	27.2	23.7	5.00 U	17.5	22.5	19.1 H	5.79 J	<5.00 U
Total Dissolved Solids	500	5300	5600	5100	5400	5740	5420	5050	4290	5980	5820	5910	6000	5840	5640	1110	5650	5680	5150
Total Solids	NS															5690	5680	5870	
Total Suspended Solids	NS	86	54	6.1	54	48	12.8	24	162	59	62	49	18.0	12.0	39.0	19.0	40.0	< 4.00 U	720.0
Field Parameters																			
pH (S.U.)	6.5-8.5	5.62	5.09	5.55	5.54	NA	NA	5.42	5.7	5.36	NA	5.28	5.45	5.20	4.95	5.36	5.33	5.18	NA
Specific Conductivity (mS/cm)	NS	4.04	5.21	5.75	5.38	NA	NA	5.84	4.21	5.64	NA	6.07	6.95	6.06	7.35	5.38	6.27	7.28	NA
Temperature (°C)	NS	27.22	19.55	15.24	16.18	NA	NA	14.80	14.52	14.82	NA	13.88	14.02	15.01	14.57	15.3	14.25	15.26	NA
Turbidity (NTU)	NS	3.92	1.44	2.01	1.6	NA	NA	3.4	6.9	0.0	NA	0.0	0.0	0.0	0.0	0.0	0.0	0.0	NA
Dissolved Oxygen (mg/L)	NS	0.00	0.6	0.00	0.00	NA	NA	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NA
Oxidation-Reduction Potential (mV)	NS	54	40	26	43	NA	NA	7	-13	65	NA	28	9	73	100	65	42	40	NA

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-10																
Sample Number:	SMCL	CSW-10-20170628	CSW-10-20171003	CSW-10-20180426	CSW-10-20181017	CSW-10	CSW-10	CSW-10_051320	CSW-10	CSW-10	CSW-10	CSW-10	CSW-10	CSW-10	CSW-10	CSW-10	CSW-10	CSW-10
Date Sampled:	(1)	6/28/2017	10/3/2017	4/26/2018	10/17/2018	7/10/2019	11/18/2019	5/13/2020	9/24/2020	4/28/2021	9/29/2021	5/10/2022	8/31/2022	4/27/2023	8/29/2023	4/15/2024	9/11/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	37	31	34	35	35.7	32.7	36.3	36.1	35.4	36.3	36.1	33.4	36.2	37.3	34.1	38.9	
Arsenic	0.01	0.0058	0.0093	0.011	0.011	0.0042	0.0150 J	0.0125	0.0055	0.0031	0.001 U	0.0010 U	0.0010 U	0.0010 J	< 0.0010 U	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.023	0.02	0.02	0.023	0.0154	0.0211	0.0202	0.0204	0.009	0.0171	0.0107	0.0054 J	0.0174	0.0182	0.0192	0.0183	
Cadmium	0.005	0.007	0.0032	0.0024	0.0027	0.0027	0.0022 J	0.002 J	0.0026	0.0027	0.0027 J	0.0031	0.0026 J	0.0028 J	0.0026 J	0.0034 J	0.0029 J	
Calcium	NS	300	270	280	290	265	275	280	260	250	259	248	238	260	246	211	249	
Iron	0.3	460	510	423	500	423	483	366	438	417	435	420	408	435	444	372	453	
Lead	0.015	0.0054	0.0051	0.0044	0.0046	0.0041	0.0064	0.0109	0.003	0.0033	0.0029 J	0.0029	0.0029 J	0.0026 J	0.0026 J	0.0024 J	0.0029 J	
Magnesium	NS	270	220	230	240	233	224	163	224	217	217	230	209	210	218	191	220	
Manganese	0.05	210	240	230	240	204	206	181	202	190	192	191	161	164	204	150	141	
Nickel ⁽²⁾	0.073	0.63	0.53	0.52	0.51	0.472	0.502	0.555	0.483	0.419	0.489	0.315	0.102	0.514	0.506	0.381	0.36	
Potassium	NS	20	17	19	20	19.8	18	14.5	19.6	18.4	17.5	18.5	17.5	17.3	17.3	13.8	18.3	
Sodium	NS	440	420	510	480	485	468	330	473	453	447	458	448	442	444	386	463	
Zinc	5	1.6	1.4	1.3	1.3	1.22	1.54	1.68	1.16	1.15	1.05	0.0421	1.19	1.55	1.54	0.233	1.74	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	5.9 J	2.9	2.8	47 J	1.32	2.3	3.2 J	3.03	3.14	3.37	2.58	3.30 J	< 0.200 U	3.08 J	3.16 J	3.24 J	
Chloride	250	770	790	660	690	828	649	651	804	697	808	617	683	691	730	813	753	
Fluoride	2	1.6 J	0.25	1.4	10 U	0.467	1.5	1.3 J	1.28	0.1 U	2.3	1.35	2.00 U	< 2.00 U	< 2.00 U	2.870 J	< 2.00 U	
Sulfate	250	3300	3200	3700	3300	3470	3240	6440 J	2760	3840	3740	1720	2880	3280	3420	3780	2840	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	NA	0.05 U	0.137	0.11 U	0.1 U	0.06 U	0.03 U	0.15 UJ	0.0600 U	0.0600 U	< 0.0600 U	0.146 J	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrite	1	ND	ND	NA	0.05 UJ	0.003 U	0.010 U	0.005 U	0.06 U	0.03 U	0.15 UJ	0.0600 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.25 U	0.025 U	0.025 U	0.042 U	0.137	0.10 U	0.095 U	0.12 U	0.06 U	0.3 UJ	0.120 U	0.120 U	< 0.120 U	0.146 J	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	50.7	6.49 U	21.9 U	35.8	60	33.6	22 U	38.4	19.2	32.3	30.3	42.8	0.0155 U	82.3	51.9		
Gross Beta ⁽⁴⁾	50	28	57.4	39.9	34.1	96.7	37.7	51.8	89.2	36.6	70.9	61.1	38.4	-0.445 U	61.2	72		
Radium-226 ⁽⁵⁾	5	1.23	1.21	1.3	1.8	9.5	1.79	0.918 J	7.3	20.2	1.89	2.47	3.34	0.483	4.76	5.63		
Radium-228 ⁽⁵⁾	5	10.8	0.676 J	14.1	17.2	15.3	21.8	23.2	16.0	1.17	30.5	17.7	20.6	1.18	26.1	18.3		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	5 U	5 U	5 U	5 U	5 U	5.0 U	4 U	24.6	11.4	26.4	5.00 UJ	23.8	31.0	< 5.00 U	31.6 H	27.5	
Total Dissolved Solids	500	6000	6600	6200	6100	6280	4860	5290	6080	5750	6360	6160	5750	5600	5390	5800	5220	
Total Solids	NS															5830	5240	
Total Suspended Solids	NS	23	15	11	23	6	121	30.8	12 J	10 U	31.4	1.00 J	37.0	60.0	12.0	32.0	17	
Field Parameters																		
pH (S.U.)	6.5-8.5	3.92	3.72	4.08	3.98	NA	NA	3.92	3.96	3.72	3.91	4.00	3.62	3.18	3.78	3.80	5.26	
Specific Conductivity (mS/cm)	NS	6.13	6.3	5.78	6.4	NA	NA	6.12	5.6	6.01	6.01	7.78	5.94	7.71	5.6	6.42	7.14	
Temperature (°c)	NS	14.83	15.99	17.99	14.84	NA	NA	15.02	17.12	17.13	18.09	16.50	16.05	15.46	15.86	16.54	19.11	
Turbidity (NTU)	NS	5.3	9.92	11.7	17.9	NA	NA	15	55.5	0.0	91	0.0	0.0	0.0	0.0	5.8	1.9	
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.00	0.00	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	219	175	183	226	NA	NA	196	218	263	248	238	311	277	181	244	135	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-13																				
Sample Number:	SMCL	CSW-13-20170630	CSW-13-20171003	CSW-13-20180502	CSW-13-20181019	CSW-13	DUP-4	CSW-13	DUP-112219	CSW-13_051420	CSW-13	CSW-13	CSW-13	CSW-13	DUP-1	CSW-13	CSW-13	CSW-13	DUP-1	CSW-13	CSW-13	
Date Sampled:	(1)	6/30/2017	10/3/2017	5/2/2018	10/19/2018	7/15/2019	7/15/2019	11/22/2019	11/22/2019	5/14/2020	9/17/2020	4/20/2021	9/27/2021	5/3/2022	5/3/2022	9/8/2022	4/26/2023	8/22/2023	8/22/2023	4/16/2024	9/4/2024	
Duplicate of:							CSW-13		CSW-13						CSW-13							
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Aluminum	0.05	1.3	0.17	0.2	0.64	3.07	3.06	0.652	0.876	0.755	0.53	2.15	1.69	1.43	1.44	1.03	0.735	0.532	0.559	0.381	0.495	
Arsenic	0.01	0.0031	0.0022 J	0.0024 J	0.0029 J	0.0016 J	0.0015 J	0.0029	0.0032	0.0025	0.001 U	0.0014 J	0.0011 J	0.0013 J	0.0015 J	0.0014 J	0.0012 J	0.0015 J	0.0012 J	0.0012 J	< 0.0010 U	
Beryllium	0.004	0.003	0.0004 U	0.00069 U	0.0018	0.0037 J	0.0039 J	0.0018	0.0023	0.0018	0.0018 J	0.0035	0.0024	0.0028	0.0026	0.0024 J	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.003 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	25	19	20	17	24.4	24.7	21.3	19.9	25.2	13.4	19.9	18	17.1	17.4	12.5	12.2	8.55	8.69	11.7	8	
Iron	0.3	57	39	47	43	74.8	75.7	58.1	57.5	72	41.1	62.3	58.8 U	56.2	57.1	39.6	36.5	26.7	27.1	39.5	26.3	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0004 U	0.00017 J	0.00017 J	0.00059 J	0.0004 U	0.0004 U	0.002	0.0004 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	14	8.8	10	9.3	19.1	18.9	12.3	12.3	13.3	9.21	14.6	12.9	12.3	12.5	8.83	8.28	6.39	6.53	8.42	5.91	
Manganese	0.05	2.6	1.7	1.9	1.7	3.25	3.18	2.28	2.26	3.23	1.58	2.37	2.06	1.96	1.99	1.31	1.30	0.876	0.890	1.16	0.908	
Nickel ⁽²⁾	0.073	0.053	0.019	0.026	0.033	0.0787	0.0771	0.0337	0.0392	0.0401	0.0317	0.0616	0.0648	0.0433	0.0429	0.0392	0.0371	0.0283	0.0300	0.0285	0.0293	
Potassium	NS	3.2	2.6	2.9	2.4	2.55	2.52	2.62	2.4	2.78	2.27	2.16	1.99	2.22	2.26	1.86	2.08	1.78	1.75	1.92	1.7	
Sodium	NS	39	27	32	30	51.3	52.1	36.1	37.9	36.2	35.2	42.5	39.5	43.0	43.7	33.3	33.7	30.4	30.4	35.2	30.6	
Zinc	5	0.16	0.034	0.074	0.11	0.323	0.319	0.134	0.166	0.139	0.124	0.241	0.238	0.19	0.188	0.175	0.138	0.113	0.112	0.0816	0.123	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Bromide	NS	0.26 J	0.16 J	0.5 U	0.38 J	0.262	0.256	0.50 U	0.50 U	0.28 J	0.232 J	0.291 J	0.5 U	0.214 J	0.239 J	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	81	53	54	61	70.1	70	62.1	64.5	59.1	69.2	87.1	63.9	66.0	66.6	72.2	68.6	62.6	61.2	65	58.5	
Fluoride	2	0.14	0.083 J	0.14	0.083 J	0.067	0.0727	0.2	0.21	0.16 J	0.2 U	0.1 U	0.5 U	0.100 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	45	81	180	190	239	238	194	195	158	119	289	195	161	161	145	112	83.7	84.3	87.8	79	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Nitrogen, Nitrate	10	ND	0.0017 J	0.05 U	0.05 U	0.006 U	0.006 U	0.11 U	0.11 U	0.1 U	0.06 U	0.03 U	0.15 U	0.0300 U	0.0300 U	0.206	< 0.0600 U	< 0.0600 U	< 0.0600 U	0.0945 H, J	< 0.0600 H, U	
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 UJ	0.006 U	0.006 U	0.010 U	0.010 U	0.005 U	0.06 U	0.03 U	0.15 U	0.0300 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 H, U	
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.025 U	0.01 J	0.012 U	0.012 U	0.10 U	0.100 U	0.095 U	0.12 U	0.06 U	0.3 U	0.0600 U	0.0600 U	0.206 J	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	
Gross Alpha ⁽³⁾	15	1.29 U	0.87 U	1.41 U	2.69 U	7.7	4.6	1.55 U	3.63 U	2.25 U	2.5	4.78	4.08	0.823	3.36	3.59	3.32 J	3.92	0.976	1.42		
Gross Beta ⁽⁴⁾	50	4.5 U	2.38 J	3.07 J	2.03 J	3.1	3.4	1.55 U	1.43 U	4.78 J	4.8	3.2	7.47	6.07	5.87	6.14	15	2.52	1.74	2.24		
Radium-226 ⁽⁵⁾	5	0.564 J	0.33 J	0.296 J	0.647 U	0.2	1.8	1.56	1.1	0.773 J	0.9	-0.389 U	0.716	1.15	1.63	0.683	0.964	0.706	0.191	0.531		
Radium-228 ⁽⁵⁾	5	0.204 U	0.38 U	-0.00193 U	0.254 U	0.7 U	0.7 U	1.65	1.22 U	0.68 U	0.8 U	0.732	1.25	0.589 J	1.59	0.290 J	3.47	0.803	0.525	0.802		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Total Alkalinity	NS	33	5 U	5 U	33	5 U	5 U	40	23	52.5	5 U	6.79 J	6.98 J	6.33 J	7.69 J	5.40 J	5.51 J	8.73 J	8.79 J	28.4 H	< 5.00 U	
Total Dissolved Solids	500	470	320	340	340	739	704	372	373	416	334 J	640	528	585	552	314	296	188	179	359	163	
Total Solids	NS																			362	178	
Total Suspended Solids	NS	38	29	7	8.1	3.2	4	7.8	6.1	11.8	2 U	2 U	2 J	2.80	2.40	2.00 U	2.00 J	4.00 J	5.00 J	3.00 J	15.00	
Field Parameters																						
pH (S.U.)	6.5-8.5	5.8	5.67	6.14	5.4	NA	NA	NA	NA	5.88	5.35	4.80	4.94	5.39	NA	4.17	4.34	4.79	NA	5.5	4.8	
Specific Conductivity (mS/cm)	NS	0.577	0.55	0.562	0.531	NA	NA	NA	NA	0.672	0.316	0.613	0.576	0.708	NA	0.478	0.465	0.378	NA	0.472	0.403	
Temperature (°c)	NS	17.85	16.3	16.35	15.66	NA	NA	NA	NA	14.50	14.24	13.82	13.53	13.40	NA	14.21	13.91	14.1	NA	15.63	14.52	
Turbidity (NTU)	NS	3.61	1.53	7.31	1.15	NA	NA	NA	NA	24.2	0.00	0.1	0.00	0.0	NA	0.0	0.0	0.0	NA	0.0	0.0	
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.00	0	NA	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	NA	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	46	-54	-30	54	NA	NA	NA	NA	-101	29	144	101	83	NA	215	164	140	NA	57	110	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-27																																									
Sample Number:	SMCL	CSW-27-20170714	DUP-04-20170714	CSW-27-20171011	CSW-27-20180427	CSW-27-20181029	CSW-27	CSW-27	CSW-27_051520	CSW-27	DUP-1	CSW-27	CSW-27	CSW-27	CSW-27	DUP-1	CSW-27	CSW-27	CSW-27	DUP-2	CSW-27																						
Date Sampled:	⁽¹⁾	7/14/2017	7/14/2017	10/11/2017	4/27/2018	10/29/2018	7/11/2019	11/20/2019	5/15/2020	09/21/2020	9/21/2020	4/26/2021	9/22/2021	5/5/2022	8/30/2022	8/30/2022	4/24/2023	8/21/2023	4/17/2024	4/17/2024	9/11/2024																						
Duplicate of:		CSW-27-20170714									CSW-27																																
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L																						
Aluminum	0.05	0.21		0.23	0.16	0.34	0.32	1.78	1.27	1.54	0.59	0.608	1.64	0.764	1.12	1.25	1.27	1.38	1.25	4.4	4.25	0.985																					
Arsenic	0.01	0.0017	J	0.003	U	0.004	0.0045	0.0046	0.0026	0.0042	0.001	J	0.001	U	0.005	0.0014	J	0.0026	0.0037	0.0036	0.0061	0.0027	0.0021	0.0026																			
Beryllium	0.004	0.0004	U	0.0004	U	0.0004	U	0.00017	J	0.00018	J	0.00054	J	0.0004	J	0.0011	J	0.0002	U	0.0020	U	< 0.0020	U	< 0.0020	U																		
Cadmium	0.005	0.0004	U	0.0004	U	0.0004	U	0.00026	J	0.0012	J	0.00075	J	0.00045	J	0.0004	U	0.0004	U	0.0034	0.002	U	0.0016	J	0.0026	J	0.0028	U	0.0029	J	0.0041	J	0.0087	0.0085	< 0.0020	U							
Calcium	NS	150	J	150	J	160	J	140		130		114		104		90.4		89.6		81.9		92.4		83.5		98.2		99.1		92.2		83.5		91.2		88.7		76.1					
Iron	0.3	330	J	360	J	380		320		290		247		230		219		186		181		124		200		147		155		156		154		144		103		102		174			
Lead	0.015	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0005	J	0.0017	J	0.0011	J	0.0004	U	0.0004	U	0.0004	U	0.0002	U	0.0004	U	0.0020	U	0.0020	U	< 0.0020	U	< 0.0020	U	< 0.0020	U	< 0.0020	U				
Magnesium	NS	140	J	150	J	150		140		130		117		102		95.8		91.2		95.8		84.6		90.9		86.2		90.9		92.1		87.1		86.2		83.7		81.8					
Manganese	0.05	88	J	91	J	92	J	86		82	J	75.7		65.8		62.8		60		58.3		50.6		57.6		53.7		57		59.3		59.1		55.3		61.4		61.8		52.8			
Nickel ⁽²⁾	0.073	0.055	J	0.06	J	0.059		0.058	J	0.069	0.0862	0.0509	0.0824	0.0858	0.0859	0.239	0.107	0.146	0.215	0.214	0.235	0.251	0.438	0.432	0.0968																		
Potassium	NS	19		21		21	J	19	J	16.5		15.4		15.2		13.8		13.8		11.8		13.8		12.3		13.1		13.3		12.6		12.4		12		11.6		13					
Sodium	NS	260	J	290	J	300		280		250		240		221		184		183		177		132		221		153		170		168		160		149		115		114		175			
Zinc	5	0.033	J	0.037	J	0.036		0.064	J	0.11		0.212		0.079		0.233		0.142		0.142		0.306		0.282		0.242		0.491		0.507		0.688		0.663		0.943		0.908		0.29			
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L				
Bromide	NS	10	U	10	U	2.7		2.6		2	J	1.9		2		2.2		2.06		2.01		1.42		2.06		1.38		2.00	U	2.00	U	1.59		< 2.00	U	< 2.00	U	< 2.00	U	< 2.00	U		
Chloride	250	490		500		450		420		380	J	325		336		320		304		305		214		327		202		268		268		224		222		172		181		256			
Fluoride	2	2	U	2	U	0.06	UJ	0.2	U	0.2	UJ	0.0577		0.37		0.18	J	0.2	U	0.2	U	0.26		0.2	U	0.157	J	2.00	U	2.00	U	< 2.00	U	< 2.00	U	< 2.00	U	< 2.00	U	< 2.00	U	< 2.00	U
Sulfate	250	1700		1700		1400		1700		1600	J	1420		1530		1860		943		950		930		1170		1170		1090		1080		927		934		1030		1070		1030			
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L					
Nitrogen, Nitrate	10	ND		ND		0.0032	J	NA		0.05	U	0.281		0.11	U	0.1	U	0.0986	J	0.03	U	0.06	U	0.0300	U	0.00300	U	0.00300	U	< 0.0600	U	< 0.0600	U	0.0961	J	< 0.0600	U	< 0.0600	U	< 0.0600	U		
Nitrogen, Nitrite	1	ND		ND		ND		NA		0.05	U	0.006	U	0.0099	J	0.005	U	0.06	U	0.06	U	0.03	U	0.0300	U	0.00300	U	0.00300	U	0.00300	U	< 0.0600	U	< 0.0600	U	< 0.0600	U	< 0.0600	U	< 0.0600	U	< 0.0600	U
Nitrogen, Nitrate-Nitrite	10	0.25	U	0.25	U	0.025	U	0.025	UJ	0.066		0.281		0.10	U	0.095	U	0.12	U	0.12	U	0.06	U	0.12	U	0.0600	U	0.00600	U	0.00600	U	< 0.120	U	< 0.120	U	< 0.120	U	< 0.120	U	< 0.120	U	< 0.120	U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L					
Gross Alpha ⁽³⁾	15	17.8	U	11.7	U	10.4	U	6.63	U	4.51	U	4.3	U	2.59	U	2.08	U	6.5		5.6		0.326	U	2.65	J	1.83	U	6.46		3.68	J	2.11	J	9.00		1.75	U	-0.936	U				
Gross Beta ⁽⁴⁾	50	22.5	J	14.9	J	17.2		17.1		7.8	U	24.4		18.7		12.4		29.4		22.5		5.94		17.5		23.2		13.8		16.8		14.1		12.2		14		12.4					
Radium-226 ⁽⁵⁾	5	0.359	J	0.352	J	0.27	U	0.22		0.133	U	1.1		0.605		0.799	J	1.4		1.5		2.64		0.19	J	0.358		0.272		0.565		0.663		0.666		0.473		0.494					
Radium-228 ⁽⁵⁾	5	1.16		1.34		2.15		1.15		0.484	U	2.9		2.55		1.65	J	1.7		2.1		0.13	J	4.15		2.59		2.30		2.75		2.45		2.71		4.4		3.77					
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L				
Total Alkalinity	NS	91		93		67		59		47		109		101		80.5		80.8		84.3		33.4		72.1		40.5		52.3		52.6		33.8		36.7		24.9		23.1		49			
Total Dissolved Solids	500	3500		3600		3300		2900		2600		2790		2130		2460		2100		2160		2010		2460		2030		2190		2140		1900		1920		1770		1740		1770			
Total Solids	NS																																										
Total Suspended Solids	NS	82		140		100		46		51		34		31.2		28.5		18		18		16		8	J	4.00		14.0		13.0		< 2.00	U	6.00	J	12.00		8.00	J	8.00	J		
Field Parameters																																											
pH (S.U.)	6.5-8.5	6.05		NA		5.64		5.35		5.47		NA		NA		4.85		5.26		NA		4.88		5.15		5.21		4.92		NA		4.69		4.98		4.73		NA		4.54			
Specific Conductivity (mS/cm)	NS	3.67		NA		4		3.46		3.45		NA		NA		3.21		2.26		NA		2.11		2.76		2.84		2.63		NA		2.87		2.34		2.29		NA		2.75			
Temperature (°C)	NS	23.62		NA		18.24		15.79		16.84		NA		NA		18.45		14.86		NA		14.91		16.19		15.33		15.65		NA		15.28		15.29		15.36		NA		18.92			
Turbidity (NTU)	NS	18		NA		10.2		9.12		19		NA		NA		39.1		0.00		NA		4.40		2.4		0.0		0.0		NA		0.00		0.0		9.3		NA		2.1			
Dissolved Oxygen (mg/L)	NS	0.00		NA		0.00		0.94		0.00		NA		NA		0.00		0.00		NA		0.00		0.00		0.00		0.00		NA		0.00		0.00		0.00		NA		0.00			
Oxidation-Reduction Potential (mV)	NS	10		NA		-30		-19		68		NA		NA		80		53		NA		117		118		132		95		NA		120		68		158		NA		140			

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-28																
Sample Number:	SMCL	CSW-28-20170714	CSW-28-20171011	CSW-28-20180427	CSW-28-20181026	CWS-28	CSW-28	CSW-28_051520	CWS-28	CSW-28	CSW-28	CSW-28	CSW-28	CSW-28	CSW-28	CSW-28	CSW-28	CSW-28
Date Sampled:	(1)	7/14/2017	10/11/2017	4/27/2018	10/26/2018	7/16/2019	11/20/2019	5/15/2020	09/21/2020	4/26/2021	9/28/2021	5/5/2022	8/30/2022	4/24/2023	8/21/2023	4/17/2024	9/11/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	3.5	13	15	13	16.7	7.87	14.6	16.8	25.2	21.3	20.8	14.9	14.4	13.9	17.7	14.4	
Arsenic	0.01	0.0081	0.016	0.012	0.012	0.0019 J	0.0204	0.0154 J	0.001 U	0.0067	0.001 U	0.0012 J	0.0018 J	0.0017 J	0.0068	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.0031	0.0094	0.0062	0.007	0.0046 J	0.0047	0.0064	0.0063	0.005	0.0064 J	0.0039	0.0020 U	0.0053	0.0049 J	0.0056	0.0054	
Cadmium	0.005	0.0023	0.04 U	0.0004 U	0.0021	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	230 J	260 J	190	210	224	236	236	230	222	234	239	250	250	220	226	229	
Iron	0.3	470 J	540	390	400	398	418	376	406	385	392	425	386	442	412	406	433	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.00087 J	0.00046 J	0.0004 U	0.0004 U	0.002 U	0.0007 J	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	220 J	270	200	230	234	222	216	227	223	216	234	226	215	210	216	214	
Manganese	0.05	150 J	200 J	150	150	192	173	166	183	172	167	181	184	192	175	175	174	
Nickel ⁽²⁾	0.073	0.55 J	0.84	0.69 J	0.69	0.755	0.632	0.717	0.783	0.63	0.744	0.438	0.143	0.709	0.733	0.695	0.702	
Potassium	NS	27	26	18 J	24	25.5	25.6	26.8	22.6	19.9	19.3	18.9	20.4	19.4	18.7	18.2	19.3	
Sodium	NS	360 J	420	330	380	443	427	411	461	442	429	457	450	464	437	457	473	
Zinc	5	0.96 J	1.5	1.2 J	1	1.32	0.692	1.78	1.09	1.38	1.15	0.0416	1.27	1.29	1.58	0.254	1.76	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	5 U	2.5	2.6	4.6 J	2.44	1.9	2.9	114	3	3.21	3.08	3.34	3.31	3.09 J	3.56 J	3.54 J	
Chloride	250	720	680	590	700 J	660	702	639	112	372 J	827	811 J	743	680	844 H	908	874	
Fluoride	2	0.88 J	0.51 J	1	1.2 J	0.306	1.1	0.79	114	0.753	1.19	0.797	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	2900	2600	2800	2700 J	2410	3300	4650	113	1200 J	2920	2360	2330	1990	2770 H	3140	2470	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	0.0025 J	NA	0.1 U	0.144	0.11 U	0.1 U	25.3	0.03 U	0.15 U	0.0300 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrite	1	ND	ND	NA	0.1 U	0.006 U	0.0096 J	0.005 U	3.67	0.03 U	0.15 U	0.0300 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.25 U	0.025 U	1.8 J	0.023 J	0.144	0.1 U	0.095 U	29	0.06 U	0.3 U	0.0600 U	0.00600 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	14.4 U	7.93 U	22.2 U	3.09 U	13.7	5.17 U	13.4 U	20.1	-9.94 U	7.48 J	22.4	39.9	18.2	30.3	39.7		
Gross Beta ⁽⁴⁾	50	24.1	18.6	18.8	571	34	26.1	18.7	51.6	-3.31 U	15.7 J	42.3	50.1	30.5	26.5	20.7		
Radium-226 ⁽⁵⁾	5	0.798 J	0.814 J	1.4	2	4.4	0.635	1.06	4.0	4.86	1.8	2.28	2.42	2.44	2.25	2.83		
Radium-228 ⁽⁵⁾	5	1.53	2.36	3.57	4.19	4.6	3.73	4.74	4.0	1.56	5.34	4.09	3.68	4.92	2.81	5.64		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	28	9.1	5 U	10	5 U	36	21	12.8	5 U	13.1	5.00 U	14.5	27.8	10.2	< 5.00 U	< 5.00 U	
Total Dissolved Solids	500	5000	5500	5100	5400	5470	4750	4000	5460	5620	5570	5680	5350	5170	5330	5330	5290	
Total Solids	NS															5360	5300	
Total Suspended Solids	NS	130	200	36	66	11.6	78	50	42	42	44	177	25.0	16.0	31.0	29.0	15.0	
Field Parameters																		
pH (S.U.)	6.5-8.5	6.08	5.59	4.98	5.2	NA	NA	5.10	4.9	4.61	4.83	5.28	4.68	4.63	4.68	4.73	4.58	
Specific Conductivity (mS/cm)	NS	4.8	5.6	5.33	5.76	NA	NA	5.70	5.43	5.74	6.16	7.70	5.58	7.83	5.87	6.36	7.32	
Temperature (°C)	NS	23.99	18.59	13.37	13.57	NA	NA	15.15	15.1	14.40	14.83	14.26	15.41	14.89	15.00	14.17	15.30	
Turbidity (NTU)	NS	59.6	75.6	8.83	44.5	NA	NA	22.1	40.4	46.1	30.1	16.4	1.2	0.00	0.0	1.0	0.0	
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.00	0.00	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-62	-30	45	44	NA	NA	66	83	149	119	117	200	125	108	126	158	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-29																					
Sample Number:	SMCL	CSW-29-20170627	CSW-29-20171003	DUP-01-20171003	CSW-29-20180426	DUP-01-20180426	CSW-29-20181017	CSW-29	CSW-29	CSW-29_051320	CSW-29	CSW-29	CSW-29	DUP-1-CSW-29	CSW-29	CSW-29	CSW-29	CSW-29	DUP-2	CSW-29	DUP-1	CSW-29	
Date Sampled:	(1)	6/27/2017	10/3/2017	10/3/2017	4/26/2018	4/26/2018	10/17/2018	7/10/2019	11/18/2019	5/13/2020	09/24/2020	4/28/2021	9/21/2021	9/21/2021	5/10/2022	8/31/2022	4/27/2023	8/29/2023	8/29/2023	4/15/2024	4/15/2024	9/11/2024	
Duplicate of:				CSW-29-20171003		CSW-29-20180426																	
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Aluminum	0.05	0.05 U	0.043 J	0.042 J	0.05 U	0.02 J	0.022 J	0.0192 J	0.0848	0.0446 J	0.112	0.0215 J	0.226	0.22	0.0218 J	0.088	< 0.0800 U	0.160 J	0.121 J	0.0498 J	0.0451 J	0.289	
Arsenic	0.01	0.0038	0.0034	0.0035	0.0079	0.0081	0.0111	0.0107	0.0107	0.0092	0.009	0.0112	0.01	0.0096	0.0101	0.0115	0.0112	< 0.0010 U	0.0138	0.0118	0.0136	0.0115	
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.010 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0002 U	0.0004 U	0.0015 U	< 0.0020 U	0.002 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	53 J	54	54	55	56	59	68.3	61.7	76.1	73.2	68.7	63.6	66.0	69.7	77.4	71.3	66.4	84.4	86	73.6		
Iron	0.3	47 J	51	54	61	62	68	91.4	80.8	88.7	92	92.9	84	84.1	89.1	91.9	98.2	99.9	93.2	133	136	104	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.00067 J	0.00022 U	0.0004 U	0.0004 U	0.002 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	34 J	35	33	36	37	41	52.2	46.2	48.9	56.2	55.4	50.3	50.7	53.7	56.4	56.6	58.0	53.9	69.8	71.2	61.2	
Manganese	0.05	31 J	33	33	33	32	37	45.3	33.4	32.5	46.3	40.1	35.7	35.7	38.8	38.7	43.3	42.3	39.3	46.5	45.6	43.9	
Nickel ⁽²⁾	0.073	0.018	0.016	0.016	0.02	0.021	0.022	0.0244	0.0185	0.0166	0.0193	0.0164	0.0181	0.0178	0.0131	0.0172	0.0181	0.0197	0.0253	0.0206	0.0198	0.0175	
Potassium	NS	11	10	9.8	11	11	11	12.5	11.5	12.6	13.3	11.8	10.9	10.8	11.5	12.4	12.1	11.9	11.1	12.6	12.9	13	
Sodium	NS	25 J	28	28	31	32	37	64.6	55.4	55.9	66.3	64.9	63.8	63.2	65.7	74.6	71.4	71.4	66.4	89.4	91.5	85	
Zinc	5	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.0156	0.10 U	0.017 J	0.0144	0.0124 J	0.0959 J	0.0205 J	0.0089	0.0149	0.0110	0.0150	0.0139	0.0127	0.0114	0.0204	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Bromide	NS	0.41 J	0.4	0.39	0.51	0.75 J	2.3 J	0.31	0.42 J	0.62	0.599 J	0.684	0.63	0.688	0.676	2.00 U	< 0.200 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	13	15	15	16	17	21	19.1	32.2	28.9	27.7	37.5	35	35.9	30.0	47.4	40.6	46.3	46.3	57.1	57.5	47.7	
Fluoride	2	0.049 J	0.059 J	0.058 J	0.081 J	0.32 J	1 U	0.01	0.23	0.34	0.2 U	0.1 U	0.2 U	0.2 U	0.200 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	220	250	250	250	250	300	363	359	357	421	489	446	454	428	597	534	540	545	617	621	585	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Nitrogen, Nitrate	10	ND	0.0016 J	0.0019 J	NA	NA	0.05 UJ	0.0747	0.12	0.39	0.06 U	0.03 U	0.06 U	0.06 U	0.0600 U	0.0662 J	< 0.0600 U	0.102 J	0.0915 J	< 0.0600 U	< 0.0600 U	0.0943 J	
Nitrogen, Nitrite	1	ND	ND	ND	NA	NA	0.12	0.003 U	0.010 U	0.005 U	0.06 U	0.03 U	0.06 U	0.06 U	0.0600 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.092	0.0747	0.12	0.39	0.12 U	0.06 U	0.12 U	0.12 U	0.120 U	0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	
Gross Alpha ⁽³⁾	15	-0.0549 U	-1.3 U	1.4 U	0.536 U	2.82 U	0.154 U	8.4	0.474 U	2.31 U	2.1 U	-0.772 U	0.262 U	2.21 J	3.58 J	-0.336 U	2.29	2.45 J	7.14	-0.651 U	-0.607 U		
Gross Beta ⁽⁴⁾	50	8.65	8.99	6.9	10.2	9.14	5.62	9.3	14.4	18.5	17.1	11	12.3	13.8	12.7	10.9	2.21	9.08	3.17	10.9	12.8		
Radium-226 ⁽⁵⁾	5	0.309 J	0.259 J	0.173 J	0.223 U	0.279 U	0.42 U	0.8	0.425 U	0.298 U	0.5 U	0.00434 U	0.401	0.812	0.428	0.557	0.985	0.404 J	0.411	0.709	0.604		
Radium-228 ⁽⁵⁾	5	0.405 J	0.249 U	0.617 J	0.235 U	0.43 J	0.361 U	0.7 U	0.294 U	1.12 U	0.8 U	0.627	0.731	3.28 J	1.16	1.35	1.59	1.03	0.368	-0.523 U	0.091 U		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Total Alkalinity	NS	160	130	150	150	150	210	207	140	203	133	176	151	150	204	152	156	150	142	155 H	127 H	123	
Total Dissolved Solids	500	530	610	600	560	450	670	896	690	695	800	955	969	946	997	1010	913	737	1120	1230	995	895	
Total Solids	NS																		1310	1090		918	
Total Suspended Solids	NS	26	59	58	67	80	43	104	50.8	41	72	115	27	58	79.0	61.0	13.0	27.0	41.0	80.0	96.7	23.0	
Field Parameters																							
pH (S.U.)	6.5-8.5	6.45	6.32	NA	6.52	NA	6.23	NA	NA	6.18	6.39	6.09	6.14	NA	6.59	6.15	5.83	6.19	NA	6.24	NA	3.22	
Specific Conductivity (mS/cm)	NS	0.751	0.948	NA	0.988	NA	1.15	NA	NA	0.984	0.77	1.260	1.170	NA	1.39	1.37	1.66	1.43	NA	1.87	NA	1.76	
Temperature (°C)	NS	16.24	17.87	NA	16.63	NA	17.33	NA	NA	21.90	14.99	17.17	15.02	NA	20.39	16.07	14.6	15.64	NA	15.00	NA	16.63	
Turbidity (NTU)	NS	5.26	4.13	NA	6.64	NA	5.17	NA	NA	18.1	3.4	1.4	0.3	NA	0.0	3.0	0.0	0.0	NA	0.0	NA	1.1	
Dissolved Oxygen (mg/L)	NS	0.00	0.62	NA	2.53	NA	0.00	NA	NA	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	NA	0.00	NA	0.00	
Oxidation-Reduction Potential (mV)	NS	-32	-63	NA	-144	NA	-53	NA	NA	-88	-95	-17	-55	NA	-78	51	15	-41	NA	-53	NA	90	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-31																
Sample Number:	SMCL	CSW-31-20170707	CSW-31-20171010	CSW-31-20180501	CSW-31-20181016	DUP-01-20181016	CSW-31	CSW-31	CSW-31_052020	CSW-31	CSW-31	CSW-31	CSW-31	CSW-31	CSW-31	CSW-31	CSW-31	CSW-31
Date Sampled:	⁽¹⁾	7/7/2017	10/10/2017	5/1/2018	10/16/2018	10/16/2018	7/11/2019	11/25/2019	5/20/2020	09/21/2020	4/21/2021	9/28/2021	5/10/2022	9/7/2022	4/24/2023	8/23/2023	4/23/2024	9/9/2024
Duplicate of:						CSW-31-20181016												
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	1.6	0.7	0.13	0.089 J	0.091 J	0.0921	0.050 U	0.0808	0.0421	0.0102 J	0.0567 J	0.0447	0.0766	0.0962 J	0.131 J	0.466	< 0.0800 U
Arsenic	0.01	0.003 U	0.003 U	0.003 U	0.003 U	0.003 U	0.001 U	0.0020 U	0.0003 J	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	< 0.0010 U	0.0010 J	< 0.0010 U
Beryllium	0.004	0.0005	0.00056	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0010 U	0.000091 J	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	21	26	110	53	55	28.1	32.7	29	16.4	12.9	19	13.9	12.3	15.1	19.8	26.6	17.5
Iron	0.3	27	22	1.8	2.2	27	2.3	38.4	5.19	20.6	23	19.2	23.2	22.7	20.4	20.5	19.2	21.3
Lead	0.015	0.0025 U	0.0011 J	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0020 U	0.002 U	0.0004 U	0.0005 J	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	3.2	2.6	0.46	0.33	0.33	4.32	1.3	1.82	2.15	1.91	1.79	1.90	1.99	2.14	1.96	2.66	2.02
Manganese	0.05	0.36 U	0.24	0.038	0.03	0.029	0.394	0.0777	0.253	0.209	0.156	0.192	0.177	0.151	0.173	0.170 J	0.252	0.167
Nickel ⁽²⁾	0.073	0.005 U	0.0026 J	0.015	0.0082	0.0086	0.0056 J	0.0036 J	0.0036 U	0.0015 J	0.0019 J	0.0024 J	0.00082 J	0.0020 U	0.0050	< 0.0020 U	0.0059	< 0.0020 U
Potassium	NS	19	23	15	6.7	6.8	3.17	3.81	2.76	2.09	1.9	1.66	1.82	1.89	2.03	2.10	1.64	1.79
Sodium	NS	15	15	30	19	19	8.99	13.5	9.96	6.44	5.31	5.22	5.50	5.39	6.19	6.03	5.8	5.84
Zinc	5	0.29	0.57	0.072	0.016 J	0.017 J	0.0378	0.0091 J	0.0402 U	0.0375	0.0077	0.0162	0.0069	0.0020 U	0.0041 J	0.0243	0.468	0.0189
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.5 U	0.1 U	0.66	0.49 U	0.49 U	0.082	0.20 J	0.2 J	0.2 U	0.1 U	0.5 U	0.200 U	2.00 U	< 0.200 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	5.4	6.5	44	44	44	14.5	31.6	18.2	7.93	1 U	5.53 J	4.13 J	6.02	7.70	9.76	6.93	6.78
Fluoride	2	0.14	0.067 J	0.12 J	0.059 J	0.057 J	0.0279	0.11 J	0.086 J	0.2 U	0.1 U	0.5 U	0.200 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	2.2	2.3	6.3 J	2.2	2.1	2.74	2.6	2.1	3.67 J	3.57	5 U	3.17 J	3.98	4.48 J	3.76 J	< 2.00 U	4.12 J
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 U	0.05 U	0.05 U	0.0499	0.11 U	0.11 U	0.06 U	0.03 U	0.15 U	0.0600 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.05 U	0.006 U	0.092	0.11	0.06 U	0.03 U	0.15 U	0.0600 U	0.0600 U	< 0.0600 U	< 0.0030 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrate-Nitrite	10	0.011 J	0.025 U	0.025 U	0.025 U	0.025 U	0.0499	0.15	0.095 U	0.12 U	0.06 U	0.3 U	0.120 U	0.120 U	< 0.120 U	< 0.0630 U	< 0.120 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	1.6 J	6.98	0.47 U	2.35 J	0.0253 U	3.6	1.77 U	0.869 U	1.9	1.25 J	1.89	2.10	1.70	1.40	1.91	3.06	
Gross Beta ⁽⁴⁾	50	16.1	20.7	10.3	4.63	5.71	8.4	5.6	5.47	4.3	1.11 J	3.2	5.96	2.88	2.59	2.79	2.7	
Radium-226 ⁽⁵⁾	5	0.97 J	1.67	0.391 J	0.358 U	0.645 U	2	0.538	0.998 J	1.0	0.731	0.347 J	0.533	0.410	0.951	0.704	1.28	
Radium-228 ⁽⁵⁾	5	0.893 J	0.9 J	0.452 J	0.451 U	0.523 J	1.3	1.26 U	1.99 J	1.0 U	0.758	2.28 J	0.679	0.859	1.72	0.836	0.783	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	99	110	240	110	100	80.9	70	64.5	57	60.8	66.4	60.4	44.4	35.2	65.9	81.1	59.2 H
Total Dissolved Solids	500	110	140	4000	150	150	132	150	105	98	120	120	93.3	94.0	82.0	89.0	132.0	62.0
Total Solids	NS															204	90	
Total Suspended Solids	NS	66	80	21	15	17	80	12.4	35	46	20	26	28.7	12.0	20.0	29.0	72.0	28.0
Field Parameters																		
pH (S.U.)	6.5-8.5	8.74	8.02	12.51	11.6	NA	NA	NA	6.94	6.57	6.35	6.61	6.64	6.01	6.26	6.31	6.75	5.38
Specific Conductivity (mS/cm)	NS	0.255	0.264	1.63	0.687	NA	NA	NA	0.241	0.132	0.162	0.201	0.204	0.157	0.181	0.202	0.22	0.215
Temperature (°c)	NS	19.13	17.95	16.55	15.28	NA	NA	NA	13.41	14.3	14.23	13.82	13.53	14.65	14.31	14.57	13.41	15.10
Turbidity (NTU)	NS	105	165	6.81	4.29	NA	NA	NA	40	11.8	3	5.2	1.6	1.3	0.0	3.2	23.3	4.5
Dissolved Oxygen (mg/L)	NS	0.00	0.36	0.00	0.00	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Oxidation-Reduction Potential (mV)	NS	-242	-373	-317	-298	NA	NA	NA	-146	-85	-6	-118	-98	-5	32	-70	-115	6

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-32																
Sample Number:	SMCL	CSW-32-20170629	CSW-32-20171005	CSW-32-20180503	CSW-32-20181023	CSW-32	CSW-32	CSW-32_052120	CSW-32	CSW-32	CSW-32	CSW-32	CSW-32	CSW-32	CSW-32	CSW-32	CSW-32	CSW-32
Date Sampled:	⁽¹⁾	6/29/2017	10/5/2017	5/3/2018	10/23/2018	7/9/2019	11/26/2019	5/21/2020	09/17/2020	4/22/2021	9/22/2021	5/3/2022	9/8/2022	5/2/2023	8/22/2023	4/17/2024	9/10/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.05 U	0.024 J	0.05 U	0.023 J	0.0075 J	0.25 U	0.13 U	0.0167 J	0.024 J	0.04 U	0.0080 U	0.0080 U	< 0.0800 U	< 0.0800 U	0.0596	< 0.0800 U	
Arsenic	0.01	0.0021 J	0.0019 J	0.0018 J	0.0065	0.0979	0.0119	0.0117	0.0158	0.0122	0.0022	0.001 U	0.0010 U	< 0.0010 U	0.0082	0.0013 J	0.0145	
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0050 U	0.0025 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.015 U	0.01 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	150 J	130	150	140	137	126	145	150	145	156	161	157	162	138	152	136	
Iron	0.3	470 J	560	670	520	487	315	520	596	573	581	604	596	582	534	562	477	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.00093 J	0.005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	77 J	71	80	72	82.6	67.7	89.5	84.7	80.7	82.6	86.8	85.0	80.6	77.2	83.7	75.6	
Manganese	0.05	15 J	10	9	12	18.3	24.6	14.3	11.1	11.1	10.5	8.03	7.36	10.6	10.9	11.9	18.7	
Nickel ⁽²⁾	0.073	0.045	0.022	0.0072	0.026	0.0694	0.102	0.0532	0.0225	0.0327	0.0223	0.0045	0.0080 J	0.0157	0.0205	0.0359	0.041	
Potassium	NS	8.6 J	6	6.1	6	7.69	8.59	6.73	6.25	5.81	5.79	5.61	5.59	5.85	5.84	6.24	7.63	
Sodium	NS	130 J	130	160	120	147	105	135	159	144	152	162	150	151	139	148	133	
Zinc	5	0.023	0.02 U	0.02 U	0.027 U	0.0792	0.101	0.0415 U	0.0183	0.0263	0.0779 J	0.0049	0.0086 J	0.0183	0.0261	0.0366	0.0759	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.96	1	2.1 J	5 U	0.936	0.31 J	0.82	1.23	1.2	1.1	0.968	2.00 U	1.30 J	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	230	270	280	250	252	227	212	287	290	252	230	272	254	234	271	212	
Fluoride	2	2.6 J	0.06 U	0.5 U	1 U	0.02	0.062 J	0.073 J	0.2 U	0.1 U	0.2 U	0.100 U	2.00 U	< 10.0 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	1800	1600	2400	2100	1870	1680	1760	1410	2110	2090	2030 J	2120	1790	2100	2070	1400	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 U	0.05 U	0.103	0.31	0.1 U	0.06 U	0.0495 J	0.06 U	0.0300 U	0.0600 U	< 0.300 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.00614 J	0.010 U	0.0032 J	0.06 U	0.03 U	0.06 U	0.0300 U	0.0600 U	< 0.300 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.13 U	0.025 U	0.025 UJ	0.091 UJ	0.109	0.31	0.091 J	0.12 U	0.06 U	0.12 U	0.0600 U	0.120 U	< 0.600 H, U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	5.75 U	0.96 U	-7.08 U	9.11 U	21.3	-1.75 U	-4.28 U	4.5 U	-1.25 U	-0.736 U	1.56 U	9.94	11.8	9.06 J	3.96 J		
Gross Beta ⁽⁴⁾	50	5.85 U	4.47 U	8.41 U	7.58 U	9.3	3.8 U	8.34	12.2	-5.65 U	0.753 U	5.42 J	17.9	14.0	7.80	7.3 J		
Radium-226 ⁽⁵⁾	5	0.22 J	0.235 J	0.326 J	0.47 U	0.4	0.513	0.466 J	0.6	0.499	0.404	0.492	0.462	0.561	0.397	0.291 J		
Radium-228 ⁽⁵⁾	5	0.645 J	0.286 U	1.02	0.431 U	1.0	0.306 U	0.641 U	0.9 U	-0.728 U	0.931	1.09	0.254 J	0.613 J	1.20	1.45		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	5 U	5 U	5 U	5 U	5 U	5.0 U	36	66.1	24.9	5 U	5.53 J	20.5	< 5.00 U	< 5.00 U	74.6	17.9	
Total Dissolved Solids	500	2500	3100	2900	3100	2830	2940	2320	3260 J	3160	3280	3480	3090	3060	2740	2990	< 8.00 U	
Total Solids	NS															3030	68	
Total Suspended Solids	NS	180	130	160	88	240	52	64.4	263	91	140	76	126	50.0	86.0	46.0	100.0	
Field Parameters																		
pH (S.U.)	6.5-8.5	6.16	5.89	5.72	5.79	NA	NA	5.61	5.76	6.14	5.77	6.10	5.77	5.57	5.83	5.97	5.85	
Specific Conductivity (mS/cm)	NS	2.67	3.48	3.14	3.1	NA	NA	2.97	3	3.16	3.31	4.65	3.39	4.30	3.21	3.55	3.61	
Temperature (°c)	NS	17.2	16.81	16.01	17.7	NA	NA	15.58	14.38	13.74	13.66	13.66	14.31	13.82	14.36	13.90	14.81	
Turbidity (NTU)	NS	19	12.2	14.9	30	NA	NA	35.1	35.2	388.0	130	30.8	19.7	0.0	0.0	16.2	54.3	
Dissolved Oxygen (mg/L)	NS	0.00	0.40	0.52	0.00	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-51	-76	-144	-12	NA	NA	-22	-53	-47	8	-57	10	3	-21	-42	-14	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-33																			
Sample Number:	SMCL	CSW-33-20170629	DUP-01-20170629	CSW-33-20171005	CSW-33-20180503	CSW-33-20181023	DUP-03-20181023	CSW-33	CSW-33	CSW-33_052120	DUP_052120	CSW-33	CSW-33	CSW-33	CSW-33	CSW-33	CSW-33	CSW-33	CSW-33	CSW-33	
Date Sampled:	(1)	6/29/2017	6/29/2017	10/5/2017	5/3/2018	10/23/2018	10/23/2018	7/9/2019	11/26/2019	5/21/2020	5/21/2020	09/17/2020	4/22/2021	9/28/2021	5/3/2022	9/8/2022	5/2/2023	8/22/2023	4/17/2024	9/10/2024	
Duplicate of:			CSW-33-20170629				CSW-33-20181023				CSW-33										
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Aluminum	0.05	1 J	0.05 U	1.6	0.74	0.64 J	0.94 J	1.06	0.115	0.0539	0.0512	0.0459	0.151	0.0466 J	0.0706	0.017 J	0.0885 J	< 0.0800	0.0332 J	< 0.0800 U	
Arsenic	0.01	0.0016 J	0.0023 J	0.003 U	0.003 U	0.003 U	0.003 U	0.001 U	0.0020 U	0.00034 J	0.00026 J	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0010 U	0.0004 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	270 J	150 J	250	180	110	110	41.6	37.3	39.4	35.8	31.6	23.5	30.9	26.2	23.1	23.2	21.4	21.6	22.3	
Iron	0.3	0.52 J	480 J	0.2	2.2	1.8	1.9	3.45	2.26	2.37	1.94	4.44	4.99	3.93	6.17	6.08	6.23	5.96	5.89	5.92	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0005 J	0.0020 U	0.001 U	0.00019 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	0.34 J	83 J	0.23 J	3.6	3.3	2.9	2.98	1.93	2.08	1.92	2.42	2.44	2.16	2.95	2.86	3.04	2.96	3.03	2.95	
Manganese	0.05	0.011 J	16 J	0.0041 J	0.57	0.48	0.39	0.205	0.0721	0.122	0.0966 J	0.106	0.0873	0.103	0.121	0.0881	0.108	0.108 J	0.112	0.117	
Nickel ⁽²⁾	0.073	0.013 J	0.05 J	0.012	0.0074	0.005	0.0048 J	0.0025 J	0.0059	0.0016 U	0.0017 U	0.0015 J	0.0146	0.0024 J	0.0014 J	0.0020 U	0.0048 J	< 0.0020 U	0.0054	< 0.0020 U	
Potassium	NS	42 J	9.2 J	22	21	14	14	5.69	6.09	6.75	7.92 J	4.25	3.28	4.08	3.22	3.24	3.16	2.95	2.89	2.97	
Sodium	NS	44 J	140 J	36	30	22	20	12	14	14.2	15.2	11.1	8.82	10.8	9.48	8.99	9.55	9.07	9.11	9.28	
Zinc	5	0.058 J	0.025 J	0.017 J	0.017 J	0.017 U	0.01 U	0.007 J	0.020 U	0.015 U	0.015 U	0.0057	0.0079	0.0133	0.0064	0.0020 U	< 0.0020 U	0.0024 J	0.008	0.0064	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Bromide	NS	0.34 J	1.4 J	0.54	0.45 J	0.3 J	0.5 U	0.0461 J	0.50 U	0.17 J	0.18 J	0.2 U	0.1 U	0.5 U	0.100 U	2.00 U	3.34	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	29 J	230 J	44	24	21	20	7.11	9.6	9.3	10.3	6.75	5.52	7.13 J	4.32	9.22	6.34	5.44 J	6.2	5.79 J	
Fluoride	2	0.17 J	5 U	0.14	0.12	0.089 J	0.095 J	0.0468	0.093 J	0.091 J	0.092 J	0.2 U	0.1 U	0.5 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	5.7 J	1900 J	5.3	9.1	21	20	15	22.2	19.1	20.9	17.3	14.5	15.6	9.94	18.2	15.8	14.8	13.4	14.5	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Nitrogen, Nitrate	10	ND	ND	0.0020 J	0.05 U	0.05 U	0.05 U	0.006 U	0.11 U	0.1 U	0.1 U	0.06 U	0.03 U	0.15 U	0.0300 U	0.468	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrite	1	ND	ND	ND	0.05 U	0.05 U	0.05 U	0.006 U	0.010 U	0.0067 J	0.0087 J	0.06 U	0.03 U	0.15 U	0.0300 U	0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.13 U	0.029 J	0.025 UJ	0.025 UJ	0.025 UJ	0.012 U	0.10 U	0.095 U	0.095 U	0.12 U	0.06 U	0.3 U	0.0600 U	0.468	< 0.120 H, U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	
Gross Alpha ⁽³⁾	15	4.32 U	9.73 U	1.17 U	-0.807 U	4.58	0.459 U	2.4	0.0259 U	2.36 U	0.386 U	2.0	1.22 U	2.09	3.44	1.43	4.19	3.89	2.81		
Gross Beta ⁽⁴⁾	50	28.5 J	8.68 U	18.2	49.3	10	7.93	8.1	6.72	9.96	4.73 J	6.9	4.28	5.9	6.56	5.14	5.25	5.49	3.14		
Radium-226 ⁽⁵⁾	5	0.518 J	0.278 J	0.411 J	0.484 J	0.752 U	0.695 U	0.5	0.9	0.315 J	0.684 J	1.0	0.899	0.82	0.787	1.01	1.27	1.44	0.865		
Radium-228 ⁽⁵⁾	5	0.279 U	0.662 J	0.107 U	0.331 U	0.301 U	0.235 U	1.2	1.3 U	0.447 U	0.122 U	0.8 U	0.369 J	1.39	0.770	0.699	2.14	0.46 J	0.582		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Total Alkalinity	NS	710 J	5 U	620	380	220	220	96.8	55	70.5 J	51.5 J	95.4	79	93.1	85.6	70.5	71.4	66.1	76.5	78.4	
Total Dissolved Solids	500	830 J	2600 J	820	470	300	300	147	126	100	74	160 J	109	154	128	110	120	108	122	89	
Total Solids	NS																		128	96	
Total Suspended Solids	NS	8.9	200	7.1	62	83	98	38.6	55.5	45.4 J	66.8 J	4 J	11	11.5	14.00	2.00 U	6.00 J	6.00 J	6.00 J	7.00 J	
Field Parameters																					
pH (S.U.)	6.5-8.5	13.89	NA	12.85	12.29	12.12	NA	NA	NA	10.90	NA	7.47	6.65	7.78	6.76	6.09	5.99	6.37	6.48	6.57	
Specific Conductivity (mS/cm)	NS	3.41	NA	3.1	2.27	1.53	NA	NA	NA	0.270	NA	0.161	0.181	0.218	0.216	0.186	0.199	0.194	0.227	0.214	
Temperature (°C)	NS	16.33	NA	17.47	15.91	13.51	NA	NA	NA	14.63	NA	14.27	14.01	14.42	14.10	14.47	14.05	14.39	13.36	14.96	
Turbidity (NTU)	NS	5.8	NA	6.85	8.44	19	NA	NA	NA	28.0	NA	3.2	6.6	8.1	3.2	0.0	0.0	0.0	2.1	2.3	
Dissolved Oxygen (mg/L)	NS	0.00	NA	0.00	0.00	0.00	NA	NA	NA	0.00	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-194	NA	-352	-266	-217	NA	NA	NA	-154	NA	-220	-63	-266	-54	21	17	2	-23	-28	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-34																
Sample Number:	SMCL	CSW-34-20170714	CSW-34-20171011	CSW-34-20180427	CSW-34-20181025	CSW-34	CSW-34	CSW-34_051520	CSW-34	CSW-34	CSW-34	CSW-34	CSW-34	CSW-34	CSW-34	CSW-34	CSW-34	CSW-34
Date Sampled:	⁽¹⁾	7/14/2017	10/11/2017	4/27/2018	10/25/2018	7/16/2019	11/20/2019	5/15/2020	09/21/2020	4/26/2021	9/28/2021	5/5/2022	8/30/2022	4/24/2023	8/21/2023	4/17/2024	9/11/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.63	0.56	0.6	0.51	0.337	0.5	0.446	0.269	0.561	0.184	0.575	0.284	< 0.0800 U	0.104 J	0.0431 J	< 0.0800 U	
Arsenic	0.01	0.0016 J	0.0024 J	0.0016 J	0.003 U	0.001 U	0.0011 J	0.00097 J	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	0.001 J	< 0.0010 U	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0010 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	200 J	320 J	350	310	255	215	265	316	42.5	242	39.2	35.7	52.0	30.6	46.8	67.6	
Iron	0.3	1.6 J	0.29	0.2	0.35	0.182	0.403	0.416	0.14	2.21	0.138	3.09	3.12	2.77	4.44	2.41	0.489	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0016 J	0.00075 J	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	0.77 J	0.097 J	0.09 J	0.18 J	0.0674	0.186 J	0.186 J	0.102	0.508	0.0971	0.568	0.717	0.652	0.783	0.554	< 0.0800 U	
Manganese	0.05	0.038 J	0.0052 J	0.0021 U	0.0076	0.0104	0.0135	0.0186	0.0196 J	0.0678	0.0103 J	0.0706	0.0817	0.0555	0.0962 J	0.0445	0.011	
Nickel ⁽²⁾	0.073	0.012 J	0.019	0.02 J	0.019	0.0312	0.0175	0.017	0.0303	0.004	0.0205	0.0032	0.0028 J	0.0059	0.0022 J	0.0064	0.0256	
Potassium	NS	200	130	120 J	87	68.9	40	45.6	43.8	14.7	25.9	8.74	6.77	7.81	5.63	6.22	7.81	
Sodium	NS	100 J	100	100	85	80.8	54.5	69.6	73.4	21.1	52.5	18.4	15.8	20.9	15.5	19	24.2	
Zinc	5	0.02 UJ	0.02 U	0.02 UJ	0.013 J	0.0102	0.020 U	0.0049 J	0.0172	0.0023	0.0254	0.0055	0.0020 U	< 0.0020 U	0.0100	0.0101	0.0120	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.5 U	0.53	1	0.79 J	1.12	1.1	1.6	1.74	0.233 J	1.64	0.148 J	2.00 U	0.346 J	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	9.6	21	39	56 J	98.5	79.9	93.4	160	20	167	14.1	19.0	45.1	19.2	56	94.7	
Fluoride	2	0.1	0.11 J	0.1 U	0.1 UJ	0.784	1.1	0.09 J	0.2 U	0.121	0.5 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	16	19	28	26 J	34.7	2.0 U	28.5	45.8	13.4	45.5	11.5	16.5	21.6	17.0	21.6	27.3	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	0.0070	NA	0.05	0.0118 J	0.11 U	0.1 U	0.06 U	0.03 U	0.15 U	0.0300 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrite	1	ND	ND	NA	0.15	0.0968	0.0195	0.0044 J	0.06 U	0.03 U	0.15 U	0.0300 U	0.00300 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.039 J	0.038 J	0.096 J	0.12 U	0.109	0.10 U	0.095 U	0.12 U	0.06 U	0.3 U	0.0600 U	0.00600 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	3.3 U	5.58 U	11.4 U	5.63 U	3.1 U	3.97	1.65 U	2.6 U	-0.0798 U	1.81 J	3.77	0.892 J	1.11	5.96 J	1.71 J		
Gross Beta ⁽⁴⁾	50	163	83.1	95.4	71.5	69.4	35.4	28.1	52.7	11.2	20.9	8.99	5.52	7.31	7.36 J	6.6		
Radium-226 ⁽⁵⁾	5	0.923 J	1.04	1.07	0.0567 U	1.8	1.37	1.18	1.1	-0.43 U	0.693	0.283	0.370	0.610	0.668	0.486 J		
Radium-228 ⁽⁵⁾	5	0.942 J	1.37	0.776 J	1.31	1.1	1.21 U	2.53 U	1.3	0.182	1.96	0.278 J	0.357	0.232 U	0.352 J,J5	1.16		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	950	880	990	990	813	582	520	750	31.6	75.6	93.5	91.3	37.5	85.7	43.2	55.5	
Total Dissolved Solids	500	1200	1500	1500	1200	1120	660	754	1090	5580	1050	177	159	167	151	238	397	
Total Solids	NS															248	406	
Total Suspended Solids	NS	60	13	5.7	7.3	28	14.3	9.4	3 J	87	0.4 J	11.0	25.0	19.0	7.00 J	10.0	9.00 J	
Field Parameters																		
pH (S.U.)	6.5-8.5	12.31	12.37	13.21	12.66	NA	NA	12.95	12.61	11.00	12.5	9.60	9.36	11.28	8.16	9.9	4.96	
Specific Conductivity (mS/cm)	NS	4.2	5.56	6.27	5.05	NA	NA	4.300	3.62	0.348	3.03	0.292	0.251	0.387	0.264	0.41	0.632	
Temperature (°c)	NS	20.71	15.59	14.78	14.37	NA	NA	14.72	15.11	14.94	14.8	14.45	15.98	14.99	15.21	14.09	17.27	
Turbidity (NTU)	NS	19.4	11	5.24	10.9	NA	NA	14	0.00	14	0.00	8.7	5.1	0.00	0.0	8.1	0.2	
Dissolved Oxygen (mg/L)	NS	0.18	1.29	0.00	0.00	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.11	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-209	-433	-425	-258	NA	NA	-216	-408	-254	-420	-516	-283	-291	-322	-385	74	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-35																	
Sample Number:	SMCL	CSW-35-20170713	CSW-35-20171013	CSW-35-20180426	CSW-35-20181026	CSW-35	CSW-35	CSW-35_051420	DUP_051420	CSW-35	CSW-35	CSW-35	CSW-35	CSW-35	CSW-35	CSW-35	CSW-35	CSW-35	
Date Sampled:	⁽¹⁾	7/13/2017	10/13/2017	4/26/2018	10/26/2018	7/16/2019	11/19/2019	5/14/2020	5/14/2020	09/24/2020	4/26/2021	9/29/2021	5/2/2022	9/7/2022	5/1/2023	8/29/2023	4/15/2024	9/10/2024	
Duplicate of:									CSW-35										
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Aluminum	0.05	0.22	0.93	0.13	0.16	0.0292	0.436 J	0.182	0.195	0.103	0.0951	0.57 J	0.200	0.311	0.252	0.350	0.247	0.170 J	
Arsenic	0.01	0.003 U	0.0024 J	0.0021 J	0.003 U	0.001 U	0.020	0.00073 J	0.00072 J	0.001 U	0.001 J	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	0.0075	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.010 U	0.0001 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.030 U	0.002 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	150 J	190 J	390	390	417	306	371	393	379	384	258	339	300	335	207	227	215	
Iron	0.3	2	0.41 J	0.21	0.19	0.0749	0.217 J	0.0896	0.0846	0.04 U	0.0295 J	0.142 J	0.0800	0.0322 J	< 0.0800 U	< 0.0800 U	0.0241 J	< 0.0800 U	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0071	0.008	0.0054	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	0.6	0.046 J	0.031 J	0.032 J	0.0321	5.0 U	0.25 U	0.25 U	0.0626 U	0.0918	0.163	0.0896	0.0822	< 0.0800 U	< 0.0800 U	0.0521	< 0.0800 U	
Manganese	0.05	0.061 J	0.0046 J	0.005 U	0.0024 U	0.002 U	0.0113	0.0014 J	0.0011 U	0.008 U	0.0109 J	0.0304	0.0246 J	0.0022 J	0.0064	< 0.0800 U	0.0033 J	< 0.0020 U	
Nickel ⁽²⁾	0.073	0.0052	0.011	0.019	0.024	0.0417	0.0255	0.0152	0.0141	0.0324	0.0289	0.0182 J	0.0204	0.0242	0.0253	0.0181	0.0168	0.0114	
Potassium	NS	450	340	330	210	161	95.6	92.9	89.1	79.2	61.8	37.2	36.7	32.5	29.1	24.9	22.3	22.4	
Sodium	NS	200 J	160 J	210	160	153	96.6	101	106	94.9	87.3	64.1	74.5	66.0	68.0	52.4	51.7	46.5	
Zinc	5	0.02 U	0.02 U	0.02 U	0.02 U	0.0054 J	0.20 U	0.0056 J	0.015 U	0.0215	0.0016 J	0.0293 J	0.0250	0.0020 U	< 0.0020 U	0.0156	0.0215	0.0172	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Bromide	NS	0.31 J	0.25	0.57	5 UJ	0.769	0.56	1	1	0.932	1.05	1.04 J	1.14	2.00 U	1.26 J	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	11	9.9	23	35 J	60.4	56.9	72.2	72	89	116	101	161	162	170	134	128	138	
Fluoride	2	0.1 U	0.18	0.1 U	1 UJ	2.2	1.7	0.14 J	0.15 J	0.528	0.159	0.515	0.107 J	2.00 U	< 1.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	39 J	31	64	47 J	64.5	2.0 U	41.5	43.7	40.2	31	29.3	23.3 J	31.8	< 1.00 U	28.3	23.6	25.5	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Nitrogen, Nitrate	10	0.0086 J	0.0070	NA	0.05 U	0.0167 J	0.11 U	0.29	0.1 U	0.06 U	0.03 U	0.15 UJ	0.0300 U	0.0600 U	< 0.300 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrite	1	0.01 J	0.0033 J	NA	0.05 U	0.006 U	0.013	0.0049 J	0.0038 J	0.06 U	0.03 U	0.15 UJ	0.0300 U	0.0600 U	< 0.300 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.03 J	0.036 J	0.041 J	0.023 J	0.0167 J	0.10 U	0.29 J	0.095 U	0.12 U	0.06 U	0.3 UJ	0.0600 U	0.120 U	< 0.600 H, U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	
Gross Alpha ⁽³⁾	15	15.3	3.91 U	7.92 U	15 U	15.2	4.8 U	1.43 U	18.1	5.3 U	1.06 U	3.4 J	1.29 J	2.42	7.96	2.71 J	6.91 J		
Gross Beta ⁽⁴⁾	50	354	260	252	136	188	77.3	82.1 J	26.2 J	123	37.7	31.4	28.7	24.0	25.1	19.9	15.6		
Radium-226 ⁽⁵⁾	5	1.87	1.57	1.73	1.17	1.9	1.01	1.78	0.846 J	1.7 U	0.897	0.789	1.47	1.23	1.93	0.892	0.741		
Radium-228 ⁽⁵⁾	5	1.56 U	2.21	1.1	1.19	1	0.834 U	0.821 UJ	10.3 J	1.2	1.15	1.62	1.50	2.51	0.186 U	0.986	0.27 J		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Total Alkalinity	NS	1300	1100	1600	1500 J	1510	970	1160	1050	1100	1050	909	849	672	1070	518	683 H	467	
Total Dissolved Solids	500	2100	1800	1700	1800	1910	1210	1310	1260	1390	1450	979	1190	1110	959	1110	880	658	
Total Solids	NS																888	664	
Total Suspended Solids	NS	16	24	3.1	7.9	0.8 U	3.8 J	4.6	4.7	7 J	2 J	27	0.800 U	5.00 J	5.00 J	< 2.00 U	8.00 J	6.00 J	
Field Parameters																			
pH (S.U.)	6.5-8.5	12.45	12.5	12.56	12.76	NA	NA	13.15	NA	12.82	13.1	12.61	13.05	12.72	13.22	12.46	12.29	12.86	
Specific Conductivity (mS/cm)	NS	6.52	5.83	7.12	6.83	NA	NA	6.08	NA	5.07	5.47	3.58	5.17	3.81	4.83	2.62	2.82	3.15	
Temperature (°C)	NS	21.17	15.19	15	14.47	NA	NA	16.21	NA	16.13	17.66	14.44	16.1	16.52	16.1	18.83	23.41	17.88	
Turbidity (NTU)	NS	7.38	13.3	0.11	5.16	NA	NA	5.5	NA	3	3.3	9.4	0.0	0.0	0.0	0.0	1.1	0.0	
Dissolved Oxygen (mg/L)	NS	0.48	1.05	0.56	0.00	NA	NA	0.00	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-231	-582	-306	-301	NA	NA	-243	NA	-365	-426	-307	-249	-209	-303	-133	-255	-228	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-36																
Sample Number:	SMCL	CSW-36-20170717	CSW-36-20171004	CSW-36-20180503	CSW-36-20181025	CSW-36	CSW-36	CSW-36_052220	CSW-36	CSW-36	CSW-36	CSW-36	CSW-36	CSW-36	CSW-36	CSW-36	CSW-36	CSW-36
Date Sampled:	⁽¹⁾	7/17/2017	10/4/2017	5/3/2018	10/25/2018	7/15/2019	11/20/2019	5/22/2020	9/24/2020	4/22/2021	10/5/2021	5/3/2022	9/1/2022	4/26/2023	8/30/2023	4/16/2024	9/4/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	5.3	0.21 J	0.38	0.34	0.0764	0.0854	0.0814 J	0.0226 J	0.0487	0.105 J	0.0688	0.0457	< 0.0800 U	< 0.0800 U	0.0685	< 0.0800 U	
Arsenic	0.01	0.0075	0.0017 J	0.0018 J	0.003 U	0.0014 J	0.002	0.005 U	0.001 U	0.0018 J	0.001 U	0.0013 J	0.0010 U	0.0012 J	0.0019 J	0.0011 J	0.0017 J	
Beryllium	0.004	0.00066	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0010 U	0.005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.01 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	93	370 J	480	520	191	139	165	219	262	235	230	203	174	114	108	73.4	
Iron	0.3	5.4	0.12 J	0.084 U	0.088 J	84.9	44.4	4.29	0.71	1.01	0.866	0.557	0.332	0.282	0.211 J	1.09	0.423	
Lead	0.015	0.0049	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.00029 J	0.005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	2.4	0.12 J	0.058 U	0.11 J	52.7	25	6.65	0.838	0.898	0.45	0.425	0.295	0.196 J	0.104 J	0.473	0.2 J	
Manganese	0.05	0.076	0.0095 UJ	0.0043 U	0.0095 U	2.98	1.4	0.15	0.04 U	0.0262 J	0.0221	0.0346 J	0.0161	0.0100	< 0.0800 U	0.0451	0.0128	
Nickel ⁽²⁾	0.073	0.0094	0.013 J	0.019	0.021	0.0078 J	0.0020 J	0.015 U	0.0179	0.0124	0.0153	0.0204	0.0191	0.0184	0.0133	0.012	0.0049 J	
Potassium	NS	84	130	70	46	21.5	17.1	19.8	16.4	13.7	12.6	12.3	10.6	8.79	7.11	6.56	6.84	
Sodium	NS	82	100 J	70	57	101	56.4	52.9	40.6	32	30.4	30.2	24.2	21.6	17.6	18.3	17.6	
Zinc	5	0.012 J	0.02 U	0.02 U	0.02 U	0.0039 J	0.020 U	0.075 U	0.0083	0.0096	0.0144	0.0116	0.0020 U	< 0.0020 U	0.0059	0.0076	0.0057	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.41 J	0.19 J	0.77	0.26 J	0.738	0.71	0.96	0.959	1.02	1.13 J	0.894	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	12	12	38	68 J	75.5	60.9	70.2	81.9	98	76	72.5	49.4	66.0	49.5	53.2	43.2	
Fluoride	2	0.42	0.18 J	0.12	0.1 UJ	0.0557	0.14 J	0.073 J	0.2 U	0.183	0.5 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	12	11	7.4	9 J	385	228	135	100	77.4	65.6	47.7	44.5	44.5	38.7	40.1	45.2	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	0.0029 J	0.035 J	0.05 U	0.0563	0.11 U	0.1 U	0.06 U	0.03 U	0.15 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	0.1430 H, J	< 0.0600 H, U	
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.006 U	0.0067 J	0.0035 J	0.12 U	0.03 U	0.15 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 H, U	
Nitrogen, Nitrate-Nitrite	10	0.032 U	0.013 U	0.084 J	0.014 U	0.0563	0.10 U	0.095 U	0.06 U	0.06 U	0.3 U	0.0600 U	0.120 U	< 0.120 U	< 0.120 U	0.1430 J	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	9.74	-2.94 U	-5.83 U	4.73 U	2.5 U	0.302 U	1.7 U	2.2 U	2.63 U	1.38 J	1.26 J	1.24 J	3.49	2.23 J	1.65		
Gross Beta ⁽⁴⁾	50	70.3	111	44	31.6	28.4	17.3	14.5	25.2	9.56	9.16	12.1	11.0	3.30	5.02	6.36		
Radium-226 ⁽⁵⁾	5	0.779 J	1.7	1.59	1.55	0.6	1.22	0.618 J	0.6 U	0.971	0.556 J	0.812	0.660	1.20	0.369 J	0.61		
Radium-228 ⁽⁵⁾	5	1.07 U	1.12	1.14	1.46	0.8 U	0.949 U	0.818 U	1.0 U	0.619	0.429 J	0.847	1.89	1.19	0.345 J	0.483		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	360	1200	1300	1300	419	324	160	419	563	556	482	268	285	243	219 H	132	
Total Dissolved Solids	500	500	1600	1600	1500	1320	745	358	777	872	806	841	402	516	443	440	243	
Total Solids	NS														452		248	
Total Suspended Solids	NS	250	3.2	5	2.1	104	96.4	265	17 J	20	6.32	20.8	68.0	< 2.00 U	9.00 J	12	5.00 J	
Field Parameters																		
pH (S.U.)	6.5-8.5	11.98	12.29	12.05	12.6	NA	NA	8.62	12.44	13.19	NA	12.93	12.33	12.95	11.73	12.2	5.7	
Specific Conductivity (mS/cm)	NS	1.65	5.07	6.07	5.75	NA	NA	1.090	1.95	2.960	NA	3.32	2.20	2.20	1.24	1.38	0.793	
Temperature (°c)	NS	22.16	18.67	21.33	16.25	NA	NA	14.87	15.4	13.49	NA	13.67	16.00	16.43	17.93	14.36	15.62	
Turbidity (NTU)	NS	183	3.24	2.75	1.88	NA	NA	37	7.6	16	NA	7.5	1.0	0.0	0.0	10.0	1.7	
Dissolved Oxygen (mg/L)	NS	0.00	1.23	0.75	0.00	NA	NA	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-359	-580	-313	-293	NA	NA	-360	-342	-378	NA	-257	-172	-233	98	-261	68	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-37																	
Sample Number:	SMCL	CSW-37-20170629	CSW-37-20171006	CSW-37-20180425	CSW-37-20181015	CSW-37	CSW-37	DUP-112519	CSW-37_051820	CSW-37	CSW-37	CSW-37	CSW-37	CSW-37	CSW-37	CSW-37	CSW-37	CSW-37	CSW-37
Date Sampled:	⁽¹⁾	6/29/2017	10/6/2017	4/25/2018	10/15/2018	7/11/2019	11/25/2019	11/25/2019	5/18/2020	9/23/2020	4/21/2021	10/5/2021	5/4/2022	8/30/2022	5/1/2023	8/23/2023	4/22/2024	9/9/2024	
Duplicate of:								CSW-37											
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.065 J	0.036 J	0.05 U	0.05 U	0.0382	0.050 U	0.050 U	0.025 U	0.008 U	0.014 J	0.051 J	0.0117 J	0.0138 J	< 0.0800 U	< 0.0800 U	0.019 J	< 0.0800 U	
Arsenic	0.01	0.003 U	0.003 U	0.003 U	0.003 U	0.001 U	0.0020 U	0.0020 U	0.001 U	0.001 U	0.001 U	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0010 U	0.0010 U	0.000068 J	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0002 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0002 U	< 0.0020 U	
Calcium	NS	28 J	17 J	13	12	11.1	10.7	10.8	10.8	10.3	9.2	9.79	9.61	9.82	11.1	9.54	9.54	9.58	
Iron	0.3	22 J	25 J	24	25	25.2	24.8	24.1	25	24.9	21.9	22.6	23.5	20.9	24.3	22.7	22.9	23.3	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0020 U	0.0020 U	0.00036 J	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0002 U	< 0.0020 U	
Magnesium	NS	3 J	2.6 J	2.6	2.5	2.55	2.38	2.22	2.4	2.43	2.17	2.2	2.25	2.28	2.52	2.39	2.4	2.36	
Manganese	0.05	0.34 J	0.23 J	0.19	0.19	0.187	0.175	0.172	0.208	0.198	0.161	0.165	0.175	0.160	0.180	0.166 J	0.018	0.171	
Nickel ⁽²⁾	0.073	0.005 U	0.005 U	0.005 U	0.005 U	0.002 U	0.0019 J	0.0018 J	0.003 U	0.0006 J	0.0248	0.002 U	0.0004 J	0.0020 U	0.0041 J	< 0.0020 U	0.0003 J	< 0.0020 U	
Potassium	NS	2.8 J	2.5 J	2.3	2.3	2.35	2.2	2.06	2.27	2.27	2.12	2.05	2.10	2.05	2.37	2.16	2.04	2.31	
Sodium	NS	18 J	18 J	19	19	19.9	19	19.3	18.7	20	16.8	16.6	18.5	17.5	19.6	17.4	18.1	18.7	
Zinc	5	0.02 U	0.02 U	0.02 U	0.02 U	0.0025 J	0.0091 J	0.0087 J	0.015 U	0.0063	0.0039	0.0091 J	0.0036	0.0020 U	< 0.0020 U	0.0038 J	0.0004 J	0.0039 J	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.26 J	0.18 J	0.32 J	5 UJ	0.195	0.18 J	0.21 J	0.17 J	0.207 J	0.21 J	0.5 U	0.186 J	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	23	30	31	28	30.7	28.2	28.2	32.4	24.8	1 U	23.6	24.2	27.7	35.6	31.0	29.2	29.2	
Fluoride	2	0.12	0.063 J	0.083 J	1 U	0.0578	0.093 J	0.10 J	0.11 J	0.2 U	0.1 U	0.5 U	0.100 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	2.4	0.22 J	0.7 J	10 U	1.06	1.3 J	1.1 J	1 J	2 U	1 U	5 U	1.00 U	2.00 U	< 2.00 U	< 2.00 U	5.72 J	< 2.00 U	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 R	0.05 U	0.006 U	0.11 U	0.11 U	0.1 U	0.06 U	0.03 U	0.15 U	0.0300 U	0.00300 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrite	1	ND	ND	0.05 R	0.05 U	0.006 U	0.010 U	0.010 U	0.005 U	0.06 U	0.03 U	0.15 U	0.0600 U	0.00300 U	< 0.0600 H, U	< 0.0030 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.025 U	0.025 UJ	0.012 U	0.10 U	0.10 U	0.095 UJ	0.12 U	0.06 U	0.3 U	0.0300 U	0.00600 U	< 0.120 H, U	< 0.0630 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	1.9 J	0.882 U	0.272 U	0.939 U	1.8	3.19	2.6 U	1.84 J	1.0 U	1.05 U	2.45	1.55	2.05	1.91	2.49	2.24		
Gross Beta ⁽⁴⁾	50	3.07 J	2.74 J	2.3 J	2.86 J	5.2	2.46 U	2.42 U	2.18 J	5.6	0.0812 U	4.32	5.57	3.49	3.27	2.75	2.75		
Radium-226 ⁽⁵⁾	5	0.916 J	0.714 J	0.526 U	0.784 U	0.9	0.918	1.06	1.04	0.8	0.883	0.593 J	0.893	0.953	1.20	1.30	0.97		
Radium-228 ⁽⁵⁾	5	0.95 J	1.72 U	0.768 J	1.57	1.4	-0.0658 U	1.21 U	0.312 U	1.7	0.814	2.56	1.24	2.60	0.531 J	1.76	1.01		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	87	61	68	72	74.7	28	34	60	77.2	62.7	52.6	5.00 UJ	51.0	44.0	40.4	64.4	43.6 H	
Total Dissolved Solids	500	150	160	130	110	125	109	107	125	94	126	133	130	116	114	89.0	130	2880.0	
Total Solids	NS																140	2890.0	
Total Suspended Solids	NS	28	27	11	8.6	7.25	9.3	9.7	3.9 J	14	2 J	6.67	9.50	18.0 J	8.00 J	5.00 J	10.00 J	9.00 J	
Field Parameters																			
pH (S.U.)	6.5-8.5	7.04	6.1	5.99	5.92	NA	NA	NA	6.34	6.34	6.13	NA	6.38	6.12	5.77	5.85	5.81	6.16	
Specific Conductivity (mS/cm)	NS	0.122	0.264	0.268	0.278	NA	NA	NA	0.225	0.156	0.209	NA	0.257	0.217	0.242	0.232	0.27	0.252	
Temperature (°c)	NS	16.66	15.47	14.41	15.24	NA	NA	NA	14.57	16.56	14.61	NA	14.15	14.97	14.57	14.85	14.02	15.61	
Turbidity (NTU)	NS	8.34	10	0.0	7.3	NA	NA	NA	0.0	0.9	2.0	NA	0.1	0.0	0.0	0.0	4.1	0.0	
Dissolved Oxygen (mg/L)	NS	0.00	0.74	1.57	0.00	NA	NA	NA	0.00	0.00	0.00	NA	0.84	0.00	0.00	0.00	0.00	3.02	
Oxidation-Reduction Potential (mV)	NS	-91	-61	-132	-9	NA	NA	NA	-26	-71	-4	NA	-44	42	2	13	-11	-46	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-38																
Sample Number:	SMCL	CSW-38-20170705	CSW-38-20171005	CSW-38-20180501	CSW-38-20181023	CSW-38	CSW-38	CSW-38_052120	CSW-38	CSW-38	CSW-38	CSW-38	CSW-38	CSW-38	CSW-38	CSW-38	CSW-38	CSW-38
Date Sampled:	⁽¹⁾	7/5/2017	10/5/2017	5/1/2018	10/23/2018	7/9/2019	11/25/2019	5/21/2020	09/17/2020	4/22/2021	9/28/2021	5/10/2022	9/7/2022	5/2/2023	8/23/2023	4/23/2024	9/10/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.31	0.58	0.51	0.58	2.04	0.927	1.09	1.48	0.837	0.659	0.540	0.252	0.279	0.316	0.252	0.155	J
Arsenic	0.01	0.003 U	0.003 U	0.003 U	0.003 U	0.0012 J	0.00083 J	0.00084 J	0.0012 J	0.0014 J	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0010 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	130	170	220	220	127	144	122	166	92	78.5	78.0	42.8	45.5	40.2	36.5	58.5	
Iron	0.3	10	11	13	3	6.73	2.93	1.25	0.202	0.156	0.173	0.201	0.152	0.42	0.572	0.511	0.13	J
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0020 U	0.0015 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	10	3.1	3.9	0.76	4.34	0.491 J	0.228 J	0.0818	0.134	0.217	0.314	0.397	0.529	0.522	0.566	0.193	J
Manganese	0.05	0.18	0.13	0.18	0.039	0.116	0.0446	0.0149	0.008 U	0.008 U	0.008 U	0.008 U	0.0097 J	0.019	< 0.0800 U	0.0247	0.0052	
Nickel ⁽²⁾	0.073	0.0075	0.0071	0.009	0.012	0.0121	0.0088	0.0068 U	0.0139	0.0109	0.0056 J	0.0057	0.0026 J	0.0032 J	0.0029 J	0.0098	0.0032	J
Potassium	NS	21	18	13	10	7.36	5.67	5.69	5.99	5.41	5.1	5.42	5.45	5.52	5.19	4.94	5.42	
Sodium	NS	73	48	32	31	36.8	33.3	34.5	29.6	33.2	34.1	36.6	31.6	34.4	31.6	31.9	32	
Zinc	5	0.02 U	0.02 U	0.02 U	0.02 U	0.0025 J	0.020 U	0.015 U	0.0043	0.003	0.0137	0.0029	0.0034 J	< 0.0020 U	0.0022	0.0027 J	0.0036 J	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.84	0.69	0.82	0.65	0.458	0.51	0.52	0.482 J	0.46	0.5 U	0.423 J	2.00 U	0.328 J	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	160	92	64	69	59.7	59.5	44.9	52.2	56.5	44.8	37.8	49.9	48.8	47.9	40.7	41.7	
Fluoride	2	0.1 U	0.23	0.14 J	0.095 J	0.204	0.16 J	0.18 J	0.204	0.283	0.5 U	0.200 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	160	97	52 J	32	57.5	57	32.5	38.3	54	53.2	61.4	44.9	40.7	45.2	34	40.7	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 U	0.05 U	0.006 U	0.11 U	0.1 U	0.0864 J	0.03 U	0.15 U	0.0600 U	0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.006 U	0.010 U	0.0041 U	0.06 U	0.03 U	0.15 U	0.0600 U	0.0600 U	< 0.0600 H, U	< 0.0030 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.034 J	0.025 U	0.025 U	0.025 U	0.012 U	0.10 U	0.095 U	0.12 U	0.06 U	0.3 U	0.120 U	0.120 U	< 0.120 H, U	< 0.0630 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	2.26 U	0.141 U	2.67 U	-1.37 U	6.0	0.893 U	1.55 U	1.7 U	0.0701 U	0.0761 U	0.649 J	2.01	1.09 J	< 0.569 U	-0.406 U		
Gross Beta ⁽⁴⁾	50	14.9	11.4	9.45	2.8 U	12.5	3.86	4.66 J	8.1	2.62 J	5.99	5.32	4.63	5.51	5.81	4.26		
Radium-226 ⁽⁵⁾	5	0.28 U	0.268 J	0.294 J	0.293 U	0.3	0.818	0.721 J	0.4	0.226 J	0.278 J	0.217	-0.0668 U	0.413	0.252	0.526		
Radium-228 ⁽⁵⁾	5	0.206 U	0.264 U	0.494 J	0.334 U	0.7 U	1.04 U	0.595 U	0.71	0.0903 U	0.23 U	0.00 U	0.677	13.9	< -0.552 U	1.33		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	49	270	380	500	242	243	243	385	177	135	147	5.00 U	26.2	42.5	28.4	115	
Total Dissolved Solids	500	740	710	66 U	780	468	246	346	546 J	374	332	340	201	211	202	188	553	
Total Solids	NS															198	558	
Total Suspended Solids	NS	51	83	45	23	46	100	20.5	2 U	2 J	15.5	8.00	15.0	19.0	20.0	10.0 J	5.0 J	
Field Parameters																		
pH (S.U.)	6.5-8.5	9.29	11.61	12.05	12.43	NA	NA	12.22	12.29	12.29	11.81	12.35	10.94	10.99	10.8	10.31	12.17	
Specific Conductivity (mS/cm)	NS	0.386	1.77	3	2.79	NA	NA	1.28	1.62	1.00	0.705	0.962	0.401	0.398	0.446	0.41	0.0	
Temperature (°c)	NS	20.56	17.16	18.88	15.61	NA	NA	14.38	16.51	13.81	14.01	18.15	15.79	14.81	15.42	15.11	17.62	
Turbidity (NTU)	NS	35.2	34.9	15.8	7.5	NA	NA	5.5	2.4	3.0	6	1.0	0.0	0.0	0.0	16.4	0.0	
Dissolved Oxygen (mg/L)	NS	0.00	1.89	0.32	0.00	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.09	0.00	
Oxidation-Reduction Potential (mV)	NS	-378	-498	-317	-247	NA	NA	-249	-377	-420	-239	-312	-52	-282	-179	-328	-327	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	CSW-39																
Sample Number:	SMCL	CSW-39-20170628	CSW-39-20171002	CSW-39-20180507	CSW-39-20181022	CSW-39	CSW-39	CSW-39_051920	CSW-39	CSW-39	CSW-39	CSW-39	CSW-39	CSW-39	CSW-39	CSW-39	CSW-39	CSW-39
Date Sampled:	⁽¹⁾	6/28/2017	10/2/2017	5/7/2018	10/22/2018	7/11/2019	11/19/2019	5/19/2020	09/23/2020	4/20/2021	9/29/2021	5/2/2022	9/7/2022	4/27/2023	8/23/2023	4/15/2024	9/9/2024	
Duplicate of:																		
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	1	2.1	11 J	9	0.468	0.763	0.572	0.0466	0.0543	4.38	0.304	2.31	8.24	10.9	6.34	0.129 J	
Arsenic	0.01	0.003 U	0.003 U	0.003 U	0.003 U	0.001 U	0.00082 J	0.00058 J	0.001 U	0.001 U	0.0016 J	0.0010 U	0.0010 U	< 0.0010 U	0.0015 J	0.0016 J	< 0.0010 U	
Beryllium	0.004	0.0004 U	0.00022 J	0.00053	0.00031 J	0.002 U	0.00030 J	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	19	27	28	40	52.5	32.1	71.8	157	149	63.4	110	48.8	41.2	33.7	53.3	18.2	
Iron	0.3	5.3	1.9	3.9	3.3	0.51	2.93	0.889	0.0656	0.0942	12	0.723	8.40	8.75	9.87	12	1.85	
Lead	0.015	0.0025 U	0.0025 U	0.0023 J	0.0018 J	0.0004 U	0.0015 J	0.00039 J	0.0004 U	0.0004 U	0.0063 J	0.0004 U	0.0024 J	< 0.0020 U	0.0028 J	0.0026 J	< 0.0020 U	
Magnesium	NS	3.4	1.4	1.7	1.4	0.863	0.938	0.6	0.0584	0.0709	3.92	0.485	3.30	3.48	3.85	4.41	1.3	
Manganese	0.05	0.11	0.058	0.064	0.048	0.0088 J	0.0444	0.0195	0.008 U	0.008 U	0.172	0.023 J	0.127	0.132	0.144 J	0.164	0.0352	
Nickel ⁽²⁾	0.073	0.0033 U	0.002 J	0.0038 J	0.005	0.0051 J	0.0128	0.0052	0.0116	0.0056	0.0176 J	0.0072	0.0178	0.0065	0.0090	0.0102	< 0.0020 U	
Potassium	NS	17	50	39	37	31.9	23.2	21.1	25.3	20	13.7	14.5	11.4	11.2	10.9	9.81	9.11	
Sodium	NS	38	54	48	48	63.8	54.8	78	91.6	85	51.3	79.7	43.6	40.9	37.4	41.1	44.4	
Zinc	5	0.02 U	0.02 U	0.02 U	0.02 U	0.0031 J	0.0059 J	0.015 U	0.0068	0.0071	0.0482	0.0068	0.0161	0.0111	14.0	0.027	0.0047 J	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.25 J	0.16 J	0.29 J	0.36 J	0.386	0.34 J	0.79	0.965	1.15	0.5 U	0.862	2.00 U	< 0.200 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	40	38	35	42	62.4	64	99.6	149	186	64.4	135	53.3	41.8	53.7	45	61.6	
Fluoride	2	0.12	0.091 J	0.11	0.11	0.0677	0.46	0.12 J	0.2 U	0.123	0.5 U	0.101 J	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	16	11	7.2	7.3	9.27	8	6.6	8.5	9.99	9.97 J	8.24 J	14.2	13.3	0.0225	12.8	12.5	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 U	0.05 U	0.006 U	0.11 U	0.1 U	0.06 U	0.03 U	0.15 UJ	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.006 U	0.010 U	0.005 U	0.06 U	0.03 U	0.15 UJ	0.0300 U	0.0600 U	< 0.0600 U	< 0.0030 U	< 0.0600 U	< 0.0600 U	
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.015 J	0.025 U	0.012 U	0.10 U	0.095 U	0.12 U	0.06 U	0.3 UJ	0.0600 U	0.120 U	< 0.120 U	< 0.0630 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	2.58 U	0.601 U	6.41	4.62	1.1 U	5.48	2.43 U	2.7	2.75	20.5	1.86 J	4.80	1.26 J	19.2	15.6		
Gross Beta ⁽⁴⁾	50	16.3	39.6	34.4	37	33.6	24.4	16.5	36.0	14.1	28.6	8.90	12.8	1.34 J	13.9	10.6		
Radium-226 ⁽⁵⁾	5	0.546 J	0.516 J	0.731 J	0.82 U	0.8	0.527 U	0.247 U	1.3	1.2	0.994	0.559	0.655	0.587	1.36	2.51		
Radium-228 ⁽⁵⁾	5	0.369 J	0.783 J	0.474 J	0.608 J	0.9	1.88 U	0.722 U	0.8 U	0.475	1.71 J	1.09	1.85	1.93	1.73	1.02		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	84	130	110	120	160	84.5	177	389	496	44.1	227	79.8	89.6	82.2	97.7 H	44.9 H	
Total Dissolved Solids	500	200	270	220	260	301	257	330	654	652	286	555	340	85.8	210	44	130	
Total Solids	NS															238	144	
Total Suspended Solids	NS	28	110	200	150	33	111	28.3	2 U	4 J	420	13	80.0	100	162	194	14	
Field Parameters																		
pH (S.U.)	6.5-8.5	7.78	12.26	10.7	11.6	NA	NA	12.55	12.29	13.05	10.52	12.29	10.79	7.26	7.9	7.51	10.00	
Specific Conductivity (mS/cm)	NS	0.343	0.695	0.64	0.879	NA	NA	1.21	1.8	2.31	0.401	2.42	0.474	0.347	0.327	0.381	0.367	
Temperature (°c)	NS	17.59	17.52	15.66	14.44	NA	NA	14.60	15.52	14.72	13.96	15.97	16.35	15.00	17.95	15.14	15.19	
Turbidity (NTU)	NS	26	70.3	158	122	NA	NA	13.2	2.4	1.7	738	1.7	0.0	201.0	270.0	286.0	3.1	
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.13	0.00	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.85	
Oxidation-Reduction Potential (mV)	NS	-338	-359	-313	-198	NA	NA	-207	-340	-102	-205	-165	-178	-87	-179	-167	-102	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	PZ-1																	
Sample Number:	SMCL	PZ-1-20170629	PZ-1-20171006	PZ-1-20180425	PZ-1-20181015	PZ-1	PZ-1	PZ-1_051820	PZ-1	DUP-3	PZ-1	PZ-1	PZ-1	DUP-2	PZ-1	PZ-1	PZ-1	PZ-1	PZ-1
Date Sampled:	(1)	6/29/2017	10/6/2017	4/25/2018	10/15/2018	7/11/2019	11/25/2019	5/18/2020	09/23/2020	9/23/2020	4/21/2021	9/21/2021	5/4/2022	5/4/2022	8/30/2022	5/1/2023	8/23/2023	4/22/2024	9/9/2024
Duplicate of:										PZ-1				PZ-1					
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.033 J	0.05 U	0.018 J	0.024 J	0.0421	0.050 U	0.0183 J	0.0261 J	0.0229 J	0.008 U	0.049 J	0.0080 U	0.0080 U	0.0040 U	< 0.0800 U	< 0.0800 U	0.0883	< 0.0800 U
Arsenic	0.01	0.0028 J	0.003 U	0.003 U	0.003 U	0.001 U	0.00046 J	0.0005 J	0.0016 J	0.0021	0.0028	0.001 U	0.0010 U	0.0010 U	0.0010 U	< 0.0010 U	0.0025	< 0.0010 U	< 0.0010 U
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0010 U	0.0005 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	270	230 J	210	250	222	217	213	192	189	169	204	180	178	185	175	164	149	159
Iron	0.3	160	140 J	130	160	138	138	132	124	121	114	136	115	114	97.6	89.1	94.2	81.4	86.9
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0020 U	0.001 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	280	240 J	220	270	248	235	223	217	212	185	228	205	203	194	178	189	169	183
Manganese	0.05	210	36 J	33	37	35.5	30.2	35.3	32.9	32.9	28.3	28.6	27.7	27.7	24.1	23.1	22.5	19.6	20.6
Nickel ⁽²⁾	0.073	0.0032 J	0.0022 J	0.005 U	0.005 U	0.0073 J	0.0028 J	0.003 U	0.0058	0.0056	0.0193	0.0062 J	0.0071	0.0073	0.0061 J	0.0076	0.0062	0.0063	0.0032 J
Potassium	NS	33	29 J	27	32	30.5	29.7	30.7	27.4	26.6	24.6	28.8	26.1	25.7	25.1	23.3	23.7	21.5	25.2
Sodium	NS	2700	430 J	400	490	468	442	449	429	423	370	448	411	399	373	363	353	332	369
Zinc	5	0.02 U	0.02 U	0.02 U	0.02 U	0.0069 J	0.020 U	0.015 U	0.0028	0.0036	0.0035	0.0146	0.0031	0.0032	0.0042 J	0.0031 J	< 0.0020 U	0.0025 J	0.0037 J
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	7.2 J	4.2	7.8 J	6.1 J	2.01	3.9	3.8	3.82	3.58	3.6	4.19	3.63	3.50	3.75 J	3.34 J	3.28 J	3.23 J	3.45 J
Chloride	250	810	750	720	780	564	692	763	725	678	660	665	592	575	602	622	564	527	563
Fluoride	2	2.5 U	0.061 J	2.5 U	2.5 U	0.0205	0.89	0.52	0.2 U	0.2 U	0.264	0.301	0.165 J	0.164 J	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	1400	1300	1300 J	1300	1320	1110	1400	1120	1050	888	1120	1090	1090	924	807	790	757	715
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 R	0.25 U	0.892	0.34	1	0.06 U	0.06 U	0.0407 J	0.0779 J	0.0300 U	0.0300 U	0.00300 U	< 0.0600 H, U	< 0.0600 U	0.0673 J	< 0.0600 U
Nitrogen, Nitrite	1	ND	ND	0.05 R	0.25 U	0.006 U	0.010 U	0.005 U	0.06 U	0.12 U	0.03 U	0.06 U	0.0300 U	0.0300 U	0.00300 U	< 0.0600 H, U	< 0.0030 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.029 J	0.02 J	0.892	0.34	1	0.12 U	0.06 U	0.06 U	0.12 U	0.0600 U	0.0600 U	0.00600 U	< 0.120 H, U	< 0.0630 U	< 0.120 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	0 U	16 U	-4.39 U	4.4 U	5.3	-3.74 U	2.25 U	4.3 U	3.9 U	1.47 U	2.43 U	-0.815 U	0.000 U	8.36	2.44 J	4.30 J	1.68 U	
Gross Beta ⁽⁴⁾	50	37.7	13.5	21	10.2 U	34.9	26.7	19.3	33.6	47.6	12	31.8	25.6	25.9	27.8	24.4	24.0	21.2	
Radium-226 ⁽⁵⁾	5	0.361 J	0.318 J	0.273 U	0.503 U	2.9	0.589	1.17	1.0	1.2	0.5	0.645	0.238	0.557	0.444	0.818	0.544	1.07	
Radium-228 ⁽⁵⁾	5	0.935 J	1.6 U	1.11	1.83	1.4	2.19 U	0.394 U	1.1	1.2	0.712	1.83	1.38	1.28	2.14	1.88	1.32	0.489	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	510	550	550	670	580	401	542	597	656	506	269	229	215	486	588	771	663	663 H
Total Dissolved Solids	500	4100	4200	3200	3600	3770	3170	3570	3210	3210	3040	3690	3320	3150	3230	3080	2610	2510	< 8.00 U
Total Solids	NS																2600		74
Total Suspended Solids	NS	220	160	59	48	120	125	63.5	128	150	70	111	133	120	100	95.0	41.0	90.0	130.0
Field Parameters																			
pH (S.U.)	6.5-8.5	6.55	6.15	6.37	6.16	NA	NA	6.36	6.26	NA	6.38	6.02	6.37	NA	6.15	5.9	6.10	5.93	6.17
Specific Conductivity (mS/cm)	NS	5.39	5.24	4.73	5.1	NA	NA	5.07	4.15	NA	4.13	5.15	5.65	NA	4.31	4.93	4.28	4.21	4.93
Temperature (°C)	NS	18.4	18.37	16.16	16.85	NA	NA	16.61	14.95	NA	15.67	14.82	13.72	NA	14.68	14.32	15.10	13.71	15.54
Turbidity (NTU)	NS	3.04	1.09	1.98	7.2	NA	NA	9.9	4.1	NA	4.2	16.6	0.0	NA	0.0	0.0	0.0	5.9	0.9
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.00	0.03	NA	NA	0.00	0.00	NA	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.76
Oxidation-Reduction Potential (mV)	NS	-65	-128	-87	-79	NA	NA	-111	-96	NA	-28	-84	-86	NA	23	-12	-49	-43	-77

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	PZ-2																		
Sample Number:	SMCL	PZ-2-20170705	PZ-2-20171005	DUP-02-20171005	PZ-2-20180501	DUP-02-20180501	PZ-2-20181023	PZ-2	PZ-2	PZ-2_052120	PZ-2	PZ-2	PZ-2	DUP-2-PZ-2	PZ-2	PZ-2	PZ-2	PZ-2	PZ-2	PZ-2
Date Sampled:	⁽¹⁾	7/5/2017	10/5/2017	10/5/2017	5/1/2018	5/1/2018	10/23/2018	7/9/2019	11/25/2019	5/21/2020	9/17/2020	4/22/2021	9/22/2021	9/22/2021	5/10/2022	9/7/2022	5/2/2023	8/23/2023	4/23/2024	9/10/2024
Duplicate of:				PZ-2-20171005		PZ-2-20180501														
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.098 J	0.024 J	0.018 J	0.05 U	0.05 U	0.024 J	0.0085 J	0.0342 J	0.0183 J	0.0222 J	0.0917	0.04 U	0.04 U	0.0080 U	0.0364 J	< 0.0800 U	< 0.0800 U	0.0250 J	< 0.0800 U
Arsenic	0.01	0.0045	0.0044	0.0043	0.005	0.0055	0.0053	0.0051	0.0052	0.005	0.0053	0.0066	0.0044	0.0048	0.0042	0.0049	0.0054	0.0059	0.0058	0.0043
Beryllium	0.004	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0010 U	0.0005 U	0.0004 U	0.0004 U	0.002 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Cadmium	0.005	0.0004 U	0.0004 U	0.00022 J	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.0030 U	0.002 U	0.0004 U	0.0004 U	0.002 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	14	9.8	9.5	11	11	11	25	18.1	23.2	24.5	18.8	17.1	16.8	21.5	16.8	22.1	19.4	20.2	18.5
Iron	0.3	99	76	74	76	81	68	68	64.5	67.6	66.2	60.7	54.3	56.7	53.8	56.7	57.0	51.6	55.0	48.3
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0020 U	0.0013 U	0.0004 U	0.0006 J	0.002 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	12	9	8.5	9.4	10	8.7	9.64	7.72	9.77	9.46	9.76	8.26	8.4	10.4	9.01	9.44	8.80	9.32	7.79
Manganese	0.05	1.1	0.89	0.86	0.86	0.92	0.78	0.802	0.751	0.862	0.884	0.843	0.802	0.834	1.25	0.941	1.09	0.956	1	0.956
Nickel ⁽²⁾	0.073	0.0047 J	0.0029 J	0.0034 J	0.005 U	0.0019 J	0.005 U	0.0029 J	0.0039 J	0.0016 U	0.0024	0.0093	0.005 J	0.0034 J	0.005	0.0037 J	0.0064	0.0030 J	0.0069	0.0026 J
Potassium	NS	2	1.3	1.3	1.3	1.4	1.2	1.81	1.58	1.52	1.69	1.45	1.39	1.37	1.74	1.50	1.58	1.63	1.33	1.41
Sodium	NS	86	67	65	55	59	50	56.5	57.2	56.1	53.3	46	50.9	46.4	52.8	49.5	46.5	43.6	44.3	43
Zinc	5	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.0061 J	0.020 U	0.015 U	0.0046	0.0054	0.0819	0.0827	0.0074	0.0021 J	0.0159	0.0046 J	0.0063	0.0059
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	0.32 J	0.28	0.28	0.51 J	0.5 J	1 U	0.326	0.19 J	0.36 J	0.331 J	0.32	0.249 J	0.292 J	0.312 J	2.00 U	0.287 J	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	30	29	29	27 J	27 J	26	35.6	33.4	29.1	30.8	32.6	25.6	26.2	25.2	27.1	31.4	29.7	27.9	26.6
Fluoride	2	0.097 J	0.1	0.098 J	0.11 J	0.11 J	0.2 U	0.0246	0.056 J	0.081 J	0.2 U	0.1 U	0.2 U	0.2 U	0.200 U	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	170	110	110	100 J	99 J	85	83.2	68.7	71.4	86.8	88.6	74.1	78.6	113	94.6	83.3	80.8	64.9	62.3
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	ND	0.1 U	0.1 U	0.5 U	0.006 U	0.11 U	0.1 U	0.06 U	0.03 U	0.06 U	0.06 U	0.0600 U	0.0600 U	< 0.0600 H, U	< 0.0600 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrite	1	ND	ND	ND	0.1 U	0.1 U	0.5 U	0.006 U	0.0032 J	0.005 U	0.06 U	0.03 U	0.06 U	0.06 U	0.0600 U	0.0600 U	< 0.0600 H, U	< 0.0030 U	< 0.0600 U	< 0.0600 U
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.025 U	0.012 U	0.10 U	0.095 U	0.12 U	0.06 U	0.12 U	0.120 U	0.1200 U	< 0.120 H, U	< 0.0630 U	< 0.120 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	3.36	1.91 U	1.61 U	3.61 J	-0.803 U	0.493 U	2.6	4.45	2.91 U	3.4	2	2.33	3.02	5.27	2.29	3.54	3.58	2.55	
Gross Beta ⁽⁴⁾	50	3.58 U	2.38 J	0.538 U	2.05 J	1.19 U	1.47 U	5.3	3.15	2.6 U	7.1	0.809 J	3.38	2.67	4.80	1.97	3.42	4.92	2.27 J	
Radium-226 ⁽⁵⁾	5	1.25	0.86 J	1.02	1.09	1.05	0.875 U	1.5	1.4	1.62	1.1	0.791	0.916	0.869	0.872	0.874	0.759	1.26	1.03	
Radium-228 ⁽⁵⁾	5	1.04	0.486 U	0.602 U	0.55 J	0.965 J	0.735 J	0.9	1.65	0.582 U	0.71	0.637	2.18	0.778	1.33	1.38	1.14 J	1.80	1.31	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	63	110	92	120	130	88	99	74	105	91.4	85	77.3	75.4	84.0	63.9	83.4	81.4	83.8	73.5
Total Dissolved Solids	500	340	380	390	330	330	300	302	411	240	308 J	328	295	265	338	316	345	323	284	146
Total Solids	NS																	376	238	
Total Suspended Solids	NS	110	80	98	48	51	110	122	115	75.5	126	64	81	83	68.0	34.0	43.0	43.0	92.0	92.0
Field Parameters																				
pH (S.U.)	6.5-8.5	6.75	6.71	NA	6.98	NA	6.85	NA	NA	7.29	7.1	6.71	6.66	NA	6.90	6.60	6.27	6.63	6.36	7.05
Specific Conductivity (mS/cm)	NS	0.716	0.72	NA	0.712	NA	0.593	NA	NA	0.525	0.385	0.462	0.461	NA	0.642	0.483	0.540	0.479	0.569	0.513
Temperature (°c)	NS	17.79	18.42	NA	16.65	NA	17.15	NA	NA	15.48	14.74	14.08	13.80	NA	13.94	14.58	13.93	14.68	13.35	15.01
Turbidity (NTU)	NS	8.3	2.46	NA	9.81	NA	7.33	NA	NA	15.9	15.8	20.4	7.0	NA	0.0	0.0	6.7	0.0	20.3	3.2
Dissolved Oxygen (mg/L)	NS	0.00	0.00	NA	0.00	NA	0.00	NA	NA	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00	0.00
Oxidation-Reduction Potential (mV)	NS	-134	-171	NA	-185	NA	-145	NA	NA	-210	-219	-110	-119	NA	-123	-131	-78	-106	-110	-178

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	PZ-3																
Sample Number:	SMCL	PZ-3-20170707	PZ-3-20171016	PZ-3-20180502	PZ-3-20181019	PZ-3	PZ-3	PZ-3_052120	PZ-3	PZ-3	PZ-3	PZ-3	DUP-3	PZ-3	PZ-3	PZ-3	PZ-3	PZ-3
Date Sampled:	⁽¹⁾	7/7/2017	10/16/2017	5/2/2018	10/19/2018	7/11/2019	11/25/2019	5/21/2020	9/16/2020	4/20/2021	9/23/2021	5/11/2022	5/11/2022	9/8/2022	4/26/2023	8/22/2023	4/16/2024	9/4/2024
Duplicate of:													PZ-3					
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	19	16	16	16 J	13.7	13.5	14.5	13.3	11.4	11	10.9	10.8	10.0	10.2	9.91	10.2	8.98
Arsenic	0.01	0.0042	0.0057	0.0077	0.0045	0.0018 J	0.0158	0.0102 J	0.001 U	0.0041	0.001 U	0.0010 U	0.0010 U	0.0010 U	< 0.0010 U	0.0031	< 0.0010 U	< 0.0010 U
Beryllium	0.004	0.0089	0.0063	0.0084	0.0084	0.0052 J	0.0071	0.0079 J	0.004 J	0.0057	0.0051 J	0.0041	0.0041	0.0030 J	0.0049 J	0.0045 J	0.0051	0.005 J
Cadmium	0.005	0.0004 U	0.001	0.0011	0.0013	0.0013 J	0.00070 J	0.0012 J	0.0015 J	0.0014 J	0.002 U	0.0015 J	0.0015 J	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Calcium	NS	170	140	170	150	149	140	128	116	113	106	109	109	104	107	92.9	105	89.2
Iron	0.3	280	240	290	260	253	249	219	204	199	185	177	176	174	174	161	175	151
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.0023	0.0016 U	0.0033	0.0004 U	0.002 U	0.0004 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U
Magnesium	NS	140	120	140	130	131	125	116	108	102	94.9	96.8	96.0	92.3	92.3	88.3	98	82
Manganese	0.05	590	120	92	110	118	98.8	81.9	93.2	85	77.8	79.8	79.4	75.7	76.1	70.4	75.4	70.2
Nickel ⁽²⁾	0.073	0.38	0.34	0.36	0.33 J	0.35	0.285	0.323	0.272	0.227	0.247	0.192	0.188	0.111	0.217	0.214	0.201	0.201
Potassium	NS	14	12	14	13 J	13.1	11.2	11.8	10.5	10.3	9.27	9.45	9.44	9.27	9.09	8.63	8.77	8.53
Sodium	NS	270	240	280	250	260	244	226	218	204	186	193	193	176	183	170	189	161
Zinc	5	0.72	0.64	0.66	0.65	0.636	0.586	0.667 U	0.428	0.425	0.475 J	0.0457	0.0455	0.463	0.455	0.516	0.19	0.453
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	5 U	1.9	2	1.8	1.76	0.66	1.5	1.85	1.78	1.65	1.52	1.49	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Chloride	250	340	330	280	320	273	274	252	297	305	248	207	205 J	239	285	206	289	216
Fluoride	2	0.82 J	0.35 J	0.43	0.42	0.305	0.57	0.46	0.482	0.362	0.559	0.416 J	0.399 J	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U
Sulfate	250	2300	1800	2400	3500	2410	1550	1850	1290	1660	1460	1040	1030	1410	2110	1560	1870	1020
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	ND	ND	0.05 U	0.05 U	0.0829	0.11 U	0.1 U	0.06 UJ	0.03 U	0.06 U	0.0600 U	0.0600 U	0.0600 U	< 0.0600 U	0.0752 J	0.118 H, J	< 0.0600 H,
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 UJ	0.006 U	0.010 U	0.005 U	0.06 UJ	0.03 U	0.06 U	0.0600 U	0.0600 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 H,
Nitrogen, Nitrate-Nitrite	10	0.25 U	0.025 U	0.025 U	0.04 J	0.0829	0.10 U	0.095 U	0.12 U	0.06 U	0.12 U	0.120 U	0.120 U	0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	-1.48 U	4.74 U	3.47 U	4.97 U	8.9	8.22 U	3.82 U	7.2	9.11 J	1.16 U	2.74 J	3.28 J	6.23 J	1.48	4.46 J	4.86 J	
Gross Beta ⁽⁴⁾	50	21.9	15.3	8.88 U	11.3	31.6	12.3	19.3	25.4	-0.577 U	9.6 U	20.0	12.3	15.5	17.6	11.3	11.1	
Radium-226 ⁽⁵⁾	5	0.61 J	0.677 J	0.382 J	0.742 U	2.6	0.73	0.505 U	2.1	3.31	0.807	0.673	1.25	0.600	0.784	1.21	0.512 J	
Radium-228 ⁽⁵⁾	5	2	2.88 U	1.69	1.96	2.2	2.61	2.49 J	3.1	0.361	0 U	3.08	2.26	2.76	0.857	3.37	3.15	
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	5 U	5 U	5 U	5 U	12.6	10 U	4 U	56.8	5 U	5 U	9.04 J	5.00 U	5.00 U	30.3	7.51 J	87.5 H	< 5.00 U
Total Dissolved Solids	500	3000	3400	3200	3200	3320	2740	2620	2800	2820	2330 J	2520	2640	2210	2290	1650	2200	1970
Total Solids	NS																2200	1970
Total Suspended Solids	NS	34	5.6	1200	4.4	22	19	4.6	8 J	8 J	2 R	13.0	6.43 J	3.00 J	11.0	4.00 J	7.0 J	4.00 J
Field Parameters																		
pH (S.U.)	6.5-8.5	4.26	4.18	5.02	4.55	NA	NA	4.10	4.13	4.24	3.80	4.20	NA	3.53	3.34	3.8	3.93	6.34
Specific Conductivity (mS/cm)	NS	3.2	3.74	3.18	3.42	NA	NA	3.10	2.7	2.99	2.74	3.49	NA	2.90	3.42	2.57	2.81	2.81
Temperature (°c)	NS	18.88	16.87	21.75	16.14	NA	NA	16.64	15.86	14.69	13.85	15.04	NA	15.08	14.7	15.02	15.88	17.81
Turbidity (NTU)	NS	5.93	4.96	8.8	9.96	NA	NA	1.7	1.4	26.8	5.7	2.3	NA	3.0	0.0	0.0	1.7	1.9
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.00	0.00	NA	NA	0.00	0.00	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00
Oxidation-Reduction Potential (mV)	NS	156	123	108	155	NA	NA	172	187	192	278	243	NA	281	287	215	234	95

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	PZ-4																		
Sample Number:	SMCL	PZ-4-20170717	PZ-4-20171004	PZ-4-20180503	PZ-4-20181019	PZ-4	PZ-4	PZ-4_052220	PZ-4	PZ-4	DUP-2-PZ-4	PZ-4	PZ-4	PZ-4	PZ-4	PZ-4	PZ-4	DUP-3	PZ-4	PZ-4
Date Sampled:	(1)	7/17/2017	10/4/2017	5/3/2018	10/19/2018	7/15/2019	11/20/2019	5/22/2020	9/24/2020	4/22/2021	4/22/2021	9/22/2021	5/3/2022	9/1/2022	4/26/2023	8/30/2023	8/30/2023	4/16/2024	9/4/2024	
Duplicate of:																				
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Aluminum	0.05	0.16	1.2 J	5.7	2.2 J	4.73	4.83	12.7	7.31	9.62	9.6	9.04	15.3	11.5	12.6	14.00	13.9	14.9	14.70	
Arsenic	0.01	0.0021 J	0.0042	0.0046	0.0039	0.0014 J	0.011	0.0119 J	0.0025	0.0033	0.0028	0.001 U	0.0010 U	0.0010 U	< 0.0010 U	0.0035	0.0037	< 0.0010 U	< 0.0010 U	
Beryllium	0.004	0.00031 J	0.0033	0.0056	0.0053	0.0069 J	0.0084	0.0164	0.0101	0.0122	0.0119	0.0096 J	0.0141	0.0055 J	0.0115	0.0123	0.013	0.0124	0.0124	
Cadmium	0.005	0.00016 J	0.0004 U	0.0004 U	0.0004 U	0.0004 U	0.003 U	0.02 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Calcium	NS	370	260 J	200	190	143	132	164	110	103	102	92.4	116	92.2	99.2	93.8	93.6	97.4	96.2	
Iron	0.3	130	180 J	170	170	148	128	189	134	129	128	111	146	113	119	118	117	123	121	
Lead	0.015	0.0025 U	0.0025 U	0.0025 U	0.0025 U	0.0004 U	0.00025 J	0.01 U	0.0004 U	0.0004 U	0.0004 U	0.002 U	0.0004 U	0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	< 0.0020 U	
Magnesium	NS	100	94 J	92	92	83.6	73	102	72.2	72.8	72.3	61.7	86.1	65.8	67.0	67.9	67.5	71.9	68.8	
Manganese	0.05	54	79 J	77	67	57.4	47.8	61.1	53	47.5	46.5	39.8	50.4	42.2	45.1	43.6	43.5	41	47.1	
Nickel ⁽²⁾	0.073	0.022	0.076 J	0.15	0.14 J	0.169	0.167	0.298	0.155	0.193	0.175	0.197	0.203	0.0804	0.207	0.224	0.218	0.211	0.251	
Potassium	NS	15	9.7	20	7.6 J	8.83	10.3	11.6	6.75	6	5.97	6.02	6.94	6.92	6.68	7.30	7.17	7.1	7.45	
Sodium	NS	210	170 J	160	140	129	119	157	121	108	106	99.7	133	110	104	107	107	106	112	
Zinc	5	0.02 U	0.03 J	0.064	0.059	0.154	0.169	0.522 U	0.175	0.244	0.23	0.307	0.339	0.325	0.380	0.409	0.400	0.164	0.471	
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Bromide	NS	1.2	1.4	2.1 J	3.6	0.874	0.55	1	0.806	0.894	0.89	0.839	0.799	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Chloride	250	300	270	220	230	170	194	210	176	196	195	158	164	196	170	177	168	164	169	
Fluoride	2	0.28	0.89 J	0.49 J	0.55	0.619	1.4	1.3	0.819	0.877	0.925	1.08	0.853	2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	< 2.00 U	
Sulfate	250	1200	1400	1500	1500	1130	1340	1430	1030	1070	1050	983	1210 J	1160	937	984	1320	1040	840	
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Nitrogen, Nitrate	10	0.0068 J	0.0025 J	0.05 U	0.05 U	0.006 U	0.11 U	0.1 U	0.06 U	0.03 U	0.03 U	0.06 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	0.0810 H, J	< 0.0600 H, U	
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 UJ	0.0115 J	0.0032 J	0.005 U	0.06 U	0.03 U	0.03 U	0.06 U	0.0300 U	0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 U	< 0.0600 H, U	< 0.0600 H, U	
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.025 U	0.025 UJ	0.028 J	0.012 U	0.10 U	0.095 U	0.12 U	0.06 U	0.06 U	0.12 U	0.0600 U	0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	< 0.120 U	
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L
Gross Alpha ⁽³⁾	15	3.39 U	-1.19 U	7.57 U	0.711 U	9.6	3.56 U	6.43 U	9.9	10.9	6.28 J	6.12	7.54	11.1	2.28	10.9	5.03	6.19		
Gross Beta ⁽⁴⁾	50	13.5	3.43 U	14.7	0.328 U	15	11.6	10.9	18.5	7.47	5.45 J	9.39	18.3	14.9	16.7	13.9	5.60	9.27		
Radium-226 ⁽⁵⁾	5	0.553 J	0.385 J	0.733 J	0.964 U	2.3	0.599	0.445 J	2.7	0.764	1.03	1.84	3.10	1.71	0.219 J	2.74	0.393	2.18		
Radium-228 ⁽⁵⁾	5	0.747 U	0.582 J	1.31	1.31	2.2	2.18	1.29 U	2.9	3.5 J	1.55 J	2.9	4.55	4.66	-0.359 U	4.01	0.888	4.95		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Total Alkalinity	NS	43	81	66	59	31.5	17.5	4 J	5 U	5 U	5 U	5 U	5.00 U	5.00 U	< 5.00 U	< 5.00 U	< 5.00 U	< 5.00 U, H	< 5.00 U	
Total Dissolved Solids	500	2400	2700	2500	2300	2100	1860	2200	1770	1770 J	915 J	1660	2000	1750	1710	1760	1860	1620	1730	
Total Solids	NS																	1620	1740	
Total Suspended Solids	NS	84	110	43	19	17.6	22.3	22.1	15 J	2 U	5 J	3 J	1.00 J	7.00 J	2.00 J	4.00 J	7.00 J	3.00 J	5.00 J	
Field Parameters																				
pH (S.U.)	6.5-8.5	7.27	6.36	5.47	5.72	NA	NA	4.87	4.93	4.58	NA	4.51	4.71	3.92	3.92	4.34	NA	4.51	2.13	
Specific Conductivity (mS/cm)	NS	2.92	3.3	3.14	2.82	NA	NA	2.99	1.79	2.01	NA	1.86	2.80	2	2.45	1.84	NA	2.19	2.37	
Temperature (°C)	NS	22.57	18.5	23.2	16.12	NA	NA	15.32	14.14	13.99	NA	13.97	13.57	14.52	14.51	14.74	NA	13.48	14.36	
Turbidity (NTU)	NS	9.24	15.8	17.3	6.9	NA	NA	26.1	3.7	2.8	NA	2	0.0	0.0	0.0	0.0	NA	6.7	0.0	
Dissolved Oxygen (mg/L)	NS	0.00	0.00	0.00	0.00	NA	NA	0.00	0.00	0.00	NA	0.00	0.00	0.00	0.00	0.00	NA	0.00	0.00	
Oxidation-Reduction Potential (mV)	NS	-114	-99	12	11	NA	NA	113	99	123	NA	152	157	290	207	203	NA	173	244	

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Sampling Location:	MCL/	PZ-5													
Sample Number:	SMCL	PZ-5-20170726	PZ-5-20171016	PZ-5-20180509	PZ-5-20181030	PZ-5	PZ-5	PZ-5_051820	PZ-5	PZ-5	PZ-5	PZ-5	PZ-5	PZ-5	
Date Sampled:	⁽¹⁾		10/16/2017	5/9/2018	10/30/2018	7/15/2019	11/20/2019	5/18/2020	09/29/2020	5/6/2021	10/5/2021	8/30/2023	4/23/2024		
Duplicate of:															
Total Inorganics		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Aluminum	0.05	0.05 U	0.05 U	0.028 J	0.022 J*	0.103	0.0197 J	0.0289 J	0.077	0.872	0.249	0.194 J	0.149		
Arsenic	0.01	0.003 U	0.0019 J	0.0018 J	0.0017 J*	0.0014 J	0.0015 J	0.00088 J	0.001 U	0.0016 J	0.001 U	< 0.0010 U	< 0.0010 U		
Beryllium	0.004	0.0004 U	0.00022 J	0.0004 U	0.0004 U*	0.002 U	0.000066 J	0.0002 J	0.0004 U	0.0005 J	0.002 U	< 0.0020 U	< 0.0020 U		
Cadmium	0.005	0.0004 U	0.00024 J	0.00058 J	0.0004 J*	0.003	0.0014 J	0.0014 J	0.0038	0.0088	0.0055 J	0.0028 J	0.0048 J		
Calcium	NS	21	27	43	50 *	69	45	33.2	73.8	81.7	51.3	48.5	57.9		
Iron	0.3	24	20	5.8	8.8 *	4.61	7.34	2.94	7.07	5.9	0.899	0.437	0.127		
Lead	0.015	0.0013 J	0.0025 U	0.0025 U	0.0025 U*	0.0024	0.00038 J	0.00018 J	0.0005 U	0.007	0.002 U	0.0039 J	< 0.0020 U		
Magnesium	NS	15	19	21	18 *	27.6	18.3	17.2	48.8	22	26.1	22.0	18.1		
Manganese	0.05	11	15	16	13 *	17.8	14.6	12.1	39.7	17.3	21.7	18.9	16.5		
Nickel ⁽²⁾	0.073	0.042	0.11	0.11	0.082 *	0.157	0.108	0.129	0.327	0.15	0.226	0.194	0.134		
Potassium	NS	5.9	5.5	6.5	6.6 *	6.59	5.94	6.55	9.83	7.21	8.26	6.89	6.3		
Sodium	NS	22 J	24	31	22 *	15.7	19.2	22.4	31.2	11.3	13.5	21.1	12.2		
Zinc	5	0.048	0.18	0.35 J	0.16 *	0.629	0.563	0.36	0.888	0.886	0.674	0.484	0.423		
Anions		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Bromide	NS	0.32 J	0.3	0.41 J	0.35 J	0.288	0.15 J	0.13 J	0.2 U	0.246 J	0.5 U	< 2.00 U	< 2.00 U		
Chloride	250	24	34	23	22	12.6	22.5	29.1	23.3	10.3	11.1 J	27.4	9.95		
Fluoride	2	0.1 U	0.06 UJ	0.1 U	0.1 U	0.02	0.065 J	0.1 U	0.2 U	0.143	0.5 U	< 2.00 U	< 2.00 U		
Sulfate	250	130	180	210	190 J	159	210	200	580	197	236	249	157		
Nitrogen		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Nitrogen, Nitrate	10	ND	0.0021 J	0.23	0.24	0.817	0.12	0.21	0.06 U	2.87 J	0.343 J	0.0815 J	6.6100		
Nitrogen, Nitrite	1	ND	ND	0.05 U	0.05 U	0.00948 J	0.0081 J	0.005 U	0.06 U	0.037 J	0.15 U	< 0.0600 U	< 0.0600 U		
Nitrogen, Nitrate-Nitrite	10	0.025 U	0.029 J	0.28	0.18 *	0.826	0.13	0.21	0.12 U	2.91 J	0.343 J	< 0.120 U	6.6100		
Radiochemistry ⁽⁶⁾		pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	pCi/L	
Gross Alpha ⁽³⁾	15	0.908 U	0.0767 U	3.02	0 U	5.2	0.343 U	2.43 J	1.5	9.49	3.38	19.8	3.84		
Gross Beta ⁽⁴⁾	50	5.09	4.31	5.81	6.88	11.1	8.17	4.42 J	15.6	13.1	13.1	14	8.45		
Radium-226 ⁽⁵⁾	5	0.113 J	0.122 J	0.275 J	0.644 J	1	0.823	1.39	0.8	3.41	0.557 J	3.31	1.51		
Radium-228 ⁽⁵⁾	5	0.868 U	0.836 U	0.402 U	1.38 U	1.4	0.0534 U	-0.041 U	1.6	1.12	1.86	2.84	1.59		
Miscellaneous		mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	
Total Alkalinity	NS	46	39	56	82 *	91.6	68.5	10.5	15.2	103	40.8	99.4	114.00		
Total Dissolved Solids	500	140	440	430	440	481	390	346	842	606	560	550	472		
Total Solids	NS												472		
Total Suspended Solids	NS	7.9 U	3.2	3.1	10	61	18.4	1.7 J	2 U	41.7	22	20.0	< 4.00 U		
Field Parameters															
pH (S.U.)	6.5-8.5	4.2	5.24	5.43	6.12	NA	NA	5.89	5.4	NA	NA	NA	NA		
Specific Conductivity (mS/cm)	NS	0.474	0.615	0.681	0.655	NA	NA	0.461	0.65	NA	NA	NA	NA		
Temperature (°C)	NS	17.13	14.38	16.85	16.89	NA	NA	14.97	14.38	NA	NA	NA	NA		
Turbidity (NTU)	NS	6.17	1.81	3.64	3.77	NA	NA	2.7	2.3	NA	NA	NA	NA		
Dissolved Oxygen (mg/L)	NS	3.2	1.73	0.79	0.00	NA	NA	0.00	0.00	NA	NA	NA	NA		
Oxidation-Reduction Potential (mV)	NS	334	167	55	-3	NA	NA	101	126	NA	NA	NA	NA		

Table 4
Data Summary of Analytical Results
Comparison July 2017 through September 2024
Pearce Creek Confined Disposal Facility
Cecil County, Maryland

Data Qualifiers:
B -- Analyte is found in the associated blank as well as in the sample.
J -- Value is considered estimated due to exceedance of technical quality control criteria or because result is less than the Limit of Quantitation (LOQ).
J5 -- The sample matrix interfered with the ability to make any accurate determination; spike value is high.
U -- Value is a non-detected result as reported by the laboratory.
UJ -- Non-detected result is considered estimated due to exceedance of technical quality control criteria.
R -- Non-detected result value is considered unusable due to exceedance of technical quality control criteria.
H -- The sample was extracted and/or analyzed outside of the EPA recommended holding time.
NA -- No result is available/applicable for this parameter in this sample.
ND -- Not detected and calculated result was not determined.
NS -- Not Specified

⁽¹⁾MCL = Maximum Contaminant Level National Primary and Secondary Drinking Water Regulations, August 2009.
⁽²⁾The Nickel screening level is the Maryland Department of the Environment (MDE) Groundwater Cleanup Standard.
⁽³⁾Some non-detect results for Gross Alpha were greater than the screening level
⁽⁴⁾The Gross Beta screening value is 4 millirems per year which cannot be applied to the value reported for Gross Beta in pCi/L, therefore guidance purposes, the Gross Beta results will be compared with the 50 pCi/L screening level provided in the Code of Federal Regulations (CFR) and Code of Maryland Regulations (COMAR) sampling and analysis requirements.
⁽⁵⁾MCL is for Ra-226 and Ra-228 combined.
⁽⁶⁾September 2024 RAD data is not available.

Bold values exceed the EPA MCL
Italicized values exceed the EPA secondary standard
Bold, italicized values exceed the MDE standard or COMAR standard.

* The asterisked results for samples PZ-5-20181030 were interchanged with RB-20181030 (not shown). The samples for metals, total-nitrate/nitrite, radium-226, radium-228, and alkalinity reported by the laboratory are suspected to have been switched during the sample handling, shipping, or analysis procedures.

ATTACHMENT B - FIGURES

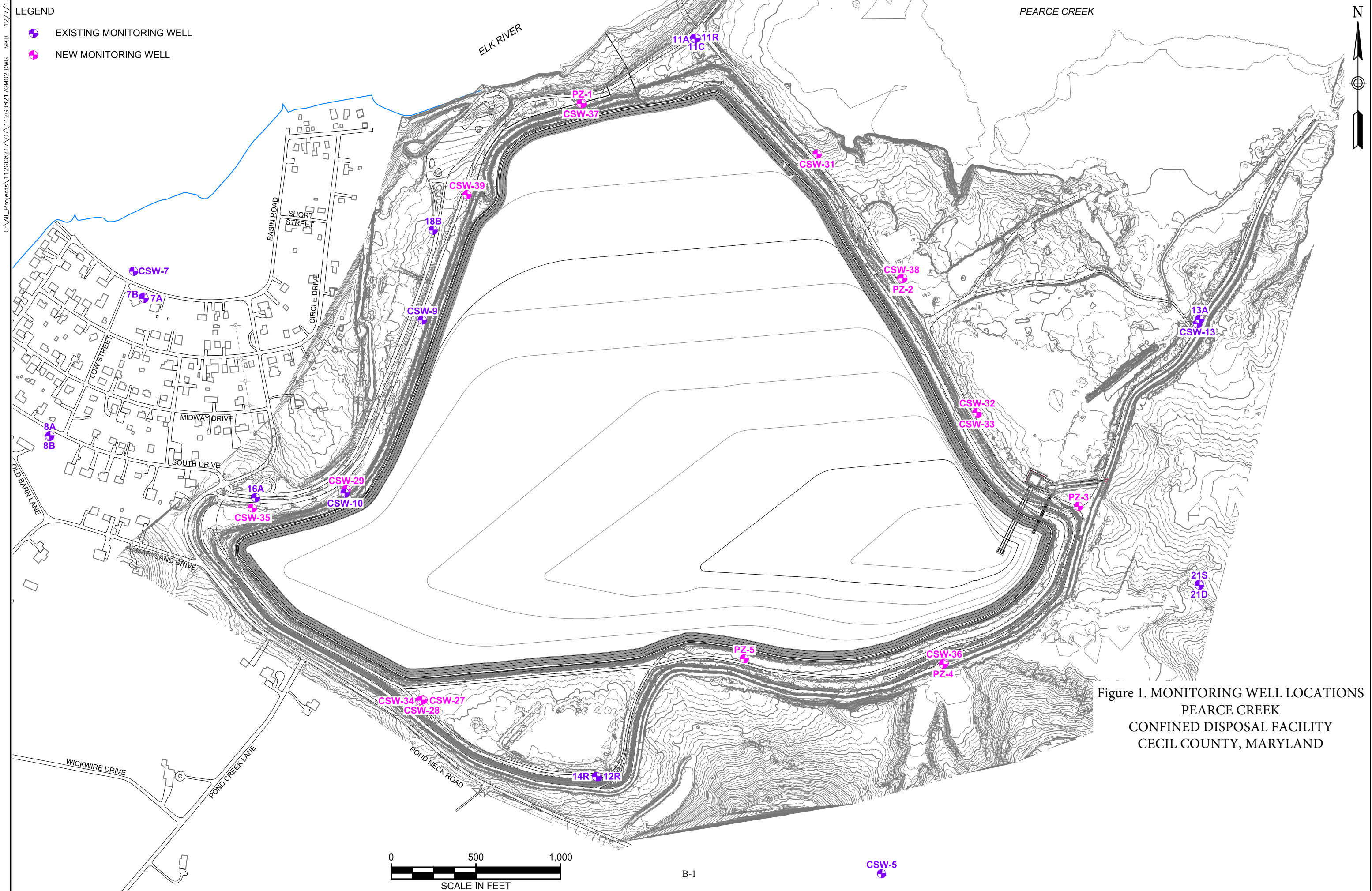


Figure 2. MONITORING WELLS IN THE MAGOTHY AQUIFER



Figure 3. MONITORING WELLS IN THE UPPER PATAPSCO SHALLOW AQUIFER



Figure 4. MONITORING WELLS IN THE UPPER PATAPSCO DEEP AQUIFER



ATTACHMENT C – GROUNDWATER ELEVATION DATA

Well ID	NAD83		Elevation NAVD88 (feet)			Depth to Water April 9, 2024	Groundwater Elevation
	Northing	Easting	Top of Casing	Top of PVC	Ground		
Magothy			ft AMSL			ft AMSL	
CSW-27	641445.523	1598175.768	35.57	35.26	31.92	29.12	6.14
CSW-29	642684.596	1597722.308	31.32	31.20	28.16	26.02	5.18
PZ-1	644964.826	1599115.090	22.63	22.51	19.35	20.17	2.34
PZ-2	643933.022	1601006.901	25.66	25.45	22.56	16.86	8.59
PZ-3	642586.996	1602043.597	24.03	23.87	21.11	14.55	9.32
PZ-4	641654.704	1601244.735	24.38	24.20	21.25	16.50	7.70
PZ-5	641686.897	1600070.702	42.75	42.62	39.52	34.54	8.08
CSW-5	640418.877	1600881.043	47.03	46.82	46.82	NM	NM
CSW-32	643133.172	1601445.241	25.60	25.49	22.78	6.75	18.74
CSW-13	643662.830	1602744.431	17.81	17.26	15.25	7.98	9.28
7A	643813.575	1596529.126	11.52	11.07	11.07	5.65	5.42
8B	642997.164	1595969.647	25.79	25.49	23.55	21.10	4.39
11C	645349.364	1599787.526	23.88	23.51	20.74	20.39	3.12
12R	640990.466	1599205.972	39.79	39.48	36.69	32.37	7.11
16A	642637.393	1597186.522	24.41	24.18	21.48	18.75	5.43
21S	642126.368	1602756.547	24.13	23.93	21.39	15.05	8.88
Patapsco - Shallow							
CSW-28	641442.561	1598166.430	35.56	35.23	32.11	29.98	5.25
CSW-31	644664.678	1600500.662	24.02	23.90	21.12	20.07	3.83
CSW-33	643140.598	1601442.797	25.57	25.45	22.77	21.64	3.81
CSW-37	644963.200	1599108.262	22.04	21.84	19.16	18.82	3.02
CSW-7	643973.655	1596467.431	8.05	7.74	7.74	3.63	4.11
CSW-9	643685.642	1598170.755	31.22	30.85	27.53	25.82	5.03
CSW-10	642664.840	1597714.757	32.21	31.91	28.95	27.40	4.51
8A	643003.316	1595973.516	25.61	25.43	23.52	20.87	4.56
11R	645348.041	1599781.345	23.76	23.43	20.70	19.85	3.58
13A	643691.094	1602757.833	19.72	19.35	15.95	15.67	3.68
14R	640991.624	1599197.731	39.58	39.36	36.64	33.61	5.75
18B	644215.947	1598234.884	30.38	30.10	26.74	25.50	4.60
21D	642120.688	1602755.418	23.89	23.53	21.14	18.94	4.59
Patapsco - Deep							
CSW-34	641438.833	1598156.188	35.70	35.47	32.56	31.30	4.17
CSW-35	642576.531	1597167.435	28.02	27.82	24.69	26.73	1.09
CSW-36	641660.783	1601250.337	24.30	24.13	21.07	19.59	4.54
CSW-38	643929.086	1600999.147	26.64	26.16	22.64	22.91	3.25
CSW-39	644425.568	1598434.781	31.19	30.89	27.65	28.80	2.09
7B	643821.173	1596527.150	11.32	10.78	10.78	8.98	1.80
11A	645346.666	1599775.912	23.75	23.51	20.78	20.28	3.23

Notes:

*Suspected measurement error

Depths to water in feet below top of casing (TOC)

Groundwater elevations in feet above mean sea level (AMSL)

Horizontal Datum: NAD 83 Maryland State Plane

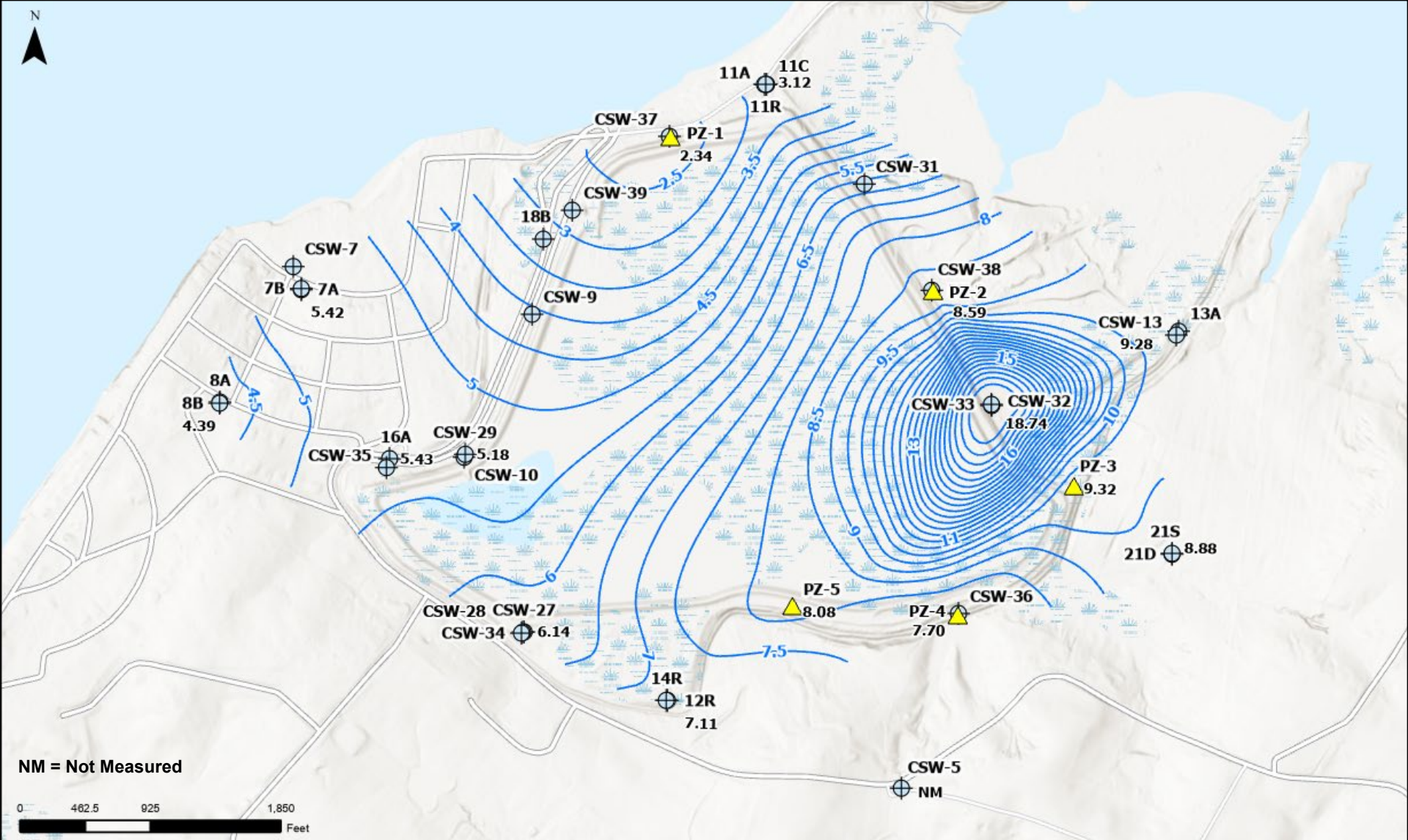
Well ID	NAD83		Elevation NAVD88 (feet)			Depth to Water September 3, 2024	Groundwater Elevation
	Northing	Easting	Top of Casing	Top of PVC	Ground		
Magothy			ft AMSL			ft AMSL	
CSW-27	641445.523	1598175.768	35.57	35.26	31.92	31.50	3.76
CSW-29	642684.596	1597722.308	31.32	31.20	28.16	26.58	4.62
PZ-1	644964.826	1599115.090	22.63	22.51	19.35	NM	NM
PZ-2	643933.022	1601006.901	25.66	25.45	22.56	18.57	6.88
PZ-3	642586.996	1602043.597	24.03	23.87	21.11	19.00	4.87
PZ-4	641654.704	1601244.735	24.38	24.20	21.25	20.00	4.20
PZ-5	641686.897	1600070.702	42.75	42.62	39.52	37.72	4.90
CSW-5	640418.877	1600881.043	47.03	46.82	46.82	43.36	3.46
CSW-32	643133.172	1601445.241	25.60	25.49	22.78	11.50	13.99
CSW-13	643662.830	1602744.431	17.81	17.26	15.25	12.47	4.79
7A	643813.575	1596529.126	11.52	11.07	11.07	5.89	5.18
8B	642997.164	1595969.647	25.79	25.49	23.55	22.20	3.29
11C	645349.364	1599787.526	23.88	23.51	20.74	22.03	NM
12R	640990.466	1599205.972	39.79	39.48	36.69	35.23	4.25
16A	642637.393	1597186.522	24.41	24.18	21.48	19.38	4.80
21S	642126.368	1602756.547	24.13	23.93	21.39	19.80	4.13
Patapsco - Shallow							
CSW-28	641442.561	1598166.430	35.56	35.23	32.11	31.35	3.88
CSW-31	644664.678	1600500.662	24.02	23.90	21.12	21.05	2.85
CSW-33	643140.598	1601442.797	25.57	25.45	22.77	23.75	1.70
CSW-37	644963.200	1599108.262	22.04	21.84	19.16	NM	NM
CSW-7	643973.655	1596467.431	8.05	7.74	7.74	5.02	2.72
CSW-9	643685.642	1598170.755	31.22	30.85	27.53	NM	NM
CSW-10	642664.840	1597714.757	32.21	31.91	28.95	26.40	5.51
8A	643003.316	1595973.516	25.61	25.43	23.52	22.00	3.43
11R	645348.041	1599781.345	23.76	23.43	20.70	21.32	2.11
13A	643691.094	1602757.833	19.72	19.35	15.95	16.98	2.37
14R	640991.624	1599197.731	39.58	39.36	36.64	36.00	3.36
18B	644215.947	1598234.884	30.38	30.10	26.74	26.44	3.66
21D	642120.688	1602755.418	23.89	23.53	21.14	21.35	2.18
Patapsco - Deep							
CSW-34	641438.833	1598156.188	35.70	35.47	32.56	32.70	2.77
CSW-35	642576.531	1597167.435	28.02	27.82	24.69	27.45	0.37
CSW-36	641660.783	1601250.337	24.30	24.13	21.07	21.64	2.49
CSW-38	643929.086	1600999.147	26.64	26.16	22.64	24.26	1.90
CSW-39	644425.568	1598434.781	31.19	30.89	27.65	29.83	1.06
7B	643821.173	1596527.150	11.32	10.78	10.78	10.06	0.71
11A	645346.666	1599775.912	23.75	23.51	20.78	21.71	1.80

Notes:

Depths to water in feet below top of casing (TOC)

Groundwater elevations in feet above mean sea level (AMSL)

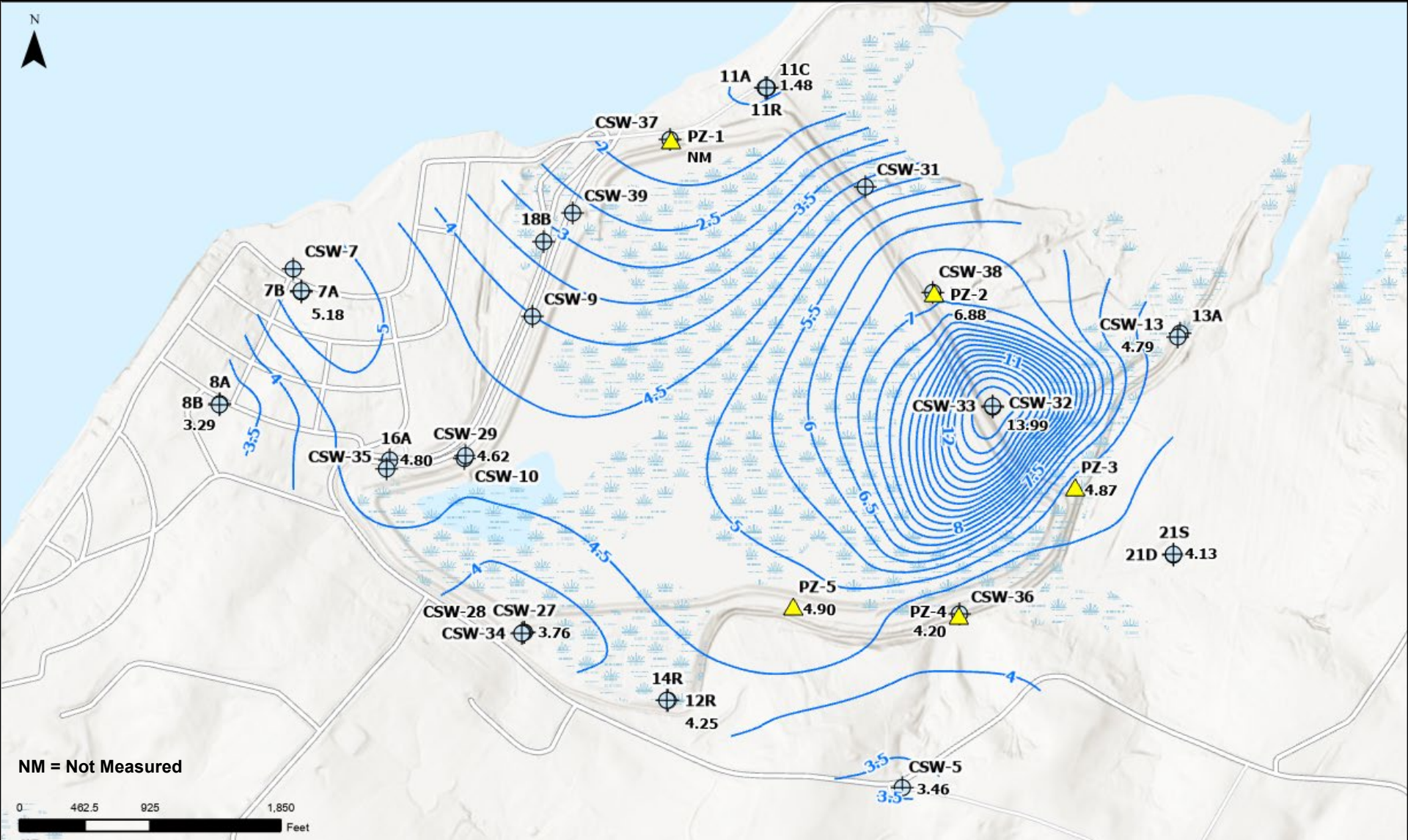
Horizontal Datum: NAD 83 Maryland State Plane



**GROUNDWATER ELEVATIONS
(MAGOTHY AQUIFER),
APRIL 9, 2024
2024 SUMMARY REPORT**

**PEARCE CREEK CONFINING
DISPOSAL FACILITY**
UNITED STATES ARMY CORPS OF ENGINEERS
PHILADELPHIA DISTRICT
CECIL COUNTY, MARYLAND

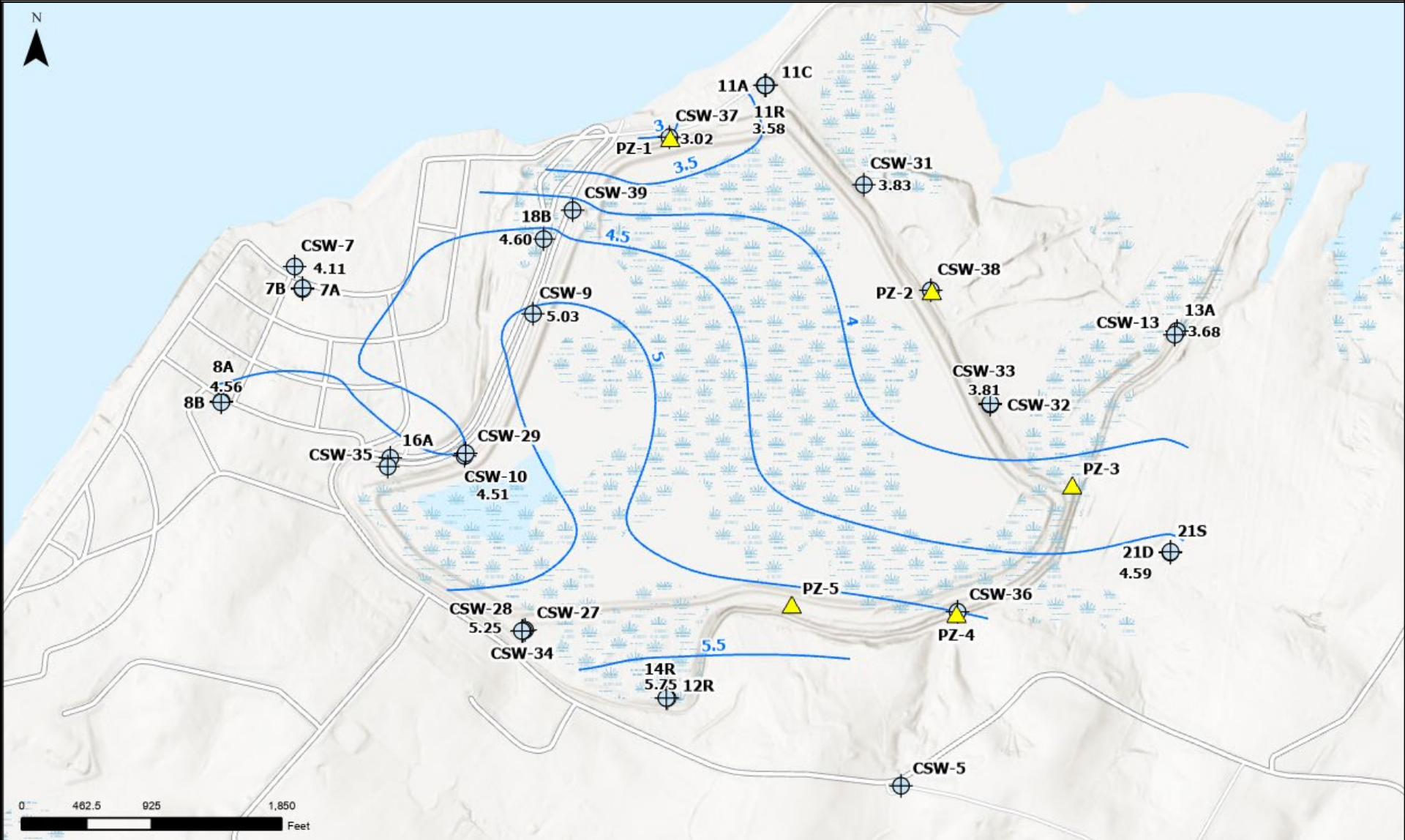
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- PIEZOMETER WITH GROUNDWATER ELEVATION (FT/MSL; MAGOTHY AQUIFER WELLS ONLY)
- GROUNDWATER ELEVATION CONTOUR (FT/MSL)

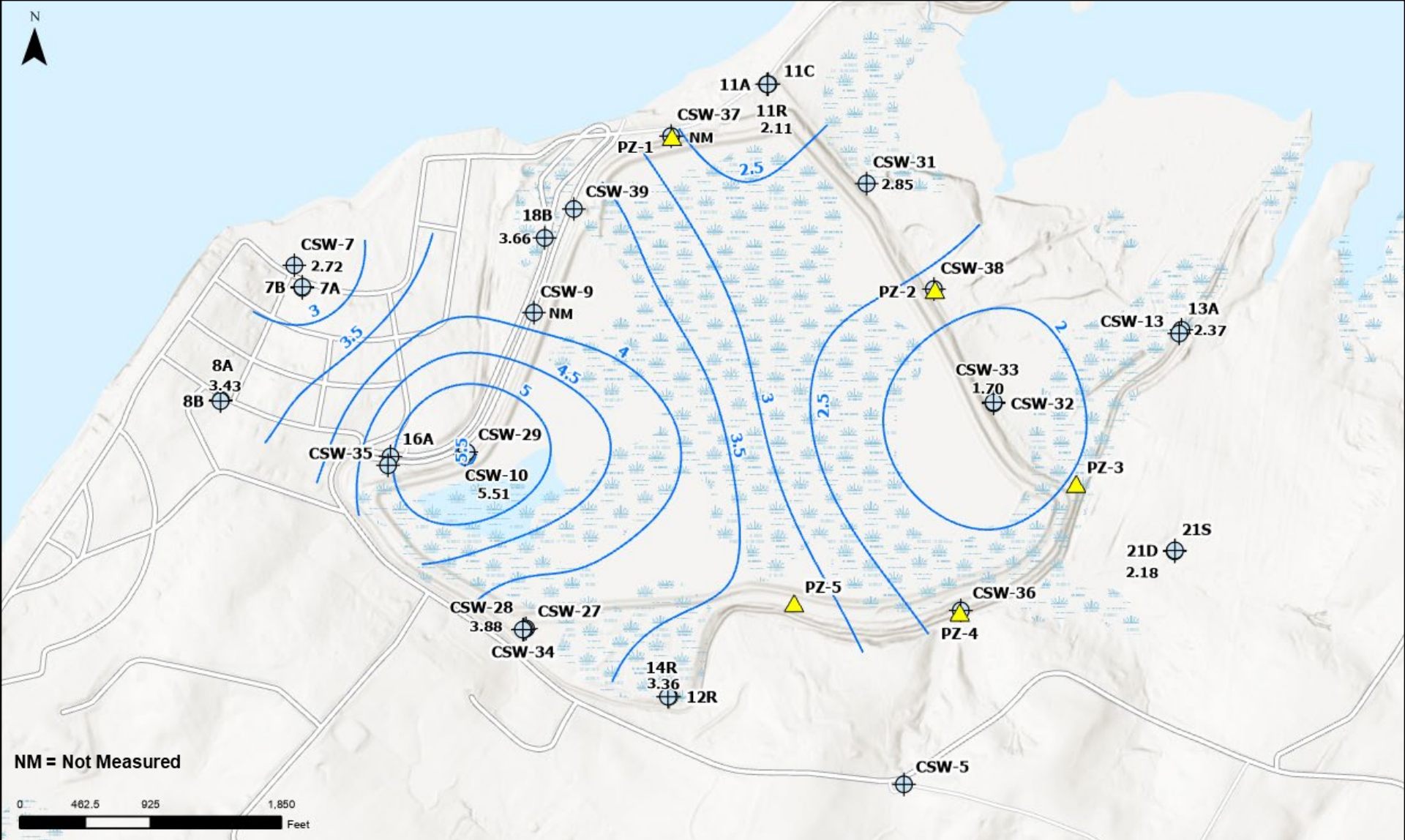


GROUNDWATER ELEVATIONS (MAGOTHY AQUIFER), SEPTEMBER 3, 2024 2024 SUMMARY REPORT

**PEARCE CREEK CONFINING
DISPOSAL FACILITY**
 UNITED STATES ARMY CORPS OF ENGINEERS
 PHILADELPHIA DISTRICT
 CECIL COUNTY, MARYLAND

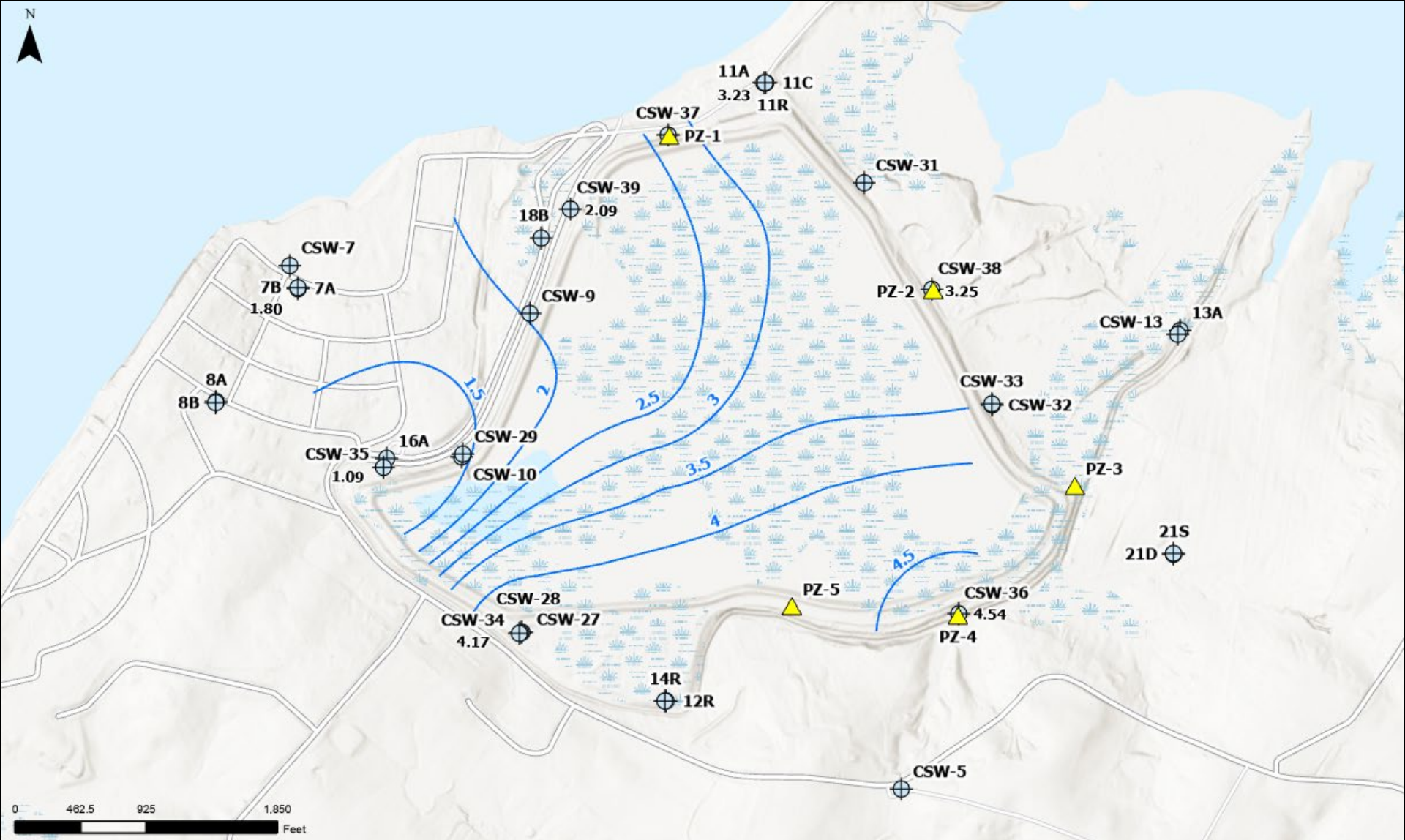
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- PIEZOMETER WITH GROUNDWATER ELEVATION (FT/MSL; MAGOTHY AQUIFER WELLS ONLY)
- GROUNDWATER ELEVATION CONTOUR (FT/MSL)





GROUNDWATER ELEVATIONS (UPPER PATAPSCO AQUIFER - SHALLOW), **SEPTEMBER 3, 2024** **2024 SUMMARY REPORT**

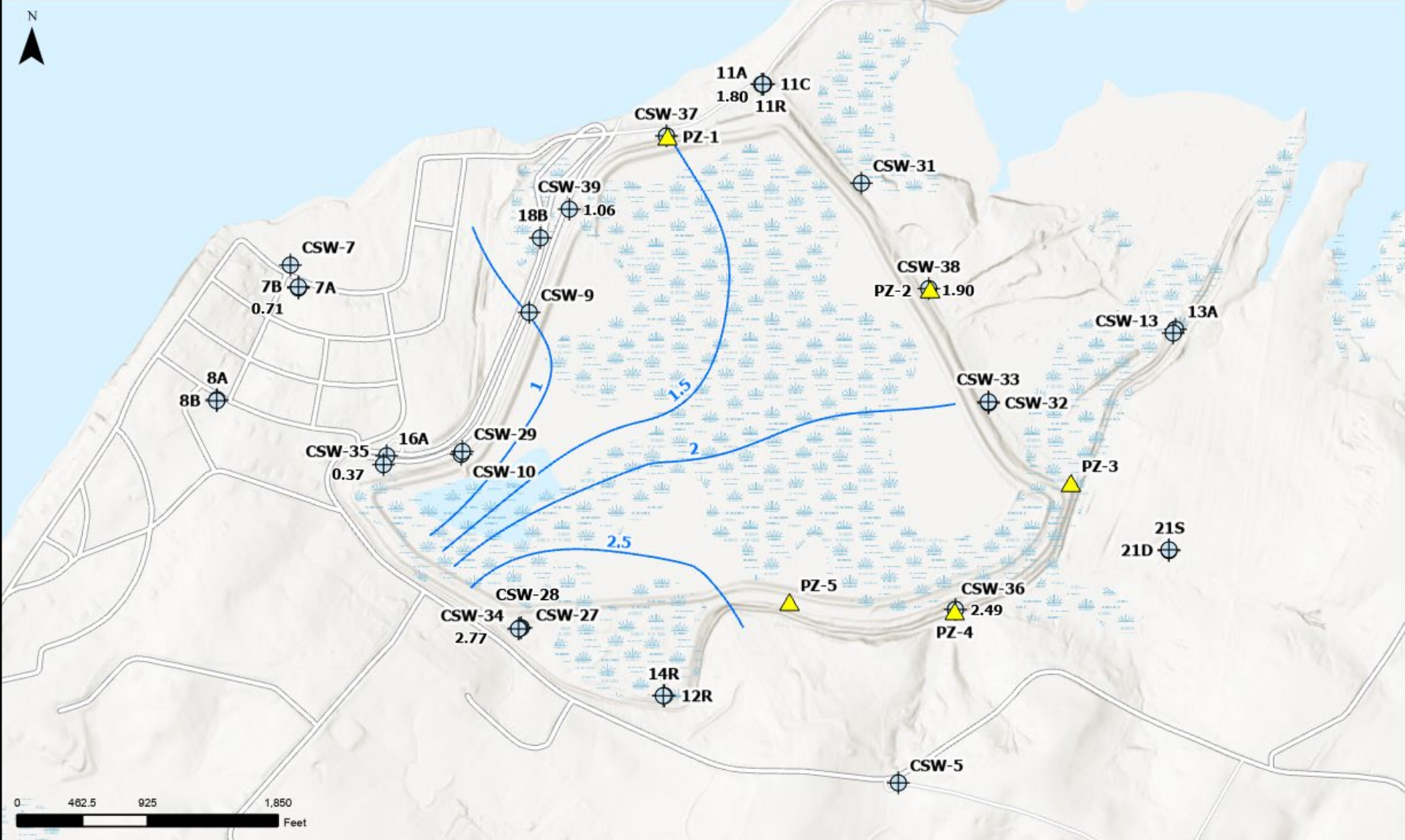
PEARCE CREEK CONFINED DISPOSAL FACILITY
 UNITED STATES ARMY CORPS OF ENGINEERS
 PHILADELPHIA DISTRICT
 CECIL COUNTY, MARYLAND



GROUNDWATER ELEVATIONS (UPPER PATAPSCO AQUIFER - DEEP), APRIL 9, 2024 **2024 SUMMARY REPORT**

**PEARCE CREEK CONFINING
DISPOSAL FACILITY**
UNITED STATES ARMY CORPS OF ENGINEERS
PHILADELPHIA DISTRICT
CECIL COUNTY, MARYLAND

- MONITORING WELL WITH GROUNDWATER ELEVATION (FT/MSL; UPPER PATAPSCO DEEP AQUIFER WELLS ONLY)
- PIEZOMETER WITH GROUNDWATER ELEVATION (FT/MSL; UPPER PATAPSCO DEEP AQUIFER WELLS ONLY)
- GROUNDWATER ELEVATION CONTOUR (FT/MSL)



GROUNDWATER ELEVATIONS (UPPER PATAPSCO AQUIFER - DEEP), **SEPTEMBER 3, 2024** **2024 SUMMARY REPORT**

PEARCE CREEK CONFINING DISPOSAL FACILITY
UNITED STATES ARMY CORPS OF ENGINEERS
PHILADELPHIA DISTRICT
CECIL COUNTY, MARYLAND

- MONITORING WELL WITH GROUNDWATER ELEVATION (FT/MSL; UPPER PATAPSCO DEEP AQUIFER WELLS ONLY)
- PIEZOMETER WITH GROUNDWATER ELEVATION (FT/MSL; UPPER PATAPSCO DEEP AQUIFER WELLS ONLY)
- GROUNDWATER ELEVATION CONTOUR (FT/MSL)