



**US Army Corps  
of Engineers**  
Philadelphia District

---

# **2020 ANNUAL SUMMARY REPORT**

## **Pearce Creek Confined Disposal Facility**

### **January 2021**

## **1.0 INTRODUCTION**

This Annual Summary Report was developed 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 specific report for 2020 summarizes the continued groundwater sampling of the network of monitoring wells around the CDF.

Placement of dredge material into the CDF occurred intermittently from mid-December 2017 to mid-February 2018, then again for the final 3 weeks of December 2018, from December 12, 2018 to January 4, 2019. The next dredging cycle began December 23, 2019 and was completed February 7, 2020. The most recent dredging cycle began in November 2020 and was completed at the beginning of January 2021.

## **2.0 FIELD WORK**

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

There is now a network of 36 monitoring wells as part of the GWMP. 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. 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 report show the vast amount of thick clay and silt units in the subsurface separating generally thinner, interwoven, laterally discontinuous water-bearing sands.

## **2.1 Groundwater Elevation Monitoring**

To evaluate potential local seasonal variations in groundwater elevation and flow direction and also 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 May 13, 2020 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 A. Groundwater elevation contour maps were generated for the Magothy, the Upper Patapsco-Shallow, and the Upper Patapsco-Deep aquifers for the May 2020 measurements. These figures are also included in Attachment A 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 – 2019 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 in May 2020, and the second round of sampling was conducted in September 2020. Groundwater sampling was performed by Ramboll (a contractor to the USACE) in May 2020 and personnel from USACE Philadelphia in September 2020. Monitoring well locations are shown on Figures 1 through 4, and construction details (depths, screened intervals, and aquifer) of these wells are specified in 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 in May 2020 were analyzed SGS North America, Inc of Dayton, NJ and GEL Laboratories Inc of Charleston, SC. Both labs hold DoD ELAP and State of Maryland certifications. Samples collected in September 2020 were analyzed by the USACE Engineer Research Development Center (ERDC) in Vicksburg, Mississippi and Florida Radiochemistry Services in Orlando, Florida. Florida Radiochemistry is certified by the State of Maryland. The samples were shipped on a daily basis via FedEx overnight delivery service.

### **3.0 LABORATORY ANALYSIS AND GROUNDWATER SAMPLING RESULTS**

Tables 2 and 3 summarize the results for the 2020 spring and fall sampling events, respectively. Table 4 presents historical results from the 2017 – 2020 sampling of the new network of monitoring wells in the groundwater monitoring program.

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 new network of wells will continue to be sampled as part of the GWMP (a total of 36 monitor wells and piezometers). Two groundwater sampling events (spring and fall) spaced approximately 6 months apart are planned in 2021.
- 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 2021 is currently to be determined.
- The USACE will develop a database for the project which in the future will allow better evaluation of groundwater chemistry changes over time.
- The sixth annual report will be submitted in February 2022. This report will include 2021 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.

## **TABLES**

**TABLE 1**  
**MONITORING WELL CONSTRUCTION DETAILS**  
**PEARCE CREEK GROUNDWATER MONITORING PROGRAM**  
**CECIL COUNTY, MARYLAND**

**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 2020 Groundwater Sampling Results  
Pearce Creek Confined Disposal Facility Cecil  
County, Maryland

| Sampling Location:        | MCL/           | 7A        | 7B        | 8A        | 8A         | 8B        | 11A       | 11C       | 11R       | 12R       | 13A       |
|---------------------------|----------------|-----------|-----------|-----------|------------|-----------|-----------|-----------|-----------|-----------|-----------|
| Duplicate:                | SMCL           |           |           |           | DUP_052020 |           |           |           |           |           |           |
| Date Sampled:             | <sup>(1)</sup> | 5/20/2020 | 5/20/2020 | 5/20/2020 | 5/20/2020  | 5/20/2020 | 5/19/2020 | 5/19/2020 | 5/19/2020 | 5/18/2020 | 5/14/2020 |
|                           |                |           |           |           |            |           |           |           |           |           |           |
| <b>Total Inorganics</b>   |                | mg/L      | mg/L      | mg/L      | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Aluminum                  | 0.05           | 0.121     | 0.018 J   | 1.74      | 1.75       | 1.15      | 0.155     | 5.22      | 0.419     | 0.103     | 0.398     |
| Arsenic                   | 0.01           | 0.0007 J  | 0.001 U   | 0.0034    | 0.0035     | 0.0011 J  | 0.001 U   | 0.0013 J  | 0.001 U   | 0.0013 J  | 0.0011 J  |
| Beryllium                 | 0.004          | 0.0005 U  | 0.0005 U  | 0.0023    | 0.0023     | 0.0026 J  | 0.0005 U  | 0.0033    | 0.00026 J | 0.0005 U  | 0.0005 U  |
| Cadmium                   | 0.005          | 0.002 U   | 0.002 U   | 0.00062 J | 0.00062 J  | 0.00079 J | 0.002 U   | 0.0012 J  | 0.002 U   | 0.002 U   | 0.002 U   |
| Calcium                   | NS             | 6.04      | 19.1      | 53.2      | 57.9       | 43.2      | 13.5      | 28.5      | 8.13      | 779       | 33.5      |
| Iron                      | 0.3            | 16.4      | 19.1      | 8.41      | 9.45       | 0.0955    | 12.1      | 11.5      | 17.6      | 5.89      | 0.686     |
| Lead                      | 0.015          | 0.0018 U  | 0.0028 U  | 0.0014 U  | 0.0023 U   | 0.0015 U  | 0.00036 J | 0.00047 J | 0.00023 J | 0.00017 J | 0.00028 J |
| Magnesium                 | NS             | 2.18      | 3.22      | 27.3      | 30.8       | 38.5      | 1.97      | 16.3      | 1.57      | 25.9      | 0.582     |
| Manganese                 | 0.05           | 0.238     | 0.271     | 13        | 13         | 5.18      | 0.14      | 6.4       | 0.127     | 4.88      | 0.0134    |
| Nickel <sup>(2)</sup>     | 0.073          | 0.003 U   | 0.0022 U  | 0.0354    | 0.0354     | 0.0282    | 0.003 U   | 0.084     | 0.003 U   | 0.0165    | 0.0026 J  |
| Potassium                 | NS             | 1.08      | 15.6      | 4.79      | 4.82       | 4.26      | 22.2      | 3.51      | 1.95      | 10.3      | 21        |
| Sodium                    | NS             | 10.1      | 26.7      | 62.2      | 69.3       | 205       | 31.1      | 16.4      | 8.51      | 287       | 25.1      |
| Zinc                      | 5              | 0.015 U   | 0.005 U   | 0.263 U   | 0.264 U    | 0.151 U   | 0.0475    | 0.217     | 0.0075 J  | 0.0133 J  | 0.015 U   |
|                           |                |           |           |           |            |           |           |           |           |           |           |
| <b>Anions</b>             |                | mg/L      | mg/L      | mg/L      | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Bromide                   | NS             | 0.2 U     | 0.23 J    | 0.2 U     | 0.2 U      | 0.24 J    | 0.2 U     | 0.12 J    | 0.2 U     | 7         | 0.19 J    |
| Chloride                  | 250            | 11.5      | 35.8      | 74.7      | 75.1       | 310       | 18.7      | 15.2      | 5.2       | 1710      | 5.6       |
| Fluoride                  | 2              | 0.085 J   | 0.08 J    | 0.86      | 0.86       | 0.37 J    | 0.092 J   | 0.29      | 0.086 J   | 0.18 J    | 0.21      |
| Sulfate                   | 250            | 14.5      | 21.2      | 344       | 341        | 227 J     | 12.9      | 145       | 14.6      | 594       | 13        |
|                           |                |           |           |           |            |           |           |           |           |           |           |
| <b>Nitrogen</b>           |                | mg/L      | mg/L      | mg/L      | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Nitrogen, Nitrate         | 10             | 3.5       | 0.1 U     | 0.16      | 0.1 U      | 11.4      | 0.1 U     | 1.2       | 0.35      | 0.58      | 0.1 U     |
| Nitrogen, Nitrite         | 1              | 0.005 U   | 0.0032 J  | 0.16      | 0.005 U    | 0.0032 J  | 0.005 U   | 0.023     | 0.005 U   | 0.088     | 0.005 U   |
| Nitrogen, Nitrate-Nitrite | 10             | 3.5       | 0.095 U   | 0.005 U   | 0.095 U    | 11.4      | 0.095 U   | 1.2       | 0.35      | 0.67      | 0.095 U   |
|                           |                |           |           |           |            |           |           |           |           |           |           |
| <b>Radiochemistry</b>     |                | pCi/L     | pCi/L     | pCi/L     | pCi/L      | pCi/L     | pCi/L     | pCi/L     | pCi/L     | pCi/L     | pCi/L     |
| Gross Alpha               | 15             | -0.364 U  | 3.19 U    | 12.2      | 5.59 U     | -0.234 U  | 3.42 U    | 4.55 U    | 2.19 U    | 3.9 U     | 5.08 J    |
| Gross Beta <sup>(3)</sup> | 50             | 3.53 U    | 20.9      | 13.1      | 13.1       | 13.7      | 16.1      | 4.59 J    | 4.15 U    | 3.95 U    | 18        |
| Radium-226 <sup>(4)</sup> | 5              | 0.135 U   | 1.29      | 2.22      | 2.63       | 1.87      | 1.39      | 0.208 U   | 0.84 J    | 0.263 U   | 0.214 U   |
| Radium-228 <sup>(4)</sup> | 5              | -0.167 U  | 0.191 U   | 4.97      | 6.84       | 2.92 J    | -0.849 U  | -0.254 U  | 0.518 U   | 0.0554 U  | -0.614 U  |
|                           |                |           |           |           |            |           |           |           |           |           |           |
| <b>Miscellaneous</b>      |                |           | mg/L      | mg/L      | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Total Alkalinity          | NS             | 33        | 60        | 4 U       | 4 U        | 4 U       | 98.5      | 32        | 52.5      | 69.5      | 92.5      |
| Total Dissolved Solids    | 500            | 112       | 163       | 550       | 587        | 877       | 152       | 302       | 78        | 4500      | 181       |
| Total Suspended Solids    | NS             | 12.6      | 21.7      | 2 U       | 2 U        | 2 U       | 24        | 34.8      | 18.3      | 22.5      | 16.8      |

Table 2  
Spring 2020 Groundwater Sampling Results  
Pearce Creek Confined Disposal Facility Cecil  
County, Maryland

| Sampling Location:        | MCL/           | 14R       | 14R        | 16A        | 18B       | 21D       | 21S       | CSW-5     | CSW-7     | CSW-9     | CSW-10    |
|---------------------------|----------------|-----------|------------|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Duplicate:                | SMCL           |           | DUP_051820 |            |           |           |           |           |           |           |           |
| Date Sampled:             | <sup>(1)</sup> | 5/18/2020 | 5/18/2020  | 5/14/2020  | 5/15/2020 | 5/14/2020 | 5/14/2020 | 5/22/2020 | 5/20/2020 | 5/13/2020 | 5/13/2020 |
|                           |                |           |            |            |           |           |           |           |           |           |           |
| <b>Total Inorganics</b>   |                | mg/L      | mg/L       | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Aluminum                  | 0.05           | 14.8      | 12.5       | 0.0429 J   | 0.013 J   | 0.811     | 54.8      | 0.42 J    | 0.22 J    | 0.0469 J  | 36.3      |
| Arsenic                   | 0.01           | 0.0161    | 0.0169     | 0.0016 J   | 0.0014 J  | 0.00053 J | 0.0201    | 0.0038 J  | 0.0046 J  | 0.00054 J | 0.0125    |
| Beryllium                 | 0.004          | 0.0064    | 0.0067     | 0.000082 J | 0.0005 U  | 0.0005 U  | 0.0069    | 0.005 U   | 0.0069 J  | 0.0095    | 0.0202    |
| Cadmium                   | 0.005          | 0.002 U   | 0.002 U    | 0.002 U    | 0.002 U   | 0.002 U   | 0.0038    | 0.0014 J  | 0.02 U    | 0.002 U   | 0.002 J   |
| Calcium                   | NS             | 200       | 220        | 75.6       | 48.9      | 127       | 270       | 183       | 318       | 274       | 280       |
| Iron                      | 0.3            | 310       | 339        | 22.7       | 25.5      | 0.126     | 375       | 504       | 323       | 630       | 366       |
| Lead                      | 0.015          | 0.0021    | 0.0022     | 0.00043 J  | 0.001 U   | 0.00041 J | 0.0013 J  | 0.0025 J  | 0.0014 U  | 0.00032 U | 0.0109    |
| Magnesium                 | NS             | 177       | 193        | 47.4       | 2.36      | 0.25 U    | 254       | 167       | 272       | 185       | 163       |
| Manganese                 | 0.05           | 161       | 198        | 20.8       | 0.16      | 0.004     | 159       | 128       | 181       | 172       | 181       |
| Nickel <sup>(2)</sup>     | 0.073          | 0.843     | 0.709      | 0.0057     | 0.003 U   | 0.0013 J  | 0.493     | 0.21      | 2.03      | 0.468     | 0.555     |
| Potassium                 | NS             | 23        | 19.9       | 11.9       | 2.42      | 39.1      | 12.3      | 17        | 12.1      | 14        | 14.5      |
| Sodium                    | NS             | 326       | 355        | 46         | 7.41      | 92.3      | 477       | 281       | 456       | 332       | 330       |
| Zinc                      | 5              | 2.2       | 2.24       | 0.0092 J   | 0.015 U   | 0.015 U   | 1.75      | 0.518 U   | 6.88 U    | 0.0119 J  | 1.68      |
|                           |                |           |            |            |           |           |           |           |           |           |           |
| <b>Anions</b>             |                | mg/L      | mg/L       | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Bromide                   | NS             | 3.6       | 3.5        | 0.4 J      | 0.17 J    | 0.58      | 2.6       | 2.1       | 2.5       | 2.8       | 3.2 J     |
| Chloride                  | 250            | 576       | 615 J      | 24.3       | 7         | 67.7      | 528       | 389       | 642       | 562       | 651       |
| Fluoride                  | 2              | 0.84      | 0.79       | 0.056 J    | 0.088 J   | 0.31      | 0.31      | 0.34      | 0.12 J    | 0.1 J     | 1.3 J     |
| Sulfate                   | 250            | 2730      | 3620 J     | 365        | 7.4       | 40.5      | 6580      | 2970      | 2860      | 7040      | 6440 J    |
|                           |                |           |            |            |           |           |           |           |           |           |           |
| <b>Nitrogen</b>           |                | mg/L      | mg/L       | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Nitrogen, Nitrate         | 10             | 0.19      | 0.1 U      | 0.18       | 0.1 U     | 0.1 U     | 0.1 U     | 0.12      | 0.1 U     | 0.1 U     | 0.1 U     |
| Nitrogen, Nitrite         | 1              | 0.005 U   | 0.005 U    | 0.005 U    | 0.0081 J  | 0.005 U   | 0.0049 J  | 0.0038 J  | 0.005 U   | 0.019     | 0.005 U   |
| Nitrogen, Nitrate-Nitrite | 10             | 0.19      | 0.095 U    | 0.18       | 0.095 U   | 0.095 U   | 0.095 U   | 0.12      | 0.095 U   | 0.095 U   | 0.095 U   |
|                           |                |           |            |            |           |           |           |           |           |           |           |
| <b>Radiochemistry</b>     |                | pCi/L     |            | pCi/L      | pCi/L     | pCi/L     | pCi/L     | pCi/L     | pCi/L     | pCi/L     | pCi/L     |
| Gross Alpha               | 15             | 10.5 U    |            | 1.27 U     | 3.45 J    | 1.04 U    | 22.9      | 4.84 U    | 2.6 U     | 4.08 U    | 22 U      |
| Gross Beta <sup>(3)</sup> | 50             | 27.5 J    |            | 9.25       | 2.4 U     | 29        | 21.3      | 16.3      | 23.4      | 9.01 U    | 51.8      |
| Radium-226 <sup>(4)</sup> | 5              | 1.3       |            | 0.241 U    | 0.592 J   | 1.11      | 1.36      | 0.551 J   | 2.56      | 0.768 J   | 0.918 J   |
| Radium-228 <sup>(4)</sup> | 5              | 11 J      |            | 0.818 U    | 1.24 U    | -0.366 U  | 7.48      | 2.07 J    | 4.67      | 1.01 U    | 23.2      |
|                           |                |           |            |            |           |           |           |           |           |           |           |
| <b>Miscellaneous</b>      |                | mg/L      | mg/L       | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Total Alkalinity          | NS             | 4 U       | 4 U        | 77.5       | 137       | 427       | 4 U       | 102       | 47.5      | 54        | 4 U       |
| Total Dissolved Solids    | 500            | 4760      | 4720       | 634        | 191       | 569       | 4480      | 4620      | 4750      | 5050      | 5290      |
| Total Suspended Solids    | NS             | 8.2       | 7.8        | 10.5       | 44        | 5.4       | 3 J       | 61        | 10.7      | 24        | 30.8      |

Table 2  
Spring 2020 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-33     | CSW-34    |
|---------------------------|----------------|-----------|-----------|-----------|-----------|------------|-----------|-----------|------------|-----------|
| Duplicate:                | SMCL           |           |           |           |           |            |           |           | DUP_052120 |           |
| Date Sampled:             | <sup>(1)</sup> | 5/14/2020 | 5/15/2020 | 5/15/2020 | 5/13/2020 | 5/20/2020  | 5/21/2020 | 5/21/2020 | 5/21/2020  | 5/15/2020 |
|                           |                |           |           |           |           |            |           |           |            |           |
| <b>Total Inorganics</b>   |                | mg/L      | mg/L      | mg/L      | mg/L      | mg/L       | mg/L      | mg/L      | mg/L       | mg/L      |
| Aluminum                  | 0.05           | 0.755     | 1.54      | 14.6      | 0.0446 J  | 0.0808     | 0.13 U    | 0.0539    | 0.0512     | 0.446     |
| Arsenic                   | 0.01           | 0.0025    | 0.0045    | 0.0154 J  | 0.0092    | 0.0003 J   | 0.0117    | 0.00034 J | 0.00026 J  | 0.00097 J |
| Beryllium                 | 0.004          | 0.0018    | 0.00054 J | 0.0064    | 0.0005 U  | 0.000091 J | 0.0025 U  | 0.005 U   | 0.005 U    | 0.0005 U  |
| Cadmium                   | 0.005          | 0.002 U   | 0.00045 J | 0.002 U   | 0.002 U   | 0.002 U    | 0.01 U    | 0.002 U   | 0.002 U    | 0.002 U   |
| Calcium                   | NS             | 25.2      | 101       | 236       | 76.1      | 29         | 145       | 39.4      | 35.8       | 265       |
| Iron                      | 0.3            | 72        | 219       | 376       | 88.7      | 20.6       | 520       | 2.37      | 1.94       | 0.416     |
| Lead                      | 0.015          | 0.00059 J | 0.0011 J  | 0.00046 J | 0.00022 U | 0.002 U    | 0.005 U   | 0.001 U   | 0.00019 U  | 0.00075 J |
| Magnesium                 | NS             | 13.3      | 92.5      | 216       | 48.9      | 1.82       | 89.5      | 2.08      | 1.92       | 0.186 J   |
| Manganese                 | 0.05           | 3.23      | 62.8      | 166       | 32.5      | 0.253      | 14.3      | 0.122     | 0.0966 J   | 0.0186    |
| Nickel <sup>(2)</sup>     | 0.073          | 0.0401    | 0.0824    | 0.717     | 0.0166    | 0.0036 U   | 0.0532    | 0.0016 U  | 0.0017 U   | 0.017     |
| Potassium                 | NS             | 2.78      | 15.2      | 26.8      | 12.6      | 2.76       | 6.73      | 6.75      | 7.92 J     | 45.6      |
| Sodium                    | NS             | 36.2      | 184       | 411       | 55.9      | 9.96       | 135       | 14.2      | 15.2       | 69.6      |
| Zinc                      | 5              | 0.139     | 0.233     | 1.78      | 0.017 J   | 0.0402 U   | 0.0415 U  | 0.015 U   | 0.015 U    | 0.0049 J  |
|                           |                |           |           |           |           |            |           |           |            |           |
| <b>Anions</b>             |                | mg/L      | mg/L      | mg/L      | mg/L      | mg/L       | mg/L      | mg/L      | mg/L       | mg/L      |
| Bromide                   | NS             | 0.28 J    | 2.2       | 2.9       | 0.62      | 0.2 J      | 0.82      | 0.17 J    | 0.18 J     | 1.6       |
| Chloride                  | 250            | 59.1      | 320       | 639       | 28.9      | 18.2       | 212       | 9.3       | 10.3       | 93.4      |
| Fluoride                  | 2              | 0.16 J    | 0.18 J    | 0.79      | 0.34      | 0.086 J    | 0.073 J   | 0.091 J   | 0.092 J    | 0.09 J    |
| Sulfate                   | 250            | 158       | 1860      | 4650      | 357       | 2.1        | 1760      | 19.1      | 20.9       | 28.5      |
|                           |                |           |           |           |           |            |           |           |            |           |
| <b>Nitrogen</b>           |                | mg/L      | mg/L      | mg/L      | mg/L      | mg/L       | mg/L      | mg/L      | mg/L       | mg/L      |
| Nitrogen, Nitrate         | 10             | 0.1 U     | 0.1 U     | 0.1 U     | 0.39      | 0.11 U     | 0.1 U     | 0.1 U     | 0.1 U      | 0.1 U     |
| Nitrogen, Nitrite         | 1              | 0.005 U   | 0.005 U   | 0.005 U   | 0.005 U   | 0.11       | 0.0032 J  | 0.0067 J  | 0.0087 J   | 0.0044 J  |
| Nitrogen, Nitrate-Nitrite | 10             | 0.095 U   | 0.095 U   | 0.095 U   | 0.39      | 0.095 U    | 0.091 J   | 0.095 U   | 0.095 U    | 0.095 U   |
|                           |                |           |           |           |           |            |           |           |            |           |
| <b>Radiochemistry</b>     |                | pCi/L     | pCi/L     | pCi/L     | pCi/L     | pCi/L      | pCi/L     | pCi/L     | pCi/L      | pCi/L     |
| Gross Alpha               | 15             | 2.25 U    | 2.08 U    | 13.4 U    | 2.31 U    | 0.869 U    | -4.28 U   | 2.36 U    | 0.386 U    | 1.65 U    |
| Gross Beta <sup>(3)</sup> | 50             | 4.78 J    | 12.4      | 18.7      | 18.5      | 5.47       | 8.34      | 9.96      | 4.73 J     | 28.1      |
| Radium-226 <sup>(4)</sup> | 5              | 0.773 J   | 0.799 J   | 1.06      | 0.298 U   | 0.998 J    | 0.466 J   | 0.315 J   | 0.684 J    | 1.18      |
| Radium-228 <sup>(4)</sup> | 5              | 0.68 U    | 1.65 J    | 4.74      | 1.12 U    | 1.99 J     | 0.641 U   | 0.447 U   | 0.122 U    | 2.53 U    |
|                           |                |           |           |           |           |            |           |           |            |           |
| <b>Miscellaneous</b>      |                | mg/L      | mg/L      | mg/L      | mg/L      | mg/L       | mg/L      | mg/L      | mg/L       | mg/L      |
| Total Alkalinity          | NS             | 52.5      | 80.5      | 21        | 203       | 64.5       | 36        | 70.5 J    | 51.5 J     | 520       |
| Total Dissolved Solids    | 500            | 416       | 2460      | 4000      | 695       | 105        | 2320      | 100       | 74         | 754       |
| Total Suspended Solids    | NS             | 11.8      | 28.5      | 50        | 41        | 35         | 64.4      | 45.4 J    | 66.8 J     | 9.4       |

Table 2  
Spring 2020 Groundwater Sampling Results  
Pearce Creek Confined Disposal Facility Cecil  
County, Maryland

| Sampling Location:        | MCL/           | CSW-35    | CSW-35     | CSW-36    | CSW-37     | CSW-38    | CSW-39    | PZ-1      | PZ-2      | PZ-3      |
|---------------------------|----------------|-----------|------------|-----------|------------|-----------|-----------|-----------|-----------|-----------|
| Duplicate:                | SMCL           |           | DUP_051420 |           |            |           |           |           |           |           |
| Date Sampled:             | <sup>(1)</sup> | 5/14/2020 | 5/14/2020  | 5/22/2020 | 5/18/2020  | 5/21/2020 | 5/19/2020 | 5/18/2020 | 5/21/2020 | 5/21/2020 |
|                           |                |           |            |           |            |           |           |           |           |           |
| <b>Total Inorganics</b>   |                | mg/L      | mg/L       | mg/L      | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Aluminum                  | 0.05           | 0.182     | 0.195      | 0.0814 J  | 0.025 U    | 1.09      | 0.572     | 0.0183 J  | 0.0183 J  | 14.5      |
| Arsenic                   | 0.01           | 0.00073 J | 0.00072 J  | 0.005 U   | 0.001 U    | 0.00084 J | 0.00058 J | 0.0005 J  | 0.005     | 0.0102 J  |
| Beryllium                 | 0.004          | 0.001 U   | 0.0005 U   | 0.005 U   | 0.000068 J | 0.0005 U  | 0.0005 U  | 0.0005 U  | 0.0005 U  | 0.0079 J  |
| Cadmium                   | 0.005          | 0.002 U   | 0.002 U    | 0.01 U    | 0.002 U    | 0.002 U   | 0.002 U   | 0.002 U   | 0.002 U   | 0.0012 J  |
| Calcium                   | NS             | 371       | 393        | 165       | 10.8       | 122       | 71.8      | 213       | 23.2      | 128       |
| Iron                      | 0.3            | 0.0896    | 0.0846     | 4.29      | 25         | 1.25      | 0.889     | 132       | 67.6      | 219       |
| Lead                      | 0.015          | 0.008     | 0.0054     | 0.005 U   | 0.00036 J  | 0.0015 U  | 0.00039 J | 0.001 U   | 0.0013 U  | 0.0016 U  |
| Magnesium                 | NS             | 0.25 U    | 0.25 U     | 6.65      | 2.4        | 0.228 J   | 0.6       | 223       | 9.77      | 116       |
| Manganese                 | 0.05           | 0.0014 J  | 0.0011 U   | 0.15      | 0.208      | 0.0149    | 0.0195    | 35.3      | 0.862     | 81.9      |
| Nickel <sup>(2)</sup>     | 0.073          | 0.0152    | 0.0141     | 0.015 U   | 0.003 U    | 0.0068 U  | 0.0052    | 0.003 U   | 0.0016 U  | 0.323     |
| Potassium                 | NS             | 92.9      | 89.1       | 19.8      | 2.27       | 5.69      | 21.1      | 30.7      | 1.52      | 11.8      |
| Sodium                    | NS             | 101       | 106        | 52.9      | 18.7       | 34.5      | 78        | 449       | 56.1      | 226       |
| Zinc                      | 5              | 0.0056 J  | 0.015 U    | 0.075 U   | 0.015 U    | 0.015 U   | 0.015 U   | 0.015 U   | 0.015 U   | 0.667 U   |
|                           |                |           |            |           |            |           |           |           |           |           |
| <b>Anions</b>             |                | mg/L      | mg/L       | mg/L      | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Bromide                   | NS             | 1         | 1          | 0.96      | 0.17 J     | 0.52      | 0.79      | 3.8       | 0.36 J    | 1.5       |
| Chloride                  | 250            | 72.2      | 72         | 70.2      | 32.4       | 44.9      | 99.6      | 763       | 29.1      | 252       |
| Fluoride                  | 2              | 0.14 J    | 0.15 J     | 0.073 J   | 0.11 J     | 0.18 J    | 0.12 J    | 0.52      | 0.081 J   | 0.46      |
| Sulfate                   | 250            | 41.5      | 43.7       | 135       | 1 J        | 32.5      | 6.6       | 1400      | 71.4      | 1850      |
|                           |                |           |            |           |            |           |           |           |           |           |
| <b>Nitrogen</b>           |                | mg/L      | mg/L       | mg/L      | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Nitrogen, Nitrate         | 10             | 0.29      | 0.1 U      | 0.1 U     | 0.1 U      | 0.1 U     | 0.1 U     | 1         | 0.1 U     | 0.1 U     |
| Nitrogen, Nitrite         | 1              | 0.0049 J  | 0.0038 J   | 0.0035 J  | 0.005 U    | 0.0041 J  | 0.005 U   | 0.005 U   | 0.005 U   | 0.005 U   |
| Nitrogen, Nitrate-Nitrite | 10             | 0.29 J    | 0.095 U    | 0.095 U   | 0.095 U    | 0.095 U   | 0.095 U   | 1         | 0.095 U   | 0.095 U   |
|                           |                |           |            |           |            |           |           |           |           |           |
| <b>Radiochemistry</b>     |                | pCi/L     | pCi/L      | pCi/L     | pCi/L      | pCi/L     | pCi/L     | pCi/L     | pCi/L     | pCi/L     |
| Gross Alpha               | 15             | 1.43 U    | 18.1       | 1.7 U     | 1.84 J     | 1.55 U    | 2.43 U    | 2.25 U    | 2.91 U    | 3.82 U    |
| Gross Beta <sup>(3)</sup> | 50             | 82.1 J    | 26.2 J     | 14.5      | 2.18 J     | 4.66 J    | 16.5      | 19.3      | 2.6 U     | 19.3      |
| Radium-226 <sup>(4)</sup> | 5              | 1.78      | 0.846 J    | 0.618 J   | 1.04       | 0.721 J   | 0.247 U   | 1.17      | 1.62      | 0.505 U   |
| Radium-228 <sup>(4)</sup> | 5              | 0.821 U   | 10.3 J     | 0.818 U   | 0.312 U    | 0.595 U   | 0.722 U   | 0.394 U   | 0.582 U   | 2.49 J    |
|                           |                |           |            |           |            |           |           |           |           |           |
| <b>Miscellaneous</b>      |                | mg/L      | mg/L       | mg/L      | mg/L       | mg/L      | mg/L      | mg/L      | mg/L      | mg/L      |
| Total Alkalinity          | NS             | 1160      | 1050       | 160       | 60         | 243       | 177       | 542       | 105       | 4 U       |
| Total Dissolved Solids    | 500            | 1310      | 1260       | 358       | 125        | 346       | 330       | 3570      | 240       | 2620      |
| Total Suspended Solids    | NS             | 4.6       | 4.7        | 265       | 3.9 J      | 20.5      | 28.3      | 63.5      | 75.5      | 4.6       |

Table 2  
Spring 2020 Groundwater Sampling Results  
Pearce Creek Confined Disposal Facility Cecil  
County, Maryland

| Sampling Location:        | MCL/           | PZ-4            | PZ-5         | EB_051920 | EB_052120 | EB_052220 | EB <sup>(6)</sup> -051320 |
|---------------------------|----------------|-----------------|--------------|-----------|-----------|-----------|---------------------------|
| Duplicate:                | SMCL           |                 |              |           |           |           |                           |
| Date Sampled:             | <sup>(1)</sup> | 5/22/2020       | 5/18/2020    | 5/19/2020 | 5/21/2020 | 5/22/2020 | 5/13/2020                 |
|                           |                |                 |              |           |           |           |                           |
| <b>Total Inorganics</b>   |                | mg/L            | mg/L         |           |           |           |                           |
| Aluminum                  | 0.05           | 12.7            | 0.0289 J     | 0.025 U   | 0.025 U   | 0.025 U   | 0.025 U                   |
| Arsenic                   | 0.01           | <b>0.0119</b> J | 0.00088 J    | 0.001 U   | 0.001 U   | 0.001 U   | 0.001 U                   |
| Beryllium                 | 0.004          | <b>0.0164</b>   | 0.0002 J     | 0.0005 U  | 0.0005 U  | 0.0005 U  | 0.0005 U                  |
| Cadmium                   | 0.005          | 0.02 U          | 0.0014 J     | 0.002 U   | 0.002 U   | 0.002 U   | 0.002 U                   |
| Calcium                   | NS             | 164             | 33.2         | 0.0494 J  | 0.182 J   | 0.1 J     | 0.1 U                     |
| Iron                      | 0.3            | 189             | 2.94         | 0.025 U   | 0.025 U   | 0.0426 U  | 0.0426 J                  |
| Lead                      | 0.015          | 0.01 U          | 0.00018 J    | 0.001 U   | 0.0011 J  | 0.00025 J | 0.00025 J                 |
| Magnesium                 | NS             | 102             | 17.2         | 0.25 U    | 0.25 U    | 0.25 U    | 0.25 U                    |
| Manganese                 | 0.05           | 61.1            | 12.1         | 0.001 U   | 0.00096 J | 0.001 J   | 0.001 U                   |
| Nickel <sup>(2)</sup>     | 0.073          | <b>0.298</b>    | <b>0.129</b> | 0.003 U   | 0.0013 J  | 0.003 J   | 0.003 U                   |
| Potassium                 | NS             | 11.6            | 6.55         | 0.1 U     | 0.1 U     | 0.1 U     | 0.1 U                     |
| Sodium                    | NS             | 157             | 22.4         | 0.1 U     | 0.1 U     | 0.1 U     | 0.1 U                     |
| Zinc                      | 5              | 0.522 U         | 0.36         | 0.015 U   | 0.0243    | 0.015     | 0.015 U                   |
|                           |                |                 |              |           |           |           |                           |
| <b>Anions</b>             |                | mg/L            | mg/L         |           |           |           |                           |
| Bromide                   | NS             | 1               | 0.13 J       | 0.2 U     | 0.2 U     | 0.2 U     | 0.2 U                     |
| Chloride                  | 250            | 210             | 29.1         | 1 U       | 1 U       | 1 U       | 1 U                       |
| Fluoride                  | 2              | 1.3             | 0.1 U        | 0.1 U     | 0.1 U     | 0.1 U     | 0.1 U                     |
| Sulfate                   | 250            | 1430            | 200          | 1 U       | 1 U       | 1 U       | 1 U                       |
|                           |                |                 |              |           |           |           |                           |
| <b>Nitrogen</b>           |                | mg/L            | mg/L         |           |           |           |                           |
| Nitrogen, Nitrate         | 10             | 0.1 U           | 0.21         | 0.1 U     | 0.1 U     | 0.1 U     | 0.1 U                     |
| Nitrogen, Nitrite         | 1              | 0.005 U         | 0.005 U      | 0.005 U   | 0.005 U   | 0.005 U   | 0.005 U                   |
| Nitrogen, Nitrate-Nitrite | 10             | 0.095 U         | 0.21         | 0.095 U   | 0.095 U   | 0.095 U   | 0.095 U                   |
|                           |                |                 |              |           |           |           |                           |
| <b>Radiochemistry</b>     |                | pCi/L           | pCi/L        |           |           |           |                           |
| Gross Alpha               | 15             | 6.43 U          | 2.43 J       | 1.18 U    | -0.712 U  | 0.0842 U  | -0.134 U                  |
| Gross Beta <sup>(3)</sup> | 50             | 10.9            | 4.42 J       | 1.38 U    | -0.272 U  | -1.94 U   | 0.704 U                   |
| Radium-226 <sup>(4)</sup> | 5              | 0.445 J         | 1.39         | 0.312 U   | 0.102 U   | 0.0266 U  | 0.189 U                   |
| Radium-228 <sup>(4)</sup> | 5              | 1.29 U          | -0.041 U     | 0.631 U   | 0.0101 U  | -0.136 U  | 0.539 U                   |
|                           |                |                 |              |           |           |           |                           |
| <b>Miscellaneous</b>      |                | mg/L            | mg/L         |           |           |           |                           |
| Total Alkalinity          | NS             | 4 J             | 10.5         | 4 U       | 4 U       | 4 U       | 4 U                       |
| Total Dissolved Solids    | 500            | 2200            | 346          | 7.5 U     | 7.5 U     | 7.5 U     | 6 J                       |
| Total Suspended Solids    | NS             | 22.1            | 1.7 J        | 2 U       | 2 U       | 2 U       | 2 U                       |

Table 2  
Spring 2020 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.

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

NS -- Not Specified

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

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

<sup>(3)</sup>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.

<sup>(4)</sup>MCL is for Ra-226 and Ra-228 combined.

<sup>(5)</sup>Some non-detect results for Aluminum, Beryllium, and Cadmium were greater than the screening level

<sup>(6)</sup>EB - Equipment Blanks (Also referenced as RB (Rinstate Blank) or FB (Field Blank) in Laboratory Reports)

**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  
Fall 2020 Groundwater Sampling Results  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:        |                | 7A         | 7B         | 8A         | 8B         | DUP-2 -8B  | 11A        | 11C        | 11R        | 12R        |  |
|---------------------------|----------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|--|
| Lab Sample ID:            | MCL/           | 20I2306-01 | 20I2306-02 | 20I2306-07 | 20I2306-06 | 20I2306-05 | 20I2205-06 | 20I2205-05 | 20I2205-07 | 20I3002-03 |  |
| Duplicate of:             | SMCL           |            |            |            |            | 8B         |            |            |            |            |  |
| Date Sampled:             | <sup>(1)</sup> | 09/22/2020 | 09/22/2020 | 09/22/2020 | 09/22/2020 | 9/22/2020  | 9/21/2020  | 09/21/2020 | 9/21/2020  | 09/29/2020 |  |
|                           |                |            |            |            |            |            |            |            |            |            |  |
| Total Inorganics          |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       |  |
| Aluminum <sup>(5)</sup>   | 0.05           | 0.0732     | 0.0080 U   | 1.51       | 1.33       | 1.36       | 0.0389 J   | 6.22       | 0.176      | 2.24       |  |
| Arsenic                   | 0.01           | 0.0010 U   | 0.0010 U   | 0.0010 U   | 0.0010 U   | 0.0010 U   | 0.0010 U   | 0.0019 J   | 0.0010 U   | 0.0029     |  |
| Beryllium <sup>(5)</sup>  | 0.004          | 0.0004 U   | 0.0004 U   | 0.0020     | 0.0025     | 0.0025     | 0.0004 U   | 0.0038     | 0.0004 U   | 0.0004 U   |  |
| Cadmium <sup>(5)</sup>    | 0.005          | 0.0004 U   | 0.0004 U   | 0.0009 J   | 0.0010 J   | 0.0010 J   | 0.0004 U   | 0.0017 J   | 0.0004 U   | 0.0004 U   |  |
| Calcium                   | NS             | 5.57       | 16.4       | 50.4       | 41.2       | 42.4       | 9.97       | 26.9       | 7.07       | 857        |  |
| Iron                      | 0.3            | 13.1       | 18.2       | 6.63       | 0.0400 U   | 0.0400 U   | 8.73       | 14.6       | 17.3       | 31.3       |  |
| Lead                      | 0.015          | 0.0004 U   | 0.0004 U   | 0.0020 U   | 0.0004 U   | 0.0004 U   | 0.0004 U   | 0.0020 U   | 0.0004 U   | 0.00090 J  |  |
| Magnesium                 | NS             | 2.26       | 3.29       | 27.9       | 31.9       | 32.4       | 1.93       | 14.7       | 1.59       | 46.1       |  |
| Manganese                 | 0.05           | 0.201      | 0.155      | 14.2       | 6.68       | 6.81       | 0.112      | 7.53       | 0.131      | 16.8       |  |
| Nickel <sup>(2)</sup>     | 0.073          | 0.0004 U   | 0.0006 J   | 0.0418     | 0.0324     | 0.0327     | 0.00054 J  | 0.127      | 0.0005 J   | 0.0553     |  |
| Potassium                 | NS             | 1.29       | 9.62       | 4.83       | 4.52       | 4.62       | 12.1       | 3.83       | 1.68       | 10.7       |  |
| Sodium                    | NS             | 10.4       | 22.0       | 64.5       | 205        | 203        | 22.9       | 16.4       | 8.40       | 334        |  |
| Zinc                      | 5              | 0.0023 U   | 0.0046 U   | 0.239      | 0.153      | 0.158      | 0.0080     | 0.267      | 0.0029     | 0.144      |  |
|                           |                |            |            |            |            |            |            |            |            |            |  |
| Anions                    |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       |  |
| Bromide                   | NS             | 0.200 U    | 0.200 U    | 0.600 U    | 0.200 U    | 0.600 U    | 0.200 U    | 0.200 U    | 0.200 U    | 7.93       |  |
| Chloride                  | 250            | 10.1 U     | 37.3 U     | 94.2 U     | 367        | 372        | 16.3       | 11.7       | 3.96 J     | 1530       |  |
| Fluoride                  | 2              | 0.200 U    | 0.200 U    | 0.676      | 0.370      | 0.361      | 0.200 U    | 0.354      | 0.200 U    | 0.259      |  |
| Sulfate                   | 250            | 9.18 U     | 23.8 U     | 361 U      | 268 U      | 272 U      | 14.9       | 155        | 14.6       | 811        |  |
|                           |                |            |            |            |            |            |            |            |            |            |  |
| Nitrogen                  |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       |  |
| Nitrogen, Nitrate         | 10             | 6.35       | 0.0600 U   | 0.0600 U   | 10.3       | 10.4       | 0.0600 U   | 0.762      | 0.0600 U   | 0.329      |  |
| Nitrogen, Nitrite         | 1              | 0.0600 U   | 0.0600 U   | 0.120 U    | 0.0600 U   | 0.0600 U   | 0.0600 U   | 0.0600 U   | 0.0600 U   | 0.348      |  |
| Nitrogen, Nitrate-Nitrite | 10             | 6.35       | 0.120 U    | 0.0600 U   | 10.3       | 10.4       | 0.120 U    | 0.762      | 0.120 U    | 0.677      |  |
|                           |                |            |            |            |            |            |            |            |            |            |  |
| Radiochemistry            |                | pCi/L      | pCi/L      | pCi/L      | pCi/L      | pCi/L      | pCi/L      | pCi/L      | pCi/L      | pCi/L      |  |
| Gross Alpha               | 15             | 1.3        | 2.3        | 19.0       | 11.7       | 9.1        | 2.7        | 5.4        | 2.3        | 5.3 U      |  |
| Gross Beta <sup>(3)</sup> | 50             | 2.7        | 14.4       | 31.0       | 14.7       | 17.3       | 7.5        | 13.0       | 4.4        | 18.9       |  |
| Radium-226 <sup>(4)</sup> | 5              | 0.8 U      | 1.0 U      | 5.7        | 4.2        | 3.8        | 0.7        | 1.2        | 1.4        | 0.4        |  |
| Radium-228 <sup>(4)</sup> | 5              | 0.9 U      | 1.2        | 6.8        | 3.9        | 4.0        | 1.4        | 1.5        | 0.9 U      | 0.8 U      |  |
|                           |                |            |            |            |            |            |            |            |            |            |  |
| Miscellaneous             |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       |  |
| Total Alkalinity          | NS             | 21.3       | 61.9       | 5.00 U     | 5.00 U     | 5.00 U     | 62.9       | 34.7       | 38.5       | 291        |  |
| Total Dissolved Solids    | 500            | 73.0       | 127        | 584        | 888        | 914        | 132        | 388        | 77.0       | 4300       |  |
| Total Suspended Solids    | NS             | 23.0       | 11.0       | 2.00 U     | 2.00 U     | 2.00 U     | 12.0       | 54.0       | 27.0       | 82.0       |  |

Table 3  
Fall 2020 Groundwater Sampling Results  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:        |                | 13A        | 14R        | 16A        | 18B        | 21D        | 21S        | CSW-5      |  |
|---------------------------|----------------|------------|------------|------------|------------|------------|------------|------------|--|
| Lab Sample ID:            | MCL/           | 20I1804-02 | 20I3002-01 | 20I2501-03 | 20I2401-05 | 20I1704-01 | 20I1704-02 | 20I2306-08 |  |
| Duplicate of:             | SMCL           |            |            |            |            |            |            |            |  |
| Date Sampled:             | <sup>(1)</sup> | 09/17/2020 | 09/29/2020 | 9/24/2020  | 09/23/2020 | 9/16/2020  | 09/16/2020 | 09/22/2020 |  |
|                           |                |            |            |            |            |            |            |            |  |
| Total Inorganics          |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       |  |
| Aluminum <sup>(5)</sup>   | 0.05           | 1.37       | 12.6       | 0.0214 J   | 0.0080 U   | 4.53       | 48.0       | 0.0866     |  |
| Arsenic                   | 0.01           | 0.0010 U   | 0.0095     | 0.0010 U   | 0.0010 U   | 0.0028     | 0.0010 U   | 0.0031     |  |
| Beryllium <sup>(5)</sup>  | 0.004          | 0.0004 U   | 0.0051     | 0.0004 U   | 0.0004 U   | 0.0009 J   | 0.0027     | 0.0004 U   |  |
| Cadmium <sup>(5)</sup>    | 0.005          | 0.0004 U   | 0.0004 U   | 0.0004 U   | 0.0004 U   | 0.0004 U   | 0.0039     | 0.0004 U   |  |
| Calcium                   | NS             | 20.7       | 207        | 59.9       | 47.9       | 65.5       | 183        | 188        |  |
| Iron                      | 0.3            | 2.06       | 352        | 19.1       | 25.3       | 3.27       | 261        | 540        |  |
| Lead                      | 0.015          | 0.0007 U   | 0.00050 U  | 0.0004 U   | 0.0004 U   | 0.0050     | 0.0039     | 0.0020 U   |  |
| Magnesium                 | NS             | 1.56       | 198        | 37.6       | 2.73       | 0.481      | 184        | 185        |  |
| Manganese                 | 0.05           | 0.0364 J   | 172        | 23.8       | 0.171      | 0.0648     | 151        | 138        |  |
| Nickel <sup>(2)</sup>     | 0.073          | 0.0028     | 0.675      | 0.0068     | 0.0016 J   | 0.0116     | 0.346      | 0.172      |  |
| Potassium                 | NS             | 20.9       | 19.0       | 9.65       | 2.04       | 29.3       | 11.2       | 15.6       |  |
| Sodium                    | NS             | 21.1       | 360        | 37.8       | 7.99       | 68.3       | 360        | 332        |  |
| Zinc                      | 5              | 0.0081     | 1.57       | 0.0086     | 0.0035     | 0.0062     | 0.578      | 0.144      |  |
|                           |                |            |            |            |            |            |            |            |  |
| Anions                    |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       |  |
| Bromide                   | NS             | 0.200 U    | 2.46       | 0.295 J    | 0.200 U    | 0.267 J    | 2.75       | 2.45       |  |
| Chloride                  | 250            | 3.55 J     | 598        | 21.0       | 4.51 J     | 53.6       | 543        | 454        |  |
| Fluoride                  | 2              | 0.220      | 0.687      | 0.200 U    | 0.200 U    | 0.278      | 0.430      | 0.200 U    |  |
| Sulfate                   | 250            | 15.2       | 2380       | 360        | 2.00 U     | 38.5       | 1770       | 1810       |  |
|                           |                |            |            |            |            |            |            |            |  |
| 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 UJ  | 0.0600 UJ  | 0.0600 U   |  |
| Nitrogen, Nitrite         | 1              | 0.0600 U   | 0.0600 U   | 0.0600 U   | 0.120 U    | 0.120 U    | 0.0600 UJ  | 0.0600 U   |  |
| Nitrogen, Nitrate-Nitrite | 10             | 0.120 U    | 0.120 U    | 0.120 U    | 0.0600 U   | 0.0600 UJ  | 0.120 U    | 0.120 U    |  |
|                           |                |            |            |            |            |            |            |            |  |
| Radiochemistry            |                | pCi/L      | pCi/L      | pCi/L      | pCi/L      | pCi/L      | pCi/L      | pCi/L      |  |
| Gross Alpha               | 15             | 3.9        | 16.4       | 1.4 U      | 1.5 U      | 12.7       | 21.0       | 6.2 U      |  |
| Gross Beta <sup>(3)</sup> | 50             | 26.7       | 56.1       | 14.8       | 3.2        | 45.7       | 53.6       | 26.3       |  |
| Radium-226 <sup>(4)</sup> | 5              | 0.6        | 1.8        | 0.8 U      | 0.8        | 0.6        | 6.0        | 1.7 U      |  |
| Radium-228 <sup>(4)</sup> | 5              | 0.9 U      | 8.8        | 1.1        | 0.9        | 0.9        | 8.4        | 1.4        |  |
|                           |                |            |            |            |            |            |            |            |  |
| Miscellaneous             |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       |  |
| Total Alkalinity          | NS             | 78.8       | 5.00 U     | 71.7       | 162        | 192        | 64.3       | 115        |  |
| Total Dissolved Solids    | 500            | 126 J      | 4530       | 631        | 164        | 337        | 4520       | 4490       |  |
| Total Suspended Solids    | NS             | 44.0       | 18.0       | 9.00 J     | 52.0       | 103        | 2.00 U     | 71.0       |  |

Table 3  
Fall 2020 Groundwater Sampling Results  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:        |                | CSW-7      | CSW-9      | CSW-10     | CSW-13     | CSW-27     | DUP-1-CSW-27 | CSW-28     | CSW-29     | CSW-31     |   |
|---------------------------|----------------|------------|------------|------------|------------|------------|--------------|------------|------------|------------|---|
| Lab Sample ID:            | MCL/           | 20I2306-03 | 20I3002-04 | 20I2501-06 | 20I1804-01 | 20I2205-01 | 20I2205-02   | 20I2205-03 | 20I2501-05 | 20I2205-08 |   |
| Duplicate of:             | SMCL           |            |            |            |            |            | CSW-27       |            |            |            |   |
| Date Sampled:             | <sup>(1)</sup> | 09/22/2020 | 09/29/2020 | 9/24/2020  | 9/17/2020  | 09/21/2020 | 09/21/2020   | 09/21/2020 | 09/24/2020 | 09/21/2020 |   |
|                           |                |            |            |            |            |            |              |            |            |            |   |
| Total Inorganics          |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L         | mg/L       | mg/L       | mg/L       |   |
| Aluminum <sup>(5)</sup>   | 0.05           | 0.220      | 0.0791     | 36.1       | 0.530      | 0.590      | 0.608        | 16.8       | 0.112      | 0.0421     |   |
| Arsenic                   | 0.01           | 0.0039     | 0.0010     | J 0.0055   | 0.0010     | U 0.0010   | J 0.0010     | U 0.0010   | U 0.0090   | 0.0010     | U |
| Beryllium <sup>(5)</sup>  | 0.004          | 0.0056     | 0.0018     | J 0.0204   | 0.0018     | J 0.0004   | J 0.0004     | J 0.0063   | 0.0004     | U 0.0004   | U |
| Cadmium <sup>(5)</sup>    | 0.005          | 0.0004     | U 0.0004   | U 0.0026   | 0.0004     | U 0.0004   | U 0.0004     | U 0.0004   | U 0.0004   | U 0.0004   | U |
| Calcium                   | NS             | 227        | 235        | 260        | 13.4       | 90.4       | 89.6         | 230        | 73.2       | 16.4       |   |
| Iron                      | 0.3            | 254        | 648        | 438        | 41.1       | 186        | 181          | 406        | 92.0       | 23.0       |   |
| Lead                      | 0.015          | 0.0004     | U 0.00050  | U 0.003    | 0.0004     | U 0.0004   | U 0.0004     | U 0.0004   | U 0.0004   | U 0.0004   | U |
| Magnesium                 | NS             | 195        | 190        | 224        | 9.21       | 91.2       | 90.3         | 227        | 56.2       | 2.15       |   |
| Manganese                 | 0.05           | 176        | 143        | 202        | 1.58       | 60.0       | 58.3         | 183        | 46.3       | 0.209      |   |
| Nickel <sup>(2)</sup>     | 0.073          | 1.19       | 0.305      | 0.483      | 0.0317     | 0.0858     | 0.0859       | 0.783      | 0.0193     | 0.0015     | J |
| Potassium                 | NS             | 10.6       | 12.4       | 19.6       | 2.27       | 13.8       | 13.8         | 22.6       | 13.3       | 2.09       |   |
| Sodium                    | NS             | 344        | 335        | 473        | 35.2       | 183        | 177          | 461        | 66.3       | 6.44       |   |
| Zinc                      | 5              | 3.14       | 0.0024     | 1.16       | 0.124      | 0.142      | 0.142        | 1.09       | 0.0144     | 0.0375     |   |
|                           |                |            |            |            |            |            |              |            |            |            |   |
| Anions                    |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L         | mg/L       | mg/L       | mg/L       |   |
| Bromide                   | NS             | 2.49       | 0.115      | 3.03       | 0.232      | J 2.06     | 2.01         | 114        | 0.599      | J 0.200    | U |
| Chloride                  | 250            | 569        | 31.7       | 804        | 69.2       | 304        | 305          | 112        | 27.7       | 7.93       |   |
| Fluoride                  | 2              | 0.200      | U 0.0100   | U 1.28     | 0.200      | U 0.200    | U 0.200      | U 114      | 0.200      | U 0.200    | U |
| Sulfate                   | 250            | 1560       | 128        | 2760       | 119        | 943        | 950          | 113        | 421        | 3.67       | J |
|                           |                |            |            |            |            |            |              |            |            |            |   |
| Nitrogen                  |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L         | mg/L       | mg/L       | mg/L       |   |
| Nitrogen, Nitrate         | 10             | 0.0600     | U 0.00300  | U 0.0600   | U 0.0600   | U 0.0600   | U 0.0986     | J 25.3     | 0.0600     | U 0.0600   | U |
| Nitrogen, Nitrite         | 1              | 0.0600     | U 0.00300  | U 0.0600   | U 0.0600   | U 0.0600   | U 0.0600     | U 3.67     | 0.0600     | U 0.0600   | U |
| Nitrogen, Nitrate-Nitrite | 10             | 0.120      | U 0.00600  | U 0.120    | U 0.120    | U 0.120    | U 0.120      | U 29.0     | 0.120      | U 0.120    | U |
|                           |                |            |            |            |            |            |              |            |            |            |   |
| Radiochemistry            |                | pCi/L      | pCi/L      | pCi/L      | pCi/L      | pCi/L      | pCi/L        | pCi/L      | pCi/L      | pCi/L      |   |
| Gross Alpha               | 15             | 14.7       | 6.3        | U 38.4     | 2.5        | 6.5        | 5.6          | 20.1       | 2.1        | U 1.9      |   |
| Gross Beta <sup>(3)</sup> | 50             | 33.3       | 17.7       | 89.2       | 4.8        | 29.4       | 22.5         | 51.6       | 17.1       | 4.3        |   |
| Radium-226 <sup>(4)</sup> | 5              | 4.7        | 0.8        | 7.3        | 0.9        | 1.4        | 1.5          | 4.0        | 0.5        | U 1.0      |   |
| Radium-228 <sup>(4)</sup> | 5              | 4.4        | 1.1        | 16.0       | 0.8        | U 1.7      | 2.1          | 4.0        | 0.8        | U 1.0      | U |
|                           |                |            |            |            |            |            |              |            |            |            |   |
| Miscellaneous             |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L         | mg/L       | mg/L       | mg/L       |   |
| Total Alkalinity          | NS             | 65.0       | 9.31       | J 24.6     | 5.00       | U 80.8     | 84.3         | 12.8       | 133        | 57.0       |   |
| Total Dissolved Solids    | 500            | 4020       | 4290       | 6080       | 334        | J 2100     | 2160         | 5460       | 800        | 98.0       |   |
| Total Suspended Solids    | NS             | 2.00       | U 162      | 12.0       | J 2.00     | U 18.0     | 18.0         | 42.0       | 72.0       | 46.0       |   |

Table 3  
Fall 2020 Groundwater Sampling Results  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:        |                | CSW-32     |  | CSW-33     |  | CSW-34     |  | CSW-35     |  | CSW-36     |  | CSW-37     |  | CSW-38     |  | CSW-39     |  |
|---------------------------|----------------|------------|--|------------|--|------------|--|------------|--|------------|--|------------|--|------------|--|------------|--|
| Lab Sample ID:            | MCL/           | 20I1804-03 |  | 20I1804-04 |  | 20I2205-04 |  | 20I2501-04 |  | 20I2501-02 |  | 20I2401-03 |  | 20I1804-06 |  | 20I2401-04 |  |
| Duplicate of:             | SMCL           |            |  |            |  |            |  |            |  |            |  |            |  |            |  |            |  |
| Date Sampled:             | <sup>(1)</sup> | 09/17/2020 |  | 09/17/2020 |  | 09/21/2020 |  | 09/24/2020 |  | 9/24/2020  |  | 9/23/2020  |  | 09/17/2020 |  | 09/23/2020 |  |
|                           |                |            |  |            |  |            |  |            |  |            |  |            |  |            |  |            |  |
| Total Inorganics          |                | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  |
| Aluminum <sup>(5)</sup>   | 0.05           | 0.0167 J   |  | 0.0459     |  | 0.269      |  | 0.103      |  | 0.0226 J   |  | 0.0080 U   |  | 1.48       |  | 0.0466     |  |
| Arsenic                   | 0.01           | 0.0158     |  | 0.0010 U   |  | 0.0010 U   |  | 0.0010 U   |  | 0.0010 U   |  | 0.0010 U   |  | 0.0012 J   |  | 0.0010 U   |  |
| Beryllium <sup>(5)</sup>  | 0.004          | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  |
| Cadmium <sup>(5)</sup>    | 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   |  |
| Calcium                   | NS             | 150        |  | 31.6       |  | 316        |  | 379        |  | 219        |  | 10.3       |  | 166        |  | 157        |  |
| Iron                      | 0.3            | 596        |  | 4.44       |  | 0.140      |  | 0.0400 U   |  | 0.710      |  | 24.9       |  | 0.202      |  | 0.0656     |  |
| Lead                      | 0.015          | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  | 0.0004 U   |  |
| Magnesium                 | NS             | 84.7       |  | 2.42       |  | 0.102      |  | 0.0626 U   |  | 0.838      |  | 2.43       |  | 0.0818     |  | 0.0584     |  |
| Manganese                 | 0.05           | 11.1       |  | 0.106      |  | 0.0196 J   |  | 0.0080 U   |  | 0.0400 U   |  | 0.198      |  | 0.0080 U   |  | 0.0080 U   |  |
| Nickel <sup>(2)</sup>     | 0.073          | 0.0225     |  | 0.0015 J   |  | 0.0303     |  | 0.0324     |  | 0.0179     |  | 0.0006 J   |  | 0.0139     |  | 0.0116     |  |
| Potassium                 | NS             | 6.25       |  | 4.25       |  | 43.8       |  | 79.2       |  | 16.4       |  | 2.27       |  | 5.99       |  | 25.3       |  |
| Sodium                    | NS             | 159        |  | 11.1       |  | 73.4       |  | 94.9       |  | 40.6       |  | 20.0       |  | 29.6       |  | 91.6       |  |
| Zinc                      | 5              | 0.0183     |  | 0.0057     |  | 0.0172     |  | 0.0215     |  | 0.0083     |  | 0.0063     |  | 0.0043     |  | 0.0068     |  |
|                           |                |            |  |            |  |            |  |            |  |            |  |            |  |            |  |            |  |
| Anions                    |                | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  |
| Bromide                   | NS             | 1.23       |  | 0.200 U    |  | 1.74       |  | 0.932      |  | 0.959      |  | 0.207 J    |  | 0.482 J    |  | 0.965      |  |
| Chloride                  | 250            | 287        |  | 6.75       |  | 160        |  | 89.0       |  | 81.9       |  | 24.8       |  | 52.2       |  | 149        |  |
| Fluoride                  | 2              | 0.200 U    |  | 0.200 U    |  | 0.200 U    |  | 0.528      |  | 0.200 U    |  | 0.200 U    |  | 0.204      |  | 0.200 U    |  |
| Sulfate                   | 250            | 1410       |  | 17.3       |  | 45.8       |  | 40.2       |  | 100        |  | 2.00 U     |  | 38.3       |  | 8.50       |  |
|                           |                |            |  |            |  |            |  |            |  |            |  |            |  |            |  |            |  |
| 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 U   |  | 0.0600 U   |  | 0.0600 U   |  | 0.0600 U   |  | 0.0600 U   |  | 0.0864 J   |  | 0.0600 U   |  |
| Nitrogen, Nitrite         | 1              | 0.0600 U   |  | 0.0600 U   |  | 0.0600 U   |  | 0.0600 U   |  | 0.120 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    |  | 0.0600 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      |  | pCi/L      |  |
| Gross Alpha               | 15             | 4.5 U      |  | 2.0        |  | 2.6 U      |  | 5.3 U      |  | 2.2 U      |  | 1.0 U      |  | 1.7 U      |  | 2.7        |  |
| Gross Beta <sup>(3)</sup> | 50             | 12.2       |  | 6.9        |  | 52.7       |  | 123        |  | 25.2       |  | 5.6        |  | 8.1        |  | 36.0       |  |
| Radium-226 <sup>(4)</sup> | 5              | 0.6        |  | 1.0        |  | 1.1        |  | 1.7 U      |  | 0.6 U      |  | 0.8        |  | 0.4        |  | 1.3        |  |
| Radium-228 <sup>(4)</sup> | 5              | 0.9 U      |  | 0.8 U      |  | 1.3        |  | 1.2        |  | 1.0 U      |  | 1.7        |  | 0.71       |  | 0.8 U      |  |
|                           |                |            |  |            |  |            |  |            |  |            |  |            |  |            |  |            |  |
| Miscellaneous             |                | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  | mg/L       |  |
| Total Alkalinity          | NS             | 66.1       |  | 95.4       |  | 750        |  | 1100       |  | 419        |  | 77.2       |  | 385        |  | 389        |  |
| Total Dissolved Solids    | 500            | 3260 J     |  | 160 J      |  | 1090       |  | 1390       |  | 777        |  | 94.0       |  | 546 J      |  | 654        |  |
| Total Suspended Solids    | NS             | 263        |  | 4.00 J     |  | 3.00 J     |  | 7.00 J     |  | 17.0 J     |  | 14.0       |  | 2.00 U     |  | 2.00 U     |  |

Table 3  
Fall 2020 Groundwater Sampling Results  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:        |                | PZ-1       | DUP-3-PZ-1 | PZ-2       | PZ-3       | PZ-4       | PZ-5       | EB <sup>(6)</sup> -092420  | EB(6)-092220 |          |
|---------------------------|----------------|------------|------------|------------|------------|------------|------------|----------------------------|--------------|----------|
| Lab Sample ID:            | MCL/           | 20I2401-02 | 20I2401-01 | 20I1804-05 | 20I1704-03 | 20I2501-01 | 20I3002-02 | 20I2501-07<br>& 2009175-02 | 20I2306-04   |          |
| Duplicate of:             | SMCL           |            | PZ-1       |            |            |            |            |                            |              |          |
| Date Sampled:             | <sup>(1)</sup> | 09/23/2020 | 09/23/2020 | 9/17/2020  | 9/16/2020  | 9/24/2020  | 09/29/2020 | 9/24/2020                  | 9/22/2020    |          |
|                           |                |            |            |            |            |            |            |                            |              |          |
| Total Inorganics          |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L                       | mg/L         |          |
| Aluminum <sup>(5)</sup>   | 0.05           | 0.0261 J   | 0.0229 J   | 0.0222 J   | 13.3       | 7.31       | 0.0770     | 0.0080                     | U            | 0.0080 U |
| Arsenic                   | 0.01           | 0.0016 J   | 0.0021     | 0.0053     | 0.0010 U   | 0.0025     | 0.0010 U   | 0.0010                     | U            | 0.0010 U |
| Beryllium <sup>(5)</sup>  | 0.004          | 0.0004 U   | 0.0004 U   | 0.0004 U   | 0.0040 J   | 0.0101     | 0.0004 U   | 0.0004                     | U            | 0.0004 U |
| Cadmium <sup>(5)</sup>    | 0.005          | 0.0004 U   | 0.0004 U   | 0.0004 U   | 0.0015 J   | 0.0004 U   | 0.0038     | 0.0004                     | U            | 0.0004 U |
| Calcium                   | NS             | 192        | 189        | 24.5       | 116        | 110        | 73.8       | 0.0463                     |              | 0.0224 J |
| Iron                      | 0.3            | 124        | 121        | 66.2       | 204        | 134        | 7.07       | 0.0297                     | J            | 0.0809   |
| Lead                      | 0.015          | 0.0004 U   | 0.0004 U   | 0.0004 U   | 0.0033     | 0.0004 U   | 0.00050 U  | 0.0004                     | U            | 0.0004 U |
| Magnesium                 | NS             | 217        | 212        | 9.46       | 108        | 72.2       | 48.8       | 0.0172                     | J            | 0.0095 J |
| Manganese                 | 0.05           | 32.9       | 32.9       | 0.884      | 93.2       | 53.0       | 39.7       | 0.0121                     | J            | 0.0080 U |
| Nickel <sup>(2)</sup>     | 0.073          | 0.0058     | 0.0056     | 0.0024     | 0.272      | 0.155      | 0.327      | 0.0004                     | U            | 0.0004 U |
| Potassium                 | NS             | 27.4       | 26.6       | 1.69       | 10.5       | 6.75       | 9.83       | 0.0229                     | J            | 0.0580   |
| Sodium                    | NS             | 429        | 423        | 53.3       | 218        | 121        | 31.2       | 0.262                      |              | 0.169    |
| Zinc                      | 5              | 0.0028     | 0.0036     | 0.0046     | 0.428      | 0.175      | 0.888      | 0.0011                     | J            | 0.0014 J |
|                           |                |            |            |            |            |            |            |                            |              |          |
| Anions                    |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L                       | mg/L         |          |
| Bromide                   | NS             | 3.82       | 3.58       | 0.331 J    | 1.85       | 0.806      | 0.200 U    | 0.200                      | U            | 0.306 J  |
| Chloride                  | 250            | 725        | 678        | 30.8       | 297        | 176        | 23.3       | 2.00                       | U            | 68.7     |
| Fluoride                  | 2              | 0.200 U    | 0.200 U    | 0.200 U    | 0.482      | 0.819      | 0.200 U    | 0.200                      | U            | 0.200 U  |
| Sulfate                   | 250            | 1120       | 1050       | 86.8       | 1290       | 1030       | 580        | 2.00                       | U            | 274      |
|                           |                |            |            |            |            |            |            |                            |              |          |
| 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 U   | 0.0600 U   | 0.0600 UJ  | 0.0600 U   | 0.0600 U   | 0.0600                     | U            | 0.0600 U |
| Nitrogen, Nitrite         | 1              | 0.0600 U   | 0.120 U    | 0.0600 U   | 0.0600 UJ  | 0.0600 U   | 0.0600 U   | 0.0600                     | U            | 0.0600 U |
| Nitrogen, Nitrate-Nitrite | 10             | 0.120 U    | 0.0600 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                      | pCi/L        |          |
| Gross Alpha               | 15             | 4.3 U      | 3.9 U      | 3.4        | 7.2        | 9.9        | 1.5        | 1.3                        |              | 1.0 U    |
| Gross Beta <sup>(3)</sup> | 50             | 33.6       | 47.6       | 7.1        | 25.4       | 18.5       | 15.6       | 1.8                        |              | 1.9 U    |
| Radium-226 <sup>(4)</sup> | 5              | 1.0        | 1.2        | 1.1        | 2.1        | 2.7        | 0.8        | 0.5                        |              | 0.5      |
| Radium-228 <sup>(4)</sup> | 5              | 1.1        | 1.2        | 0.71       | 3.1        | 2.9        | 1.6        | 0.9                        | U            | 0.9 U    |
|                           |                |            |            |            |            |            |            |                            |              |          |
| Miscellaneous             |                | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L       | mg/L                       | mg/L         |          |
| Total Alkalinity          | NS             | 597        | 656        | 91.4       | 56.8       | 5.00 U     | 15.2       | 5.00                       | U            | 5.00 U   |
| Total Dissolved Solids    | 500            | 3210       | 3210       | 308 J      | 2800       | 1770       | 842        | 6.00                       | U            | 20.0 U   |
| Total Suspended Solids    | NS             | 128        | 150        | 126        | 8.00 J     | 15.0 J     | 2.00 U     | 4.00                       | J            | 2.00 U   |

Table 3  
Fall 2020 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.

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

NS -- Not Specified

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

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

<sup>(3)</sup>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.

<sup>(4)</sup>MCL is for Ra-226 and Ra-228 combined.

<sup>(5)</sup>Some non-detect results for Aluminum, Beryllium, and Cadmium were greater than the screening level

<sup>(6)</sup>EB - Equipment Blanks (Also referenced as RB (Rinstate Blank) or FB (Field Blank) in Laboratory Reports)

**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 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | 7A          |             |             |             |           |            |           |            | 7B          |             |             |             |           |           |            |            |           |            |
|------------------------------------|----------------|-------------|-------------|-------------|-------------|-----------|------------|-----------|------------|-------------|-------------|-------------|-------------|-----------|-----------|------------|------------|-----------|------------|
| Sample Number:                     | SMCL           | 7A-20170711 | 7A-20171012 | 7A-20180508 | 7A-20181024 | 7A        | 7A         | 7A_052020 | 7A         | 7B-20170711 | 7B-20171012 | 7B-20180508 | 7B-20181024 | 7B        | DUP-2     | 7B         | DUP-11219  | 7B_052020 | 7B         |
| Date Sampled:                      | <sup>(1)</sup> | 7/11/2017   | 10/12/2017  | 5/8/2018    | 10/24/2018  | 7/8/2019  | 11/21/2019 | 5/20/2020 | 09/22/2020 | 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 |
| 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           | 0.82        | 0.046 J     | 0.08 J      | 0.066 J     | 0.0596    | 0.455      | 0.121     | 0.0732     | 0.28        | 0.019 J     | 0.031 J     | 0.05 U      | 0.0255    | 0.0212    | 0.05 U     | 0.0132 J   | 0.018 J   | 0.0080 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   | 0.003 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   | 0.0010 U   |
| Beryllium                          | 0.004          | 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    | 0.0004 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   |
| 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    | 0.0004 U    | 0.0004 U    | 0.0004 U  | 0.0004 U  | 0.003 U    | 0.003 U    | 0.002 U   | 0.0004 U   |
| Calcium                            | NS             | 5.2         | 5           | 5.1         | 5.5         | 6.38      | 5.87       | 6.04      | 5.57       | 25          | 21          | 19          | 19          | 17.6      | 17.4      | 16.1       | 16.6       | 19.1      | 16.4       |
| Iron                               | 0.3            | 15          | 12          | 13          | 13          | 21.1      | 15.3       | 16.4      | 13.1       | 22          | 21          | 18          | 19          | 18.3      | 18.3      | 15.5       | 16.1       | 19.1      | 18.2       |
| 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   | 0.0025 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   |
| Magnesium                          | NS             | 2.2         | 1.9         | 2.2         | 2.2         | 2.77      | 2.34       | 2.18      | 2.26       | 3.7         | 3.3         | 3.2         | 3.4         | 3.36      | 3.45      | 2.97       | 3.06       | 3.22      | 3.29       |
| Manganese                          | 0.05           | 0.2         | 0.2         | 0.52        | 0.2 J       | 0.221     | 0.209      | 0.238     | 0.201      | 0.2         | 0.17        | 0.16        | 0.16 J      | 0.141     | 0.148     | 0.129      | 0.134      | 0.271     | 0.155      |
| Nickel <sup>(2)</sup>              | 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   | 0.005 U     | 0.005 U     | 0.005 U     | 0.005 UJ    | 0.002 U   | 0.002 U   | 0.004 U    | 0.004 U    | 0.0022 U  | 0.0006 J   |
| Potassium                          | NS             | 1.2         | 1.1         | 0.98 J      | 1.3 J       | 1.16      | 1.15       | 1.08      | 1.29       | 8.7         | 8.4         | 11          | 12 J        | 11.9      | 11.9      | 11.1       | 11.3       | 15.6      | 9.62       |
| Sodium                             | NS             | 10          | 6.3         | 6.4         | 6.8         | 8.28      | 6.69       | 10.1      | 10.4       | 21          | 20          | 20          | 21          | 24.1      | 24        | 21         | 22.4       | 26.7      | 22.0       |
| 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   | 0.02        | 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   |
| 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       | 0.37 J      | 0.2 J       | 0.0301    | 0.50 U     | 0.2 U     | 0.200 U    | 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    | 0.200 U    |
| Chloride                           | 250            | 13          | 7.9         | 8.9         | 7.8         | 14.8      | 10.1       | 11.5      | 10.1 U     | 37          | 37          | 38          | 37          | 19.6      | 19.5      | 36.4       | 37.3       | 35.8      | 37.3 U     |
| Fluoride                           | 2              | 0.085 J     | 0.058 J     | 0.1         | 0.068 J     | 0.0497    | 0.083 J    | 0.085 J   | 0.200 U    | 0.07 J      | 0.04 J      | 0.093 J     | 0.043 J     | 0.0173    | 0.0167    | 0.065 J    | 0.19 J     | 0.08 J    | 0.200 U    |
| Sulfate                            | 250            | 2.3         | 0.59        | 1.6         | 1 UJ        | 4.85      | 1.9 J      | 14.5      | 9.18 U     | 22          | 22          | 24          | 19 J        | 11.3      | 11.2      | 22.1       | 21.7       | 21.2      | 23.8 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             | 0.4         | 0.05        | 0.93        | 0.03 J      | 3.99      | 1.3        | 3.5       | 6.35       | ND          | 0.027       | 0.05 U      | 0.05 U      | 0.003 U   | 0.003 U   | 0.11 U     | 0.11 U     | 0.1 U     | 0.0600 U   |
| Nitrogen, Nitrite                  | 1              | ND          | ND          | 0.05 U      | 0.05 R      | 0.00474 J | 0.010 U    | 0.005 U   | 0.0600 U   | ND          | ND          | 0.05 U      | 0.05 R      | 0.003 U   | 0.003 U   | 0.010 U    | 0.012      | 0.0032 J  | 0.0600 U   |
| Nitrogen, Nitrate-Nitrite          | 10             | 1.5         | 0.31        | 0.45        | 0.014 J     | 3.99      | 1.3        | 3.5       | 6.35       | 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   | 0.120 U    |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 15             | 0.856 U     | 1.45 U      | 0.288 U     | -0.454 U    | 1.1 U     | 0.127 U    | -0.364 U  | 1.3        | 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        |
| Gross Beta <sup>(4)</sup>          | 50             | 0.915 U     | 1.5 U       | 1.67 J      | 1.26 J      | 3.2       | 1.22 U     | 3.53 U    | 2.7        | 7.62        | 7.5         | 11.4        | 9.54        | 16        | 12.2      | 12.6       | 10.3       | 20.9      | 14.4       |
| Radium-226 <sup>(5)</sup>          | 5              | 0.188 U     | 0.0293 U    | 0.155 J     | 0.188 U     | 0.4       | 0.489 U    | 0.135 U   | 0.8 U      | 0.894 U     | 0.826 J     | 0.754 J     | 0.868 U     | 1.4       | 0.7       | 1.15       | 0.669      | 1.29      | 1.0 U      |
| Radium-228 <sup>(5)</sup>          | 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      | 0.95 J      | 0.924 J     | 1.02        | 0.723 U     | 0.9       | 0.9       | 1.82 U     | 1.56 U     | 0.191 U   | 1.2        |
| 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             | 51 U        | 45          | 21          | 30          | 8.2 J     | 28         | 33        | 21.3       | 710         | 45          | 44          | 45          | 54        | 56.5      | 50.5       | 49         | 60        | 61.9       |
| Total Dissolved Solids             | 500            | 140         | 93          | 83          | 76          | 104       | 74         | 112       | 73.0       | 180         | 180         | 160         | 150         | 164       | 168       | 155        | 137        | 163       | 127        |
| Total Suspended Solids             | NS             | 34          | 27          | 53          | 30 J        | 50        | 47.3       | 12.6      | 23.0       | 40          | 22          | 27          | 22 J        | 15.5      | 16        | 16.8       | 14.4       | 21.7      | 11.0       |
| Field Parameters                   |                |             |             |             |             |           |            |           |            |             |             |             |             |           |           |            |            |           |            |
| pH (S.U.)                          | 6.5-8.5        | 6.29        | 5.49        | 6.14        | 6.26        | NA        | NA         | 5.94      | 6.05       | 2.17        | 6.02        | 6.15        | 6.74        | NA        | NA        | NA         | NA         | 6.92      | 6.48       |
| Specific Conductivity (mS/cm)      | NS             | 0.166       | 0.131       | 0.118       | 0.122       | NA        | NA         | 0.116     | 0.105      | 0.129       | 0.348       | 0.356       | 0.345       | NA        | NA        | NA         | NA         | 0.311     | 0.201      |
| Temperature (°C)                   | NS             | 20.84       | 20.01       | 24.04       | 18.01       | NA        | NA         | 14.86     | 18.09      | 17.73       | 15.12       | 15.47       | 15.05       | NA        | NA        | NA         | NA         | 14.73     | 14.85      |
| Turbidity (NTU)                    | NS             | 19.1        | 13.9        | 7.62        | 16.3        | NA        | NA         | 21.9      | 8.2        | 9.18        | 2.58        | 2.04        | 4.52        | NA        | NA        | NA         | NA         | 0.0       | 0.5        |
| Dissolved Oxygen (mg/L)            | NS             | 0           | 0           | 0           | 0           | NA        | NA         | 0.00      | 0.00       | 0.06        | 0.7         | 1.97        | 0           | NA        | NA        | NA         | NA         | 0.00      | 0.00       |
| Oxidation-Reduction Potential (mV) | NS             | -42         | -15         | -26         | -8          | NA        | NA         | -28       | -28        | 107         | -75         | -140        | -65         | NA        | NA        | NA         | NA         | -106      | -78        |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/    | 8A          |             |             |             |          |            |           |            |            |             | 8B          |             |             |          |            |           |            |           |  |  |
|------------------------------------|---------|-------------|-------------|-------------|-------------|----------|------------|-----------|------------|------------|-------------|-------------|-------------|-------------|----------|------------|-----------|------------|-----------|--|--|
| Sample Number:                     | SMCL    | 8A-20170713 | 8A-20171012 | 8A-20180508 | 8A-20181018 | 8A       | 8A         | 8A_052020 | DUP_052020 | 8A         | 8B-20170713 | 8B-20171012 | 8B-20180508 | 8B-20181018 | 8B       | 8B         | 8B_052020 | 8B         | DUP-2     |  |  |
| 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 | 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 |  |  |
| Duplicate of:                      |         |             |             |             |             |          |            |           | 8A         |            |             |             |             |             |          |            |           |            | 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    | 2.7         | 2.5         | 2.3         | 1.8         | 1.9      | 1.6        | 1.74      | 1.75       | 1.51       | 1.6         | 1.6         | 1.5         | 1.5         | 1.38     | 1.09       | 1.15      | 1.33       | 1.36      |  |  |
| Arsenic                            | 0.01    | 0.0054      | 0.01        | 0.004       | 0.0042      | 0.0013 J | 0.0068     | 0.0034    | 0.0035     | 0.0010 U   | 0.0021 J    | 0.0033      | 0.0015 J    | 0.002 J     | 0.001 U  | 0.0019 J   | 0.0011 J  | 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     | 0.0020     | 0.0029      | 0.003       | 0.0025      | 0.0026      | 0.002 J  | 0.0023     | 0.0026 J  | 0.0025     | 0.0025    |  |  |
| 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   | 0.0015      | 0.001       | 0.00078     | 0.0011      | 0.0011 J | 0.00070 J  | 0.00079 J | 0.0010 J   | 0.0010 J  |  |  |
| Calcium                            | NS      | 74 J        | 75          | 63          | 57          | 53.7     | 51.5       | 53.2      | 57.9       | 50.4       | 56 J        | 53          | 50          | 47          | 45.2     | 36.8       | 43.2      | 41.2       | 42.4      |  |  |
| Iron                               | 0.3     | 16          | 15          | 13          | 11          | 9.47     | 8.99       | 8.41      | 9.45       | 6.63       | 0.076 U     | 0.23        | 0.055 J     | 0.41        | 0.0619   | 0.164      | 0.0955    | 0.0400 U   | 0.0400 U  |  |  |
| 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   | 0.0020 U   | 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  |  |  |
| Magnesium                          | NS      | 38          | 37          | 33          | 29          | 30       | 25.7       | 27.3      | 30.8       | 27.9       | 36          | 35          | 34          | 32          | 32.5     | 30.7       | 38.5      | 31.9       | 32.4      |  |  |
| Manganese                          | 0.05    | 19 J        | 21          | 19          | 15          | 14.7     | 13.8       | 13        | 13         | 14.2       | 8.8 J       | 8.8         | 7.8         | 7.6         | 7.31     | 4.95       | 5.18      | 6.68       | 6.81      |  |  |
| Nickel <sup>(2)</sup>              | 0.073   | 0.058       | 0.057       | 0.052       | 0.049       | 0.0469   | 0.0377     | 0.0354    | 0.0354     | 0.0418     | 0.043       | 0.044       | 0.041       | 0.039       | 0.0364   | 0.0267     | 0.0282    | 0.0324     | 0.0327    |  |  |
| Potassium                          | NS      | 5.7         | 6.1         | 5.5         | 5.1         | 5.27     | 4.56       | 4.79      | 4.82       | 4.83       | 4.4         | 4.7         | 4.8         | 4.5         | 4.77     | 4.15       | 4.26      | 4.52       | 4.62      |  |  |
| Sodium                             | NS      | 90 J        | 86          | 74          | 66          | 67.7     | 62         | 62.2      | 69.3       | 64.5       | 170 J       | 190         | 190         | 190         | 208      | 224        | 205       | 205        | 203       |  |  |
| Zinc                               | 5       | 0.4         | 0.36        | 0.33        | 0.29        | 0.2985   | 0.237      | 0.263 U   | 0.264 U    | 0.239      | 0.21        | 0.19        | 0.2         | 0.18        | 0.183    | 0.146      | 0.151 U   | 0.153      | 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      |  |  |
| Bromide                            | NS      | 0.42 J      | 0.41        | 0.76        | 0.4 J       | 0.282    | 0.50 U     | 0.2 U     | 0.2 U      | 0.600 U    | 0.32 J      | 0.26        | 0.63        | 0.35 J      | 0.212    | 0.50 U     | 0.24 J    | 0.200 U    | 0.600 U   |  |  |
| Chloride                           | 250     | 120 J       | 110         | 98          | 100         | 78.9     | 79.7       | 74.7      | 75.1       | 94.2 U     | 300         | 310         | 300         | 340         | 268      | 334        | 310       | 367        | 372       |  |  |
| Fluoride                           | 2       | 0.94        | 0.96        | 1           | 0.89 J      | 0.643    | 1          | 0.86      | 0.86       | 0.676      | 0.39        | 0.33        | 0.47        | 0.4 J       | 0.29     | 0.38       | 0.37 J    | 0.370      | 0.361     |  |  |
| Sulfate                            | 250     | 560 J       | 430         | 430         | 390         | 290      | 375        | 344       | 341        | 361 U      | 290 J       | 250         | 270         | 250         | 179      | 254        | 227 J     | 268 U      | 272 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      | 0.0600 U   | 1.8         | 2.0         | 9           | 1           | 9.57     | 13.2       | 11.4      | 10.3       | 10.4      |  |  |
| Nitrogen, Nitrite                  | 1       | ND          | ND          | 0.05 U      | 0.05 U      | 0.003    | 0.010 U    | 0.16      | 0.005 U    | 0.120 U    | ND          | ND          | 0.05 U      | 0.05 U      | 0.003 U  | 0.010 U    | 0.0032 J  | 0.0600 U   | 0.0600 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    | 0.0600 U   | 6.3         | 10          | 7.8         | 9.4         | 9.57     | 13.2       | 11.4      | 10.3       | 10.4      |  |  |
| Radiochemistry                     |         | 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 <sup>(3)</sup>         | 15      | 10.9        | 10          | 13.4        | 14          | 24.8     | 14.5       | 12.2      | 5.59 U     | 19.0       | 2.91 U      | 5.1         | 7.27        | 1.06 U      | 19.2     | 4.8        | -0.234 U  | 11.7       | 9.1       |  |  |
| Gross Beta <sup>(4)</sup>          | 50      | 21.1        | 15.6        | 16.1        | 14.7        | 34.9     | 14         | 13.1      | 13.1       | 31.0       | 11.1        | 7.72        | 9.68        | 8.8         | 16.3     | 7.1        | 13.7      | 14.7       | 17.3      |  |  |
| Radium-226 <sup>(5)</sup>          | 5       | 1.94        | 1.76        | 1.69        | 1.85        | 8.2      | 1.5        | 2.22      | 2.63       | 5.7        | 0.801 U     | 1.28        | 1.2         | 1.36        | 3.7      | 0.7        | 1.87      | 4.2        | 3.8       |  |  |
| Radium-228 <sup>(5)</sup>          | 5       | 9.59        | 9.57        | 9.15        | 8.07        | 6.1      | 8.9        | 4.97      | 6.84       | 6.8        | 3.42        | 4.06        | 4.39        | 3.6         | 4.2      | 4.1        | 2.92 J    | 3.9        | 4.0       |  |  |
| 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        | 5.00 U     | 5 U         | 5 U         | 5 U         | 5 U         | 5 U      | 5.0 U      | 4 U       | 5.00 U     | 5.00 U    |  |  |
| Total Dissolved Solids             | 500     | 920         | 880         | 850         | 720         | 694      | 577        | 550       | 587        | 584        | 890         | 990         | 1000        | 1000        | 1020     | 874        | 877       | 888        | 914       |  |  |
| Total Suspended Solids             | NS      | 8.2         | 1.8         | 1 U         | 1 U         | 2.4      | 4.0 U      | 2 U       | 2 U        | 2.00 U     | 1 U         | 1 U         | 1 U         | 1 U         | 1.6 J    | 4.0 U      | 2 U       | 2.00 U     | 2.00 U    |  |  |
| Field Parameters                   |         |             |             |             |             |          |            |           |            |            |             |             |             |             |          |            |           |            |           |  |  |
| pH (S.U.)                          | 6.5-8.5 | 4           | 3.9         | 3.86        | 4.24        | NA       | NA         | 3.90      | NA         | 4.19       | 4.09        | 3.97        | 4.19        | 4.25        | NA       | NA         | 4.28      | 4.1        | NA        |  |  |
| Specific Conductivity (mS/cm)      | NS      | 0.561       | 1.26        | 1.19        | 1.12        | NA       | NA         | 0.848     | NA         | 0.583      | 1.57        | 1.69        | 1.56        | 1.72        | NA       | NA         | 1.470     | 1.18       | NA        |  |  |
| Temperature (°C)                   | NS      | 18.14       | 15.44       | 16.18       | 15.04       | NA       | NA         | 15.21     | NA         | 15.53      | 19.84       | 17.55       | 19.21       | 16.25       | NA       | NA         | 16.17     | 15.31      | NA        |  |  |
| Turbidity (NTU)                    | NS      | 3.43        | 0.87        | 1.2         | 1.81        | NA       | NA         | 0.0       | NA         | 1.7        | 1.4         | 3.54        | 1.85        | 4.37        | NA       | NA         | 2.4       | 0.4        | NA        |  |  |
| Dissolved Oxygen (mg/L)            | NS      | 1.35        | 0.96        | 0.3         | 0           | NA       | NA         | 0.00      | NA         | 0.00       | 0.15        | 0.54        | 1.68        | 2.15        | NA       | NA         | 3.22      | 1.33       | NA        |  |  |
| Oxidation-Reduction Potential (mV) | NS      | 217         | 288         | 244         | 277         | NA       | NA         | 273       | NA         | 234        | 396         | 220         | 380         | 380         | NA       | NA         | 363       | 227        | NA        |  |  |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
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       |       |
| Date Sampled:                      | <sup>(1)</sup> | 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 |       |
| 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  |
| 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  |       |
| 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    | 0.0010 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  |       |
| 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  |       |
| Calcium                            | NS             | 15           | 16              | 17 J         | 16 J            | 16           | 15           | 14.1     | 14       | 16.5       | 13.5       | 9.97      |       |
| 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      |       |
| 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  |       |
| 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      |       |
| 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     |       |
| Nickel <sup>(2)</sup>              | 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 |       |
| Potassium                          | NS             | 28           | 29 J            | 30           | 30              | 29           | 26           | 19.5     | 19.3     | 26.6       | 22.2       | 12.1      |       |
| Sodium                             | NS             | 34           | 34 J            | 33 J         | 33 J            | 33           | 30           | 28.9     | 28.6     | 34.8       | 31.1       | 22.9      |       |
| 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     | 0.0080    |       |
|                                    |                |              |                 |              |                 |              |              |          |          |            |            |           |       |
| 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  |
| Bromide                            | NS             | 0.5 U        | 0.5 U           | 0.064 J      | 0.064 J         | 0.22 J       | 0.38 J       | 0.075    | 0.0651   | 0.50 U     | 0.2 U      | 0.200 U   |       |
| Chloride                           | 250            | 17           | 17              | 17           | 17              | 17           | 17           | 18       | 18.1     | 16.5       | 18.7       | 16.3      |       |
| 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    | 0.200 U   |       |
| Sulfate                            | 250            | 12           | 12              | 14           | 14              | 14           | 14           | 14.2     | 14.3     | 14.7       | 12.9       | 14.9      |       |
|                                    |                |              |                 |              |                 |              |              |          |          |            |            |           |       |
| 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  |
| 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      | 0.0600 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    | 0.0600 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    | 0.120 U   |       |
|                                    |                |              |                 |              |                 |              |              |          |          |            |            |           |       |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 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       |       |
| Gross Beta <sup>(4)</sup>          | 50             | 19.7         | 21.1            | 26.1         | 25.9            | 25.9         | 21.2         | 23.7     | 25.3     | 24.5       | 16.1       | 7.5       |       |
| Radium-226 <sup>(5)</sup>          | 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       |       |
| Radium-228 <sup>(5)</sup>          | 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       |       |
|                                    |                |              |                 |              |                 |              |              |          |          |            |            |           |       |
| 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  |
| Total Alkalinity                   | NS             | 100          | 120             | 110          | 110             | 120          | 110          | 89.2     | 93.9     | 113        | 98.5       | 62.9      |       |
| Total Dissolved Solids             | 500            | 130          | 130             | 200          | 240             | 190          | 190          | 160      | 170      | 181        | 152        | 132       |       |
| Total Suspended Solids             | NS             | 26           | 24              | 12           | 13              | 11           | 15           | 18       | 20       | 14.2       | 24         | 12.0      |       |
|                                    |                |              |                 |              |                 |              |              |          |          |            |            |           |       |
| 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      |       |
| Specific Conductivity (mS/cm)      | NS             | 0.31         | NA              | 0.392        | NA              | 0.404        | 0.358        | NA       | NA       | NA         | 0.292      | 0.158     |       |
| Temperature (°c)                   | NS             | 15.51        | NA              | 16.65        | NA              | 14.56        | 14.44        | NA       | NA       | NA         | 15.36      | 14.28     |       |
| Turbidity (NTU)                    | NS             | 30           | NA              | 5.99         | NA              | 9.83         | 20.1         | NA       | NA       | NA         | 37.9       | 5.7       |       |
| Dissolved Oxygen (mg/L)            | NS             | 0            | NA              | 0            | NA              | 0            | 0            | NA       | NA       | NA         | 0.00       | 0.00      |       |
| Oxidation-Reduction Potential (mV) | NS             | -69          | NA              | -175         | NA              | -125         | -115         | NA       | NA       | NA         | -123       | -50       |       |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | 11C          |              |              |              |          |            |            |            | 11R          |              |              |              |          |            |            |           |
|------------------------------------|----------------|--------------|--------------|--------------|--------------|----------|------------|------------|------------|--------------|--------------|--------------|--------------|----------|------------|------------|-----------|
| Sample Number:                     | SMCL           | 11C-20170706 | 11C-20171009 | 11C-20180501 | 11C-20181016 | 11C      | 11C        | 11C_051920 | 11C        | 11R-20170706 | 11R-20171009 | 11R-20180430 | 11R-20181017 | 11R      | 11R        | 11R_051920 | 11R       |
| Date Sampled:                      | <sup>(1)</sup> | 7/6/2017     | 10/9/2017    | 5/1/2018     | 10/16/2018   | 7/9/2019 | 11/22/2019 | 5/19/2020  | 09/21/2020 | 7/6/2017     | 10/9/2017    | 4/30/2018    | 10/17/2018   | 7/9/2019 | 11/22/2019 | 5/19/2020  | 9/21/2020 |
| 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      |
| Aluminum                           | 0.05           | 5.7          | 4            | 6            | 17 J         | 5.69     | 4.06       | 5.22       | 6.22       | 0.044 J      | 0.044 J      | 0.039 J      | 0.18         | 0.191    | 0.505      | 0.419      | 0.176     |
| Arsenic                            | 0.01           | 0.003 U      | 0.0024 J     | 0.003 U      | 0.0036       | 0.0028   | 0.0041     | 0.0013 J   | 0.0019 J   | 0.003 U      | 0.003 U      | 0.003 U      | 0.003 U      | 0.001 U  | 0.00028 J  | 0.001 U    | 0.0010 U  |
| Beryllium                          | 0.004          | 0.0027       | 0.0014       | 0.0022       | 0.0092       | 0.0047 J | 0.0052     | 0.0033     | 0.0038     | 0.00027 J    | 0.00035 J    | 0.0004 U     | 0.00023 J    | 0.002 U  | 0.00025 J  | 0.00026 J  | 0.0004 U  |
| 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   | 0.0004 U     | 0.0004 U     | 0.0004 U     | 0.0004 U     | 0.0004 U | 0.0030 U   | 0.002 U    | 0.0004 U  |
| Calcium                            | NS             | 31           | 37           | 21           | 56           | 45.2     | 52.2       | 28.5       | 26.9       | 9            | 8.5          | 8.8          | 7.7          | 7.43     | 7.7        | 8.13       | 7.07      |
| Iron                               | 0.3            | 32           | 39           | 19           | 30           | 26.6     | 24.7       | 11.5       | 14.6       | 19           | 19           | 18           | 15           | 22.6     | 17.7       | 17.6       | 17.3      |
| Lead                               | 0.015          | 0.0025 U     | 0.0025 U     | 0.0025 U     | 0.0025 U     | 0.0006 J | 0.00042 J  | 0.00047 J  | 0.0020 U   | 0.0025 U     | 0.0025 U     | 0.0025 U     | 0.0025 U     | 0.0004 U | 0.00038 J  | 0.00023 J  | 0.0004 U  |
| Magnesium                          | NS             | 22           | 27           | 17           | 27           | 18       | 17.9       | 16.3       | 14.7       | 1.7          | 1.6          | 1.7          | 1.5          | 1.76     | 1.57       | 1.57       | 1.59      |
| Manganese                          | 0.05           | 12           | 16           | 8.6          | 17           | 10.8     | 10         | 6.4        | 7.53       | 0.14         | 0.13         | 0.13         | 0.15         | 0.124    | 0.12       | 0.127      | 0.131     |
| Nickel <sup>(2)</sup>              | 0.073          | 0.062        | 0.044        | 0.057        | 0.17         | 0.174    | 0.076      | 0.084      | 0.127      | 0.005 U      | 0.005 U      | 0.005 U      | 0.005 U      | 0.002 U  | 0.0040 U   | 0.003 U    | 0.0005 J  |
| Potassium                          | NS             | 4.4          | 4.8          | 3.4          | 4.7          | 4.35     | 3.8        | 3.51       | 3.83       | 1.9          | 2            | 2.3          | 2.3          | 1.9      | 2.11       | 1.95       | 1.68      |
| Sodium                             | NS             | 27           | 34           | 21           | 27           | 14.5     | 17.9       | 16.4       | 16.4       | 9.6          | 9            | 9.7          | 8.2          | 8.59     | 8.03       | 8.51       | 8.40      |
| Zinc                               | 5              | 0.16         | 0.11         | 0.26         | 0.54         | 0.563    | 0.308      | 0.217      | 0.267      | 0.01 J       | 0.02 U       | 0.02 U       | 0.02 U       | 0.0036 J | 0.0077 J   | 0.0075 J   | 0.0029    |
|                                    |                | mg/L         | mg/L         | mg/L         | mg/L         | 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     | 0.200 U    | 0.5 U        | 0.1 U        | 0.5 U        | 0.5 U        | 0.0219 J | 0.50 U     | 0.2 U      | 0.200 U   |
| Chloride                           | 250            | 20           | 31           | 18 J         | 19           | 12.7     | 16.3       | 15.2       | 11.7       | 4.1          | 5            | 4.4          | 4.4          | 4.06     | 4.1        | 5.2        | 3.96 J    |
| Fluoride                           | 2              | 0.29         | 0.44         | 0.27 J       | 0.9 J        | 0.406    | 0.79       | 0.29       | 0.354      | 0.079 J      | 0.052 J      | 0.082 J      | 0.04 J       | 0.0432   | 0.088 J    | 0.086 J    | 0.200 U   |
| Sulfate                            | 250            | 120          | 110          | 110          | 350          | 207      | 243        | 145        | 155        | 12           | 13           | 27           | 13           | 13.8     | 14.2       | 14.6       | 14.6      |
|                                    |                | mg/L         | mg/L         | mg/L         | mg/L         | 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      | ND           | ND           | 0.05 U       | 0.05 U       | 0.006 U  | 0.11 U     | 0.35       | 0.0600 U  |
| Nitrogen, Nitrite                  | 1              | 0.0073 J     | ND           | 0.05 U       | 0.05 U       | 0.0097 J | 0.010 U    | 0.023      | 0.0600 U   | ND           | ND           | 0.05 U       | 0.05 UJ      | 0.006 U  | 0.0052     | 0.005 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      | 0.014 UJ     | 0.025 U      | 0.025 U      | 0.025 U      | 0.012 U  | 0.10 U     | 0.35       | 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     |
| Radiochemistry                     |                |              |              |              |              |          |            |            |            |              |              |              |              |          |            |            |           |
| Gross Alpha <sup>(3)</sup>         | 15             | 5.47         | 0.427 U      | 2.79         | 7.58         | 3.3      | 5.85       | 4.55 U     | 5.4        | 1.14 U       | 1.43 J       | 2.97 J       | 0.908 U      | 1.4      | 5.87       | 2.19 U     | 2.3       |
| Gross Beta <sup>(4)</sup>          | 50             | 5.75 U       | 2.51 J       | 4.66         | 4.03         | 8.9      | 5.93       | 4.59 J     | 13.0       | 2.66 U       | 2.14 J       | 4.22         | 2.55 J       | 4.3      | 5.34       | 4.15 U     | 4.4       |
| Radium-226 <sup>(5)</sup>          | 5              | 0.115 U      | 0.123 J      | 0.082 U      | 0.395 U      | 0.5      | 0.431 U    | 0.208 U    | 1.2        | 0.775 J      | 0.812 J      | 0.912 J      | 0.862 U      | 0.6      | 1.45       | 0.84 J     | 1.4       |
| Radium-228 <sup>(5)</sup>          | 5              | 0.936 J      | 0.961 J      | 0.589        | 1.42         | 0.8      | 1.79 U     | -0.254 U   | 1.5        | 0.489 J      | 1.08         | 0.3 U        | 0.46 U       | 1.2      | 0.373 U    | 0.518 U    | 0.9 U     |
|                                    |                | mg/L         | mg/L         | mg/L 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      |
| Miscellaneous                      |                |              |              |              |              |          |            |            |            |              |              |              |              |          |            |            |           |
| Total Alkalinity                   | NS             | 69           | 200          | 83           | 44           | 5 U      | 13.5       | 32         | 34.7       | 29           | 36           | 58           | 5 U          | 24.5     | 26.5       | 52.5       | 38.5      |
| Total Dissolved Solids             | 500            | 360          | 450          | 350          | 530          | 455      | 457        | 302        | 388        | 59           | 83           | 92 U         | 85           | 67       | 186        | 78         | 77.0      |
| Total Suspended Solids             | NS             | 71           | 62           | 13           | 75           | 65       | 30.5       | 34.8       | 54.0       | 26           | 33           | 4.9          | 29           | 41       | 14.2       | 18.3       | 27.0      |
|                                    |                |              |              |              |              |          |            |            |            |              |              |              |              |          |            |            |           |
| Field Parameters                   |                |              |              |              |              |          |            |            |            |              |              |              |              |          |            |            |           |
| pH (S.U.)                          | 6.5-8.5        | 5.87         | 6.22         | 5.73         | 5.5          | NA       | NA         | 5.65       | 5.64       | 6.16         | 5.85         | 6.09         | 6.22         | NA       | NA         | 6.31       | 6.08      |
| Specific Conductivity (mS/cm)      | NS             | 0.225        | 0.782        | 0.426        | 0.78         | NA       | NA         | 0.378      | 0.281      | 0.151        | 0.152        | 0.189        | 0.156        | NA       | NA         | 0.143      | 0.097     |
| Temperature (°c)                   | NS             | 17.56        | 23.37        | 17.04        | 16.96        | NA       | NA         | 14.48      | 15.06      | 18.38        | 16.42        | 15.33        | 13.97        | NA       | NA         | 14.27      | 15.21     |
| Turbidity (NTU)                    | NS             | 24.8         | 19.8         | 19.8         | 63.4         | NA       | NA         | 38.1       | 6.6        | 10.8         | 26           | 1.14         | 19.7         | NA       | NA         | 17.6       | 6         |
| Dissolved Oxygen (mg/L)            | NS             | 0            | 0            | 1.42         | 0            | NA       | NA         | 0.00       | 0.00       | 0            | 0.88         | 0            | 0            | NA       | NA         | 0.00       | 0.00      |
| Oxidation-Reduction Potential (mV) | NS             | -53          | -91          | 4            | 104          | NA       | NA         | 102        | 39         | 1            | -19          | -22          | -3           | NA       | NA         | -36        | -43       |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | 12R          |              |              |              |           |            |            |            |            |  | 13A          |              |              |              |           |            |            |            |
|------------------------------------|----------------|--------------|--------------|--------------|--------------|-----------|------------|------------|------------|------------|--|--------------|--------------|--------------|--------------|-----------|------------|------------|------------|
| Sample Number:                     | SMCL           | 12R-20170711 | 12R-20171016 | 12R-20180509 | 12R-20181025 | 12R       | 12R        | 12R        | 12R_051820 | 12R        |  | 13A-20170630 | 13A-20171003 | 13A-20180502 | 13A-20181019 | 13A       | 13A        | 13A_051420 | 13A        |
| Date Sampled:                      | <sup>(1)</sup> | 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 |  | 6/30/2017    | 10/3/2017    | 5/2/2018     | 10/19/2018   | 7/15/2019 | 11/22/2019 | 5/14/2020  | 09/17/2020 |
| 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       |  | 7.3          | 0.37         | 1.5          | 0.23 J       | 1.3       | 2.66       | 0.398      | 1.37       |
| 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     |  | 0.0018 J     | 0.003 U      | 0.003 U      | 0.003 U      | 0.0032    | 0.0012 J   | 0.0011 J   | 0.0010 U   |
| Beryllium                          | 0.004          | 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   |  | 0.00066      | 0.0004 U     | 0.0004 U     | 0.0004 U     | 0.002 U   | 0.00016 J  | 0.0005 U   | 0.0004 U   |
| Cadmium                            | 0.005          | 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     | 0.0004 U     | 0.0004 U     | 0.0004 U     | 0.0004 U  | 0.003 U    | 0.002 U    | 0.0004 U   |
| Calcium                            | NS             | 1000         | 1500         | 1500         | 1300         | 779       | NA         | 768        | 779        | 857        |  | 23           | 23           | 26           | 31           | 21.3      | 26.8       | 33.5       | 20.7       |
| Iron                               | 0.3            | 0.96         | 0.66         | 0.99         | 0.69         | 2.86      | NA         | 2.79       | 5.89       | 31.3       |  | 3.8          | 1.5          | 1.2          | 0.9          | 4.76      | 1.18       | 0.686      | 2.06       |
| 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  | 0.00090 J  |  | 0.0083       | 0.0022 J     | 0.0013 J     | 0.0025 U     | 0.0071    | 0.0015 J   | 0.00028 J  | 0.0007 U   |
| Magnesium                          | NS             | 0.58         | 0.36         | 1.6          | 1.4          | 11.2      | NA         | 12         | 25.9       | 46.1       |  | 2.1          | 1.2          | 1            | 0.99         | 2.66      | 0.736      | 0.582      | 1.56       |
| Manganese                          | 0.05           | 0.14         | 0.11         | 0.39         | 0.32         | 1.84      | NA         | 1.82       | 4.88       | 16.8       |  | 0.039        | 0.026        | 0.022 U      | 0.023        | 0.0618    | 0.0173     | 0.0134     | 0.0364 J   |
| Nickel <sup>(2)</sup>              | 0.073          | 0.045        | 0.057        | 0.05         | 0.05         | 0.0418    | NA         | 0.0144     | 0.0165     | 0.0553     |  | 0.022        | 0.0027 J     | 0.0028 J     | 0.005 UJ     | 0.0086 J  | 0.0052     | 0.0026 J   | 0.0028     |
| Potassium                          | NS             | 13           | 12           | 11           | 12           | 12.1      | NA         | 10.6       | 10.3       | 10.7       |  | 33           | 29           | 27           | 27 J         | 19.2      | 22.7       | 21         | 20.9       |
| Sodium                             | NS             | 410          | 290          | 240          | 260          | 346       | NA         | 301        | 287        | 334        |  | 32           | 29           | 28           | 28           | 18.5      | 28         | 25.1       | 21.1       |
| Zinc                               | 5              | 0.022        | 0.011 J      | 0.013 J      | 0.02         | 0.0285    | NA         | 0.10 U     | 0.0133 J   | 0.144      |  | 0.035        | 0.02 U       | 0.02 U       | 0.02 U       | 0.0392    | 0.0055 J   | 0.015 U    | 0.0081     |
|                                    |                |              |              |              |              |           |            |            |            |            |  |              |              |              |              |           |            |            |            |
| 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       |  | 0.5 U        | 0.1 U        | 0.5 U        | 0.5 U        | 0.0294 J  | 0.50 U     | 0.19 J     | 0.200 U    |
| Chloride                           | 250            | 2600         | 2300         | 2200         | 1800 J       | 1540      | NA         | 1530       | 1710       | 1530       |  | 3            | 3.6          | 3.8          | 4.4          | 2.68      | 4.9        | 5.6        | 3.55 J     |
| Fluoride                           | 2              | 1 U          | 0.06 UJ      | 1 U          | 1 UJ         | 0.02      | 0.24       | NA         | 0.18 J     | 0.259      |  | 0.16         | 0.15         | 0.14         | 0.12         | 0.0919    | 0.18 J     | 0.21       | 0.220      |
| Sulfate                            | 250            | 190          | 250          | 260          | 440 J        | 393       | NA         | 491        | 594        | 811        |  | 13           | 13           | 50           | 13           | 13.7      | 13.5       | 13         | 15.2       |
|                                    |                |              |              |              |              |           |            |            |            |            |  |              |              |              |              |           |            |            |            |
| 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             | 0.010 J      | 0.0021 J     | 0.037 J      | 0.036 J      | 0.0704    | 0.11 U     | NA         | 0.58       | 0.329      |  | ND           | 0.0016 J     | 0.05 U       | 0.05 U       | 0.006 U   | 0.11 U     | 0.1 U      | 0.0600 U   |
| Nitrogen, Nitrite                  | 1              | ND           | ND           | 0.05 U       | 0.35         | 0.006 U   | 0.033      | NA         | 0.088      | 0.348      |  | ND           | ND           | 0.05 U       | 0.05 UJ      | 0.006 U   | 0.012      | 0.005 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      |  | 0.025 U      | 0.025 U      | 0.025 U      | 0.025 U      | 0.012 U   | 0.10 U     | 0.095 U    | 0.120 U    |
|                                    |                |              |              |              |              |           |            |            |            |            |  |              |              |              |              |           |            |            |            |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 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      |  | 4.6          | 3.93         | 0.918 U      | 0.793 U      | 4.3       | 1.87 U     | 5.08 J     | 3.9        |
| Gross Beta <sup>(4)</sup>          | 50             | 2.01 U       | 7.7 U        | 21.6 U       | 17.8 U       | 15.6      | NA         | 5.18 U     | 3.95 U     | 18.9       |  | 27.1         | 27.3         | 22.8         | 17.9         | 22        | 19.1       | 18         | 26.7       |
| Radium-226 <sup>(5)</sup>          | 5              | 2.25         | 0.913 J      | 0.48 J       | 0.742 J      | 0.7       | 0.412 U    | NA         | 0.263 U    | 0.4        |  | 0.578 J      | 0.427 J      | 0.394 J      | 0.591 U      | 1.5       | 0.89       | 0.214 U    | 0.6        |
| Radium-228 <sup>(5)</sup>          | 5              | 1.53         | 1.58 U       | 0.799 J      | 0.988 J      | 0.8       | 0.616 U    | NA         | 0.0554 U   | 0.8 U      |  | 0.663 J      | 1.15         | 0.132 U      | 0.315 U      | 0.9       | 0.857 U    | -0.614 U   | 0.9 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        |  | 110          | 90           | 74           | 85           | 102       | 74.5       | 92.5       | 78.8       |
| Total Dissolved Solids             | 500            | 11000        | 11000        | 10000        | 8300         | 4220      | NA         | 3760       | 4500       | 4300       |  | 260          | 230          | 250          | 160          | 202       | 132        | 181        | 126 J      |
| Total Suspended Solids             | NS             | 32           | 19           | 45           | 200          | 92.9      | NA         | 38.3       | 22.5       | 82.0       |  | 86           | 69           | 25           | 60           | 176       | 57.3       | 16.8       | 44.0       |
|                                    |                |              |              |              |              |           |            |            |            |            |  |              |              |              |              |           |            |            |            |
| Field Parameters                   |                |              |              |              |              |           |            |            |            |            |  |              |              |              |              |           |            |            |            |
| pH (S.U.)                          | 6.5-8.5        | 13.18        | 12.87        | 11.66        | 9.68         | NA        | NA         | NA         | 7.23       | NA         |  | 10.41        | 10.26        | 10.42        | 10.53        | NA        | NA         | 11.70      | 9.99       |
| Specific Conductivity (mS/cm)      | NS             | 7.17         | 10.7         | 6.12         | 5.37         | NA        | NA         | NA         | 5.59       | NA         |  | 0.103        | 0.325        | 0.367        | 0.36         | NA        | NA         | 0.550      | 0.174      |
| Temperature (°c)                   | NS             | 24.84        | 17.26        | 19.52        | 17.65        | NA        | NA         | NA         | 17.12      | NA         |  | 21.26        | 14.51        | 16.98        | 13.64        | NA        | NA         | 13.89      | 14.1       |
| Turbidity (NTU)                    | NS             | 6.51         | 6.93         | 5.58         | 6.85         | NA        | NA         | NA         | 6.1        | NA         |  | 135          | 63.7         | 17.8         | 8.21         | NA        | NA         | 7.4        | 20         |
| Dissolved Oxygen (mg/L)            | NS             | 0            | 1.94         | 0            | 1.69         | NA        | NA         | NA         | 0.00       | NA         |  | 0            | 0.67         | 0.38         | 0            | NA        | NA         | 0.00       | 0.00       |
| Oxidation-Reduction Potential (mV) | NS             | -80          | 23           | -195         | -53          | NA        | NA         | NA         | -130       | NA         |  | -109         | -84          | -211         | -119         | NA        | NA         | -84        | -220       |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | 14R          |              |              |              |                 |           |            |            |            |            | 16A          |              |              |              |                 |           |           |            |            |            |
|------------------------------------|----------------|--------------|--------------|--------------|--------------|-----------------|-----------|------------|------------|------------|------------|--------------|--------------|--------------|--------------|-----------------|-----------|-----------|------------|------------|------------|
| Sample Number:                     | SMCL           | 14R-20170630 | 14R-20171010 | 14R-20180504 | 14R-20181018 | DUP-02-20181018 | 14R       | 14R        | 14R_051820 | DUP_051820 | 14R        | 16A-20170713 | 16A-20171013 | 16A-20180507 | 16A-20181025 | DUP-04-20181025 | 16A       | DUP-3     | 16A        | 16A_051420 | 16A        |
| Date Sampled:                      | <sup>(a)</sup> | 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 | 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  |
| Duplicate of:                      |                |              |              |              |              | 14R-20181018    |           |            |            | 14R        |            |              |              |              |              | 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       | mg/L       | mg/L       |
| Aluminum                           | 0.05           | 18           | 15           | 15 J         | 13           | 13              | 15.2      | 11.6       | 14.8       | 12.5       | 12.6       | 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   |
| Arsenic                            | 0.01           | 0.013        | 0.012        | 0.015        | 0.011        | 0.011           | 0.0065    | 0.0157     | 0.0161     | 0.0169     | 0.0095     | 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   | 0.0010 U   |
| Beryllium                          | 0.004          | 0.0078       | 0.0069       | 0.0075       | 0.006        | 0.0062          | 0.0056 J  | 0.0064     | 0.0064     | 0.0067     | 0.0051     | 0.0004 U     | 0.0004 U     | 0.0004 U     | 0.0004 U     | 0.0004 U        | 0.0004 U  | 0.002 U   | 0.002 U    | 0.000076 J | 0.000082 J |
| Cadmium                            | 0.005          | 0.02 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     | 0.0004 U     | 0.0004 U     | 0.00016 J       | 0.0004 U  | 0.0004 U  | 0.0030 U   | 0.002 U    | 0.0004 U   |
| Calcium                            | NS             | 270          | 220 J        | 240          | 220          | 210             | 221       | 215        | 200        | 220        | 207        | 86 J         | 82 J         | 64           | 67           | 68              | 61.2      | 61.4      | 65.6       | 75.6       | 59.9       |
| Iron                               | 0.3            | 420          | 360 J        | 390          | 350          | 350             | 354       | 357        | 310        | 339        | 352        | 31           | 27 J         | 20           | 22           | 22              | 23.5      | 24.2      | 21.3       | 22.7       | 19.1       |
| 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     | 0.00050 U  | 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   |
| Magnesium                          | NS             | 230          | 210 J        | 210          | 180          | 180             | 211       | 191        | 177        | 193        | 198        | 54           | 49 J         | 42           | 42           | 42              | 38.4      | 38.4      | 39.4       | 47.4       | 37.6       |
| Manganese                          | 0.05           | 230          | 190 J        | 200          | 180          | 170             | 200       | 170        | 161        | 198        | 172        | 29 J         | 32 J         | 26           | 25           | 24              | 25.1      | 23.7      | 21.4       | 20.8       | 23.8       |
| Nickel <sup>(2)</sup>              | 0.073          | 0.9          | 0.7 J        | 0.77         | 0.64         | 0.63            | 0.727     | 0.622      | 0.843      | 0.709      | 0.675      | 0.0065       | 0.0061       | 0.0066       | 0.0057       | 0.0065          | 0.0087 J  | 0.0083 J  | 0.0072     | 0.0057     | 0.0068     |
| Potassium                          | NS             | 24           | 22           | 22           | 19           | 19              | 21.1      | 19         | 23         | 19.9       | 19.0       | 11           | 12           | 10           | 11           | 11              | 10.1      | 10.1      | 10.5       | 11.9       | 9.65       |
| Sodium                             | NS             | 440          | 390 J        | 400          | 330          | 330             | 390       | 339        | 326        | 355        | 360        | 52 J         | 49 J         | 38           | 40           | 41              | 36        | 36.2      | 38.2       | 46         | 37.8       |
| Zinc                               | 5              | 2.2          | 1.8 J        | 1.9          | 1.7          | 1.7             | 1.63      | 1.76       | 2.2        | 2.24       | 1.57       | 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     |
| 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       | 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    |
| Chloride                           | 250            | 680          | 620          | 650          | 610          | 610             | 528       | 484        | 576        | 615 J      | 598        | 31           | 31           | 25           | 28 J         | 28 J            | 25.4      | 25.5      | 24.2       | 24.3       | 21.0       |
| 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        | 0.066 J      | 0.1 U        | 1 UJ         | 1 UJ            | 0.02      | 0.02      | 0.11 J     | 0.056 J    | 0.200 U    |
| Sulfate                            | 250            | 3600         | 2600         | 3000         | 2800         | 2800            | 2370      | 2730       | 2730       | 3620 J     | 2380       | 510 J        | 460          | 440          | 420 J        | 420 J           | 282       | 283       | 387        | 365        | 360        |
| 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          | 0.05 U    | 0.11 U     | 0.19       | 0.1 U      | 0.0600 U   | ND           | 0.018        | 0.072        | 0.05 U       | 0.05 U          | 0.05 U    | 0.006 U   | 0.006 U    | 0.11 U     | 0.18       |
| 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    | 0.0600 U   | ND           | ND           | 0.05 U       | 0.05 U       | 0.05 U          | 0.006 U   | 0.006 U   | 0.010 U    | 0.005 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    | 0.120 U    | 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       | 0.120 U    |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 15             | 44.4         | 23.4 U       | 31.4 U       | 26.4 U       | 5.18 U          | 20.1      | 11 U       | 10.5 U     |            | 16.4       | -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      |
| Gross Beta <sup>(4)</sup>          | 50             | 34.6         | 30.5         | 32.7         | 26.1 J       | 16.1 J          | 68.7      | 30.7       | 27.5 J     |            | 56.1       | 9.31         | 10.8         | 6.5          | 9.12         | 7.72            | 18.6      | 15        | 12.2       | 9.25       | 14.8       |
| Radium-226 <sup>(5)</sup>          | 5              | 1.3          | 1.69         | 1.74         | 1.58         | 1.4             | 10.7      | 1.41       | 1.3        |            | 1.8        | 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      |
| Radium-228 <sup>(5)</sup>          | 5              | 10.4         | 9.61         | 12           | 10.5         | 10.8            | 11.6      | 11.3       | 11 J       |            | 8.8        | 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        |
| 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             | 5 U          | 5 U          | 5 U          | 5 U          | 5 U             | 5 U       | 5.0 U      | 4 U        | 4 U        | 5.00 U     | 110          | 120          | 64           | 110 UJ       | 5 U             | 103       | 106       | 73         | 77.5       | 71.7       |
| Total Dissolved Solids             | 500            | 5500         | 5300         | 5100         | 4900         | 5000            | 5170      | 4310       | 4760       | 4720       | 4530       | 890          | 830          | 770          | 730          | 720             | 640       | 668       | 645        | 634        | 631        |
| Total Suspended Solids             | NS             | 9.1          | 10           | 6.7          | 3.8          | 4.4             | 0.364 U   | 7          | 8.2        | 7.8        | 18.0       | 49           | 5.2          | 12           | 41           | 38              | 20        | 16.3      | 4.9        | 10.5       | 9.00 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        | 6            | 5.82         | 5.93         | 5.95         | NA              | NA        | NA        | NA         | 5.75       | 5.96       |
| Specific Conductivity (mS/cm)      | NS             | 5.57         | 5.19         | 5.18         | 5.17         | NA              | NA        | NA         | 5.00       | NA         | 4.34       | 1.14         | 1.24         | 1.04         | 1.13         | NA              | NA        | NA        | NA         | 0.879      | 0.574      |
| Temperature (°c)                   | NS             | 18.87        | 16.54        | 17.36        | 15.14        | NA              | NA        | NA         | 14.80      | NA         | 14.29      | 21.74        | 18.2         | 21.53        | 17.96        | NA              | NA        | NA        | NA         | 16.69      | 15.97      |
| Turbidity (NTU)                    | NS             | 1.58         | 1.4          | 3.13         | 0.85         | NA              | NA        | NA         | 2.3        | NA         | 7.8        | 7.83         | 5.43         | 9.95         | 19.2         | NA              | NA        | NA        | NA         | 22.4       | 5.5        |
| Dissolved Oxygen (mg/L)            | NS             | 0            | 0.73         | 0.21         | 0            | NA              | NA        | NA         | 0.00       | NA         | 0.00       | 0            | 0            | 0            | 0            | NA              | NA        | NA        | NA         | 0.00       | 0.00       |
| Oxidation-Reduction Potential (mV) | NS             | 150          | 202          | 134          | 207          | NA              | NA        | NA         | 174        | NA         | 190        | 37           | -6           | 47           | 35           | NA              | NA        | NA        | NA         | 39         | 8          |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/    | 18B          |              |              |                 |              |          |            |            |            |  | 21D          |              |              |              |           |            |            |           |
|------------------------------------|---------|--------------|--------------|--------------|-----------------|--------------|----------|------------|------------|------------|--|--------------|--------------|--------------|--------------|-----------|------------|------------|-----------|
| Sample Number:                     | SMCL    | 18B-20170712 | 18B-20171017 | 18B-20180507 | DUP-03-20180507 | 18B-20181022 | 18B      | 18B        | 18B_051520 | 18B        |  | 21D-20170710 | 21D-20171004 | 21D-20180502 | 21D-20181024 | 21D       | 21D        | 21D_051420 | 21D       |
| 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 |  | 7/10/2017    | 10/4/2017    | 5/2/2018     | 10/24/2018   | 7/15/2019 | 11/26/2019 | 5/14/2020  | 9/16/2020 |
| 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      |
| 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    | 0.0080 U   |  | 18           | 0.29 J       | 0.55         | 1.2          | 1.48      | 0.95       | 0.811      | 4.53      |
| 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   | 0.0010 U   |  | 0.0016 J     | 0.003 U      | 0.003 U      | 0.003 U      | 0.0034    | 0.010 U    | 0.00053 J  | 0.0028    |
| Beryllium                          | 0.004   | 0.0004 U     | 0.0004 U     | 0.0004 U     | 0.0004 U        | 0.0004 U     | 0.0004 U | 0.0004 U   | 0.0005 U   | 0.0004 U   |  | 0.0094       | 0.0012       | 0.00074      | 0.00032 J    | 0.002 U   | 0.005 U    | 0.0005 U   | 0.0009 J  |
| 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   | 0.0002 U   |  | 0.0004 U     | 0.0004 U     | 0.0004 U     | 0.0004 U     | 0.0004 U  | 0.015 U    | 0.002 U    | 0.0004 U  |
| Calcium                            | NS      | 51           | 46           | 44           | 45              | 41           | 46.4     | 52         | 48.9       | 47.9       |  | 26           | 19 J         | 52           | 66           | 49.7      | 82.5       | 127        | 65.5      |
| Iron                               | 0.3     | 24           | 19           | 19           | 20              | 18           | 22.1     | 25.9       | 25.5       | 25.3       |  | 12           | 3.7 J        | 1.7          | 1.4          | 1.73      | 0.306      | 0.126      | 3.27      |
| 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   |  | 0.016        | 0.0025 U     | 0.0025 U     | 0.0025 U     | 0.0006 J  | 0.010 U    | 0.00041 J  | 0.0050    |
| Magnesium                          | NS      | 2.7          | 2.2          | 2.4          | 2.4             | 2            | 2.53     | 2.49       | 2.36       | 2.73       |  | 1.3          | 0.51 J       | 0.24 J       | 0.14 J       | 0.26      | 2.5 U      | 0.25 U     | 0.481     |
| Manganese                          | 0.05    | 0.17         | 0.16         | 0.15         | 0.15            | 0.13         | 0.136    | 0.159      | 0.16       | 0.171      |  | 0.12         | 0.093 J      | 0.047        | 0.019 J      | 0.0443    | 0.0065 J   | 0.004      | 0.0648    |
| Nickel <sup>(2)</sup>              | 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   |  | 0.02         | 0.0027 J     | 0.005 U      | 0.0032 J     | 0.0043 J  | 0.020 U    | 0.0013 J   | 0.0116    |
| Potassium                          | NS      | 4.9          | 5.1          | 2.9          | 3               | 4.5          | 3.89     | 2.22       | 2.42       | 2.04       |  | 37           | 26           | 40           | 40 J         | 33.6      | 38.8       | 39.1       | 29.3      |
| Sodium                             | NS      | 14           | 13           | 8.2          | 8.3             | 11           | 11       | 7.81       | 7.41       | 7.99       |  | 60           | 47 J         | 80           | 82           | 76.1      | 82.3       | 92.3       | 68.3      |
| 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     |  | 0.024        | 0.02 U       | 0.02 U       | 0.02 U       | 0.0087 J  | 0.10 U     | 0.015 U    | 0.0062    |
| 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      | 0.22 J       | 0.11 J       | 0.22 J       | 0.22 J          | 0.23 J       | 0.0968   | 0.50 U     | 0.17 J     | 0.200 U    |  | 0.5 U        | 0.1 U        | 0.5 U        | 0.52         | 0.207     | 0.24 J     | 0.58       | 0.267 J   |
| Chloride                           | 250     | 15           | 15           | 8.5          | 8.4             | 16           | 10.8     | 7.2        | 7          | 4.51 J     |  | 11           | 8            | 27           | 38           | 44        | 54.6       | 67.7       | 53.6      |
| 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    | 0.200 U    |  | 0.22         | 0.18 J       | 0.2          | 0.26 J       | 0.228     | 0.34       | 0.31       | 0.278     |
| Sulfate                            | 250     | 0.53 J       | 0.88 U       | 0.97 J       | 0.99 J          | 1            | 0.394 J  | 2.1        | 7.4        | 2.00 U     |  | 15           | 14           | 28           | 28 J         | 28.5      | 37.1       | 40.5       | 38.5      |
| 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           | 0.0027 J     | 0.03 J       | 0.031 J         | 0.041 J      | 0.0196 J | 0.11 U     | 0.1 U      | 0.0600 U   |  | ND           | 0.0021 J     | 0.05 U       | 0.0600 U     | 0.05 U    | 0.006 U    | 0.11 U     | 0.0600 UJ |
| Nitrogen, Nitrite                  | 1       | ND           | ND           | 0.05 U       | 0.05 U          | 0.05 U       | 0.015 J  | 0.036      | 0.0081 J   | 0.120 U    |  | ND           | ND           | 0.05 U       | 0.05 R       | 0.006 U   | 0.010 U    | 0.005 U    | 0.120 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    | 0.0600 U   |  | 0.025 UJ     | 0.025 U      | 0.025 U      | 0.025 UJ     | 0.012 U   | 0.10 U     | 0.095 U    | 0.0600 UJ |
| Radiochemistry                     |         | 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 <sup>(3)</sup>         | 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      |  | 61.1         | 4.08         | 5.01         | 4.31         | 4.2       | 2.26 U     | 1.04 U     | 12.7      |
| Gross Beta <sup>(4)</sup>          | 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        |  | 93.1         | 28.4         | 32.3         | 35.7         | 43.8      | 35         | 29         | 45.7      |
| Radium-226 <sup>(5)</sup>          | 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        |  | 1.44 U       | 0.591 J      | 0.546 J      | 0.815 U      | 1         | 0.87       | 1.11       | 0.6       |
| Radium-228 <sup>(5)</sup>          | 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        |  | 1.4          | 0.225 U      | 0.213 U      | 0.54 U       | 0.8 U     | 1.14 U     | -0.366 U   | 0.9       |
| 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      | 150          | 140          | 160 J        | 89 J            | 140          | 144      | 143        | 137        | 162        |  | 180          | 150          | 110          | 240          | 212       | 350        | 427        | 192       |
| Total Dissolved Solids             | 500     | 190 U        | 200 J        | 190          | 250             | 210          | 130      | 203        | 191        | 164        |  | 1100 J       | 450          | 420          | 450          | 502       | 523        | 569        | 337       |
| Total Suspended Solids             | NS      | 55           | 41           | 47           | 47              | 43           | 46       | 49.7       | 44         | 52.0       |  | 200          | 230          | 80           | 77 J         | 104       | 17.7       | 5.4        | 103       |
| Field Parameters                   |         |              |              |              |                 |              |          |            |            |            |  |              |              |              |              |           |            |            |           |
| pH (S.U.)                          | 6.5-8.5 | 7.24         | 6.98         | 6.78         | NA              | 6.98         | NA       | NA         | 6.82       | 7.06       |  | 10.68        | 10.68        | 11.26        | 11.91        | NA        | NA         | 12.75      | 11.57     |
| Specific Conductivity (mS/cm)      | NS      | 0.335        | 0.415        | 0.406        | NA              | 0.372        | NA       | NA         | 0.342      | 0.238      |  | 0.17         | 0.415        | 1.07         | 1.34         | NA        | NA         | 2.42       | 0.762     |
| Temperature (°c)                   | NS      | 24.21        | 13.6         | 17.97        | NA              | 17.07        | NA       | NA         | 15.95      | 16.77      |  | 18.99        | 13.93        | 14.84        | 13.76        | NA        | NA         | 13.69      | 14.4      |
| Turbidity (NTU)                    | NS      | 29.9         | 14.3         | 3.03         | NA              | 9.15         | NA       | NA         | 0.0        | 3.3        |  | >1000        | 535          | 121          | 111          | NA        | NA         | 8.0        | 42.3      |
| Dissolved Oxygen (mg/L)            | NS      | 0            | 0            | 0            | NA              | 1.9          | NA       | NA         | 0.00       | 0.00       |  | 0            | 0.44         | 0.65         | 0            | NA        | NA         | 0.00       | 0.00      |
| Oxidation-Reduction Potential (mV) | NS      | -111         | -162         | -133         | NA              | -144         | NA       | NA         | -159       | -181       |  | -53          | -159         | -300         | -220         | NA        | NA         | -205       | -65       |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | 21S          |              |              |              |           |            |            |            |            |  | CSW-S          |                 |                |                |                 |                |           |            |              |            |
|------------------------------------|----------------|--------------|--------------|--------------|--------------|-----------|------------|------------|------------|------------|--|----------------|-----------------|----------------|----------------|-----------------|----------------|-----------|------------|--------------|------------|
| Sample Number:                     | SMCL           | 21S-20170710 | 21S-20171004 | 21S-20180502 | 21S-20181024 | 21S       | 21S        | DUP-112619 | 21S_051420 | 21S        |  | 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      |
| Date Sampled:                      | <sup>(1)</sup> | 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 |  | 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 |
| Duplicate of:                      |                |              |              |              |              |           |            | 21S        |            |            |  |                | 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           | 55           | 40 J         | 50           | 52           | 51.2      | 53.5       | 52.6       | 54.8       | 48.0       |  | 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     |
| Arsenic                            | 0.01           | 0.0063       | 0.0065       | 0.017        | 0.0052       | 0.005     | 0.031      | 0.0305     | 0.0201     | 0.0010 U   |  | 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     |
| Beryllium                          | 0.004          | 0.0068       | 0.0073       | 0.0068       | 0.0075       | 0.0055 J  | 0.0071     | 0.007      | 0.0069     | 0.0027     |  | 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   |
| Cadmium                            | 0.005          | 0.0079       | 0.0038       | 0.004        | 0.0057       | 0.0042    | 0.0046 J   | 0.0049 J   | 0.0038     | 0.0039     |  | 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   |
| Calcium                            | NS             | 210          | 170 J        | 210          | 210          | 196       | 227        | 227        | 270        | 183        |  | 260            | 260             | 230            | 200            | 190             | 200            | 195       | 210        | 183          | 188        |
| Iron                               | 0.3            | 290          | 290 J        | 270          | 260          | 269       | 294        | 291        | 375        | 261        |  | 630            | 590             | 620            | 590            | 610             | 560            | 513       | 618        | 504          | 540        |
| 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     |  | 0.0025 U       | 0.0025 U        | 0.0025 U       | 0.0025 U       | 0.0025 U        | 0.0025 U       | 0.0004 U  | 0.0025     | 0.0025 J     | 0.0020 U   |
| Magnesium                          | NS             | 190          | 160 J        | 200          | 200          | 202       | 211        | 207        | 254        | 184        |  | 260            | 270             | 200            | 180            | 170             | 180            | 196       | 195        | 167          | 185        |
| Manganese                          | 0.05           | 170          | 170 J        | 170          | 170 J        | 165       | 183        | 184        | 159        | 151        |  | 170            | 160             | 180            | 150            | 160             | 150            | 160       | 150        | 128          | 138        |
| Nickel <sup>(2)</sup>              | 0.073          | 0.37         | 0.39 J       | 0.4          | 0.39 J       | 0.388     | 0.515      | 0.514      | 0.493      | 0.346      |  | 0.24           | 0.25            | 0.2            | 0.18           | 0.18            | 0.18           | 0.193     | 0.183      | 0.21         | 0.172      |
| Potassium                          | NS             | 11           | 9.3          | 12           | 12 J         | 12.1      | 10.3       | 10.2       | 12.3       | 11.2       |  | 19             | 20              | 17             | 14             | 14              | 15             | 15.8      | 14.8       | 17           | 15.6       |
| Sodium                             | NS             | 360          | 290 J        | 360          | 360          | 374       | 401        | 398        | 477        | 360        |  | 440            | 450             | 350            | 300            | 290             | 310            | 348       | 343        | 281          | 332        |
| Zinc                               | 5              | 1.1          | 1 J          | 1.1          | 1.1          | 1         | 1.66       | 1.59       | 1.75       | 0.578      |  | 0.22           | 0.23            | 0.18           | 0.17 J         | 0.17 J          | 0.18           | 0.178     | 0.185      | 0.518 U      | 0.144      |
|                                    |                |              |              |              |              |           |            |            |            |            |  |                |                 |                |                |                 |                |           |            |              |            |
| 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        | 2.9        | 2.75       |  | 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       |
| Chloride                           | 250            | 610          | 610          | 500          | 560          | 443       | 609        | 552        | 528        | 543        |  | 480            | 490             | 500            | 450            | 430             | 440 J          | 376       | 422        | 389          | 454        |
| Fluoride                           | 2              | 2.5 U        | 0.084 J      | 0.24         | 0.61 J       | 0.0424    | 0.31       | 0.29       | 0.31       | 0.430      |  | 1 U            | 1 U             | 0.06 U         | 1 U            | 1 U             | 0.1 UJ         | 0.02      | 0.28       | 0.34         | 0.200 U    |
| Sulfate                            | 250            | 1 U          | 2500         | 3400         | 2900 J       | 2890      | 2530       | 2960       | 6580       | 1770       |  | 3200           | 3200            | 2800           | 3000           | 3200            | 3200 J         | 2400      | 3730       | 2970         | 1810       |
|                                    |                |              |              |              |              |           |            |            |            |            |  |                |                 |                |                |                 |                |           |            |              |            |
| 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      | 0.0600 UJ  |  | ND             | ND              | ND             | 0.05 U         | 0.05 U          | 0.05 U         | 0.0662    | 0.11 U     | 0.12         | 0.0600 U   |
| Nitrogen, Nitrite                  | 1              | ND           | ND           | 0.05 U       | 0.05 R       | 0.006 U   | 0.010 U    | 0.010 U    | 0.0049 J   | 0.0600 UJ  |  | ND             | ND              | ND             | 0.05 U         | 0.05 U          | 0.05 U         | 0.006 U   | 0.013      | 0.0038 J     | 0.0600 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    | 0.120 U    |  | 0.25 U         | 0.025 U         | 0.025 UJ       | 0.025 U        | 0.025 U         | 0.081 U        | 0.0662    | 0.10 U     | 0.12         | 0.120 U    |
|                                    |                |              |              |              |              |           |            |            |            |            |  |                |                 |                |                |                 |                |           |            |              |            |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 15             | 1.46 U       | 10 U         | 2.14 U       | 15.1 U       | 35.6      | 16.8       | 20         | 22.9       | 21.0       |  | 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      |
| Gross Beta <sup>(4)</sup>          | 50             | 1.42 U       | 41.4         | 14.3 U       | 20.4         | 48.3      | 28.5       | 28.3       | 21.3       | 53.6       |  | 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       |
| Radium-226 <sup>(5)</sup>          | 5              | 0.208 U      | 1.44         | 1.58         | 1.77         | 8.5       | 1.1        | 1.51       | 1.36       | 6.0        |  | 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      |
| Radium-228 <sup>(5)</sup>          | 5              | -0.486 U     | 10.2         | 9.55         | 10.1         | 7.4       | 14.9       | 15.4       | 7.48       | 8.4        |  | 1.92           | 1.56            | 1.28 U         | 1.97           | 1.19            | 1.84           | 1.5       | 0.65 U     | 2.07 J       | 1.4        |
|                                    |                |              |              |              |              |           |            |            |            |            |  |                |                 |                |                |                 |                |           |            |              |            |
| 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       |  | 78             | 82              | 120            | 15 J           | 5 U             | 94 U           | 79.5      | 16         | 102          | 115        |
| Total Dissolved Solids             | 500            | 4700 J       | 5700         | 4600         | 4600         | 5000      | 2220       | 7.0 J      | 4480       | 4520       |  | 4600           | 6400            | 5300 J         | 4900           | 4900            | 4900           | 5050      | 4180       | 4620         | 4490       |
| Total Suspended Solids             | NS             | 5.6          | 2.5          | 1.1          | 1 U          | 2.6       | 2.6 J      | 2.1 J      | 3 J        | 2.00 U     |  | 130            | 140             | 10 U           | 33             | 31              | 72             | 43        | 87.7       | 61           | 71.0       |
|                                    |                |              |              |              |              |           |            |            |            |            |  |                |                 |                |                |                 |                |           |            |              |            |
| Field Parameters                   |                |              |              |              |              |           |            |            |            |            |  |                |                 |                |                |                 |                |           |            |              |            |
| pH (S.U.)                          | 6.5-8.5        | 3.34         | 3.49         | 3.86         | 3.67         | NA        | NA         | NA         | 3.46       | 3.6        |  | 5.55           | NA              | 5.31           | 5.29           | NA              | 5.48           | NA        | NA         | 5.39         | 5.41       |
| Specific Conductivity (mS/cm)      | NS             | 4.6          | 4.93         | 4.59         | 5.03         | NA        | NA         | NA         | 5.96       | 4.53       |  | 3.83           | NA              | 5.34           | 4.98           | NA              | 4.84           | NA        | NA         | 4.84         | 4.35       |
| Temperature (°c)                   | NS             | 19.87        | 17.98        | 20.22        | 13.15        | NA        | NA         | NA         | 14.35      | 13.87      |  | 27.88          | NA              | 14.47          | 16.9           | NA              | 14.56          | NA        | NA         | 15.98        | 15.98      |
| Turbidity (NTU)                    | NS             | 2.98         | 2.85         | 1            | 0.81         | NA        | NA         | NA         | 9.5        | 0.00       |  | 9.28           | NA              | 1.67           | 3              | NA              | 5.51           | NA        | NA         | 39.2         | 0.00       |
| Dissolved Oxygen (mg/L)            | NS             | 0            | 0            | 0            | 0            | NA        | NA         | NA         | 0.00       | 0.00       |  | 0              | NA              | 0.93           | 0              | NA              | 0              | NA        | NA         | 0.00         | 0.00       |
| Oxidation-Reduction Potential (mV) | NS             | 299          | 236          | 277          | 265          | NA        | NA         | NA         | 251        | 255        |  | 62             | NA              | 36             | 25             | NA              | 67             | NA        | NA         | 41           | 33         |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | CSW-7          |                |                 |                |                |           |            |              |            |  | CSW-9          |                |                |                |           |            |              |            |
|------------------------------------|----------------|----------------|----------------|-----------------|----------------|----------------|-----------|------------|--------------|------------|--|----------------|----------------|----------------|----------------|-----------|------------|--------------|------------|
| 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-9-20170712 | CSW-9-20171006 | CSW-9-20180501 | CSW-9-20181023 | CSW-9     | CSW-9      | CSW-9_051320 | CSW-9      |
| Date Sampled:                      | <sup>(1)</sup> | 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 |  | 7/12/2017      | 10/6/2017      | 5/1/2018       | 10/23/2018     | 7/10/2019 | 11/18/2019 | 5/13/2020    | 09/29/2020 |
| 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       | 0.220      |  | 0.18           | 0.036 J        | 0.045 J        | 0.064 J        | 0.115     | 0.0709     | 0.0469 J     | 0.0791     |
| Arsenic                            | 0.01           | 0.0042         | 0.0053         | 0.0041          | 0.0044         | 0.0038         | 0.0033    | 0.0071     | 0.0046 J     | 0.0039     |  | 0.003 U        | 0.0023 J       | 0.003 U        | 0.0022 J       | 0.001 U   | 0.0012 J   | 0.00054 J    | 0.0010 J   |
| Beryllium                          | 0.004          | 0.0041         | 0.004          | 0.0042          | 0.0035         | 0.0027         | 0.0042 J  | 0.0058     | 0.0069 J     | 0.0056     |  | 0.0088         | 0.0088 J       | 0.0086         | 0.0081         | 0.0069 J  | 0.0113     | 0.0095       | 0.0018 J   |
| 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   |  | 0.00057        | 0.0030 U       | 0.0004 U       | 0.0004 U       | 0.0004 U  | 0.0030 U   | 0.002 U      | 0.0004 U   |
| Calcium                            | NS             | 300            | 310            | 290             | 240            | 180            | 242       | 300        | 318          | 227        |  | 320            | 270 J          | 290            | 270            | 254       | 303        | 274          | 235        |
| Iron                               | 0.3            | 320            | 320            | 300             | 280            | 220            | 269       | 321        | 323          | 254        |  | 620            | 620 J          | 610            | 660            | 572       | 611        | 630          | 648        |
| 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   |  | 0.0025 U       | 0.0025 U       | 0.0025 U       | 0.0025 U       | 0.0004 U  | 0.0116     | 0.00032 U    | 0.00050 U  |
| Magnesium                          | NS             | 250            | 250            | 230             | 210            | 140            | 215       | 255        | 272          | 195        |  | 260            | 200 J          | 210            | 210            | 206       | 221        | 185          | 190        |
| Manganese                          | 0.05           | 230            | 260            | 260             | 190            | 660 J          | 213       | 222        | 181          | 176        |  | 180            | 190 J          | 180            | 190            | 206       | 204        | 172          | 143        |
| Nickel <sup>(2)</sup>              | 0.073          | 1.4            | 1.6            | 1.5             | 1.3            | 0.85 J         | 1.35      | 1.57       | 2.03         | 1.19       |  | 0.59           | 0.53 J         | 0.53           | 0.48           | 0.531     | 0.6        | 0.468        | 0.305      |
| Potassium                          | NS             | 13             | 13             | 13              | 11             | 8.2 J          | 12        | 11.8       | 12.1         | 10.6       |  | 16             | 13 J           | 14             | 14             | 14.3      | 14.3       | 14           | 12.4       |
| Sodium                             | NS             | 410            | 420            | 390             | 340            | 240            | 365       | 439        | 456          | 344        |  | 350            | 350 J          | 370            | 360            | 367       | 415        | 332          | 335        |
| Zinc                               | 5              | 4              | 4.3            | 4               | 3.6            | 2.4            | 3.32      | 4.95       | 6.88 U       | 3.14       |  | 0.02           | 0.01 J         | 0.017 J        | 0.016 U        | 0.0315    | 0.123      | 0.0119 J     | 0.0024     |
| 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       |  | 3.1 J          | 2.6            | 2.4            | 50 U           | 1.03      | 2.2        | 2.8          | 0.115      |
| Chloride                           | 250            | 730            | 720            | 790             | 550            | 500            | 490       | 657        | 642          | 569        |  | 650            | 680            | 590            | 630            | 500       | 660        | 562          | 31.7       |
| Fluoride                           | 2              | 5 U            | 0.06 U         | 0.06 U          | 0.077 J        | 1 U            | 0.01      | 0.093 J    | 0.12 J       | 0.200 U    |  | 1 U            | 0.06 U         | 0.1 UJ         | 10 U           | 0.01      | 0.19 J     | 0.1 J        | 0.0100 U   |
| Sulfate                            | 250            | 3000           | 2500           | 2500            | 1 U            | 1800 J         | 2810      | 3200       | 2860         | 1560       |  | 3400           | 2900           | 2800           | 2900           | 3190      | 3280       | 7040         | 128        |
| 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        | 0.0600 U   |  | ND             | ND             | 0.05 U         | 0.05 U         | 0.151     | 0.11 U     | 0.1 U        | 0.00300 U  |
| Nitrogen, Nitrite                  | 1              | ND             | ND             | ND              | 0.05 U         | 0.05 R         | 0.003 U   | 0.0032 J   | 0.005 U      | 0.0600 U   |  | ND             | ND             | 0.05 U         | 0.05 U         | 0.003 U   | 0.010 U    | 0.019        | 0.00300 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      | 0.120 U    |  | 0.025 U        | 0.025 U        | 0.025 U        | 0.08 UJ        | 0.151     | 0.10 U     | 0.095 U      | 0.00600 U  |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 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       |  | 13 U           | -1.42 U        | -3.05 U        | 6.01 U         | 10.4      | 8.12 U     | 4.08 U       | 6.3 U      |
| Gross Beta <sup>(4)</sup>          | 50             | 14             | 10.6 U         | 1.54 U          | 15.4           | 11.7           | 27.2      | 17.1       | 23.4         | 33.3       |  | 4.02 U         | 13.6 U         | 7.08 U         | 10.7 U         | 17.8      | 12.6       | 9.01 U       | 17.7       |
| Radium-226 <sup>(5)</sup>          | 5              | 2.14           | 1.78           | 1.59            | 1.89           | 1.87           | 3.8       | 0.946      | 2.56         | 4.7        |  | 0.854 J        | 0.728 J        | 0.662 J        | 0.973 U        | 1.8       | 1.92       | 0.768 J      | 0.8        |
| Radium-228 <sup>(5)</sup>          | 5              | 4.81           | 4.13           | 3.37            | 4.31           | 3.31           | 4.1       | 4.67       | 4.67         | 4.4        |  | 1.32           | 2.11 U         | 1.27           | 0.861 J        | 2         | 1.49       | 1.01 U       | 1.1        |
| 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         | 65.0       |  | 43             | 22             | 83             | 5 U            | 38.5      | 30         | 54           | 9.31 J     |
| Total Dissolved Solids             | 500            | 4700           | 5400 J         | 5400 J          | 4200           | 3500           | 4660      | 4570       | 4750         | 4020       |  | 5300           | 5600           | 5100           | 5400           | 5740      | 5420       | 5050         | 4290       |
| Total Suspended Solids             | NS             | 30             | 4.6 U          | 1 U             | 13             | 94 J           | 41        | 15.9       | 10.7         | 2.00 U     |  | 86             | 54             | 6.1            | 54             | 48        | 12.8       | 24           | 162        |
| Field Parameters                   |                |                |                |                 |                |                |           |            |              |            |  |                |                |                |                |           |            |              |            |
| pH (S.U.)                          | 6.5-8.5        | 5.43           | 5.39           | NA              | 5.38           | 5.3            | NA        | NA         | 4.91         | 5.31       |  | 5.62           | 5.09           | 5.55           | 5.54           | NA        | NA         | 5.42         | 5.7        |
| Specific Conductivity (mS/cm)      | NS             | 4.9            | 5.32           | NA              | 4.81           | 5.04           | NA        | NA         | 5.56         | 3.98       |  | 4.04           | 5.21           | 5.75           | 5.38           | NA        | NA         | 5.84         | 4.21       |
| Temperature (°c)                   | NS             | 22.72          | 17.57          | NA              | 21.06          | 16.68          | NA        | NA         | 15.62        | 17.28      |  | 27.22          | 19.55          | 15.24          | 16.18          | NA        | NA         | 14.80        | 14.52      |
| Turbidity (NTU)                    | NS             | 11.4           | 2.22           | NA              | 6.2            | 16.5           | NA        | NA         | 1.5          | 8.5        |  | 3.92           | 1.44           | 2.01           | 1.6            | NA        | NA         | 3.4          | 6.9        |
| Dissolved Oxygen (mg/L)            | NS             | 0              | 0              | NA              | 0              | 0              | NA        | NA         | 0.00         | 0.00       |  | 0              | 0.6            | 0              | 0              | NA        | NA         | 0.00         | 0.00       |
| Oxidation-Reduction Potential (mV) | NS             | 78             | 24             | NA              | 74             | 97             | NA        | NA         | 91           | 52         |  | 54             | 40             | 26             | 43             | NA        | NA         | 7            | -13        |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/    | CSW-10          |                 |                 |                 |           |            |               |           |                 |                 | CSW-13          |                 |           |           |            |            |               |           |  |  |
|------------------------------------|---------|-----------------|-----------------|-----------------|-----------------|-----------|------------|---------------|-----------|-----------------|-----------------|-----------------|-----------------|-----------|-----------|------------|------------|---------------|-----------|--|--|
| 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-13-20170630 | CSW-13-20171003 | CSW-13-20180502 | CSW-13-20181019 | CSW-13    | DUP-4     | CSW-13     | DUP-112219 | CSW-13_051420 | CSW-13    |  |  |
| 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 | 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 |  |  |
| Duplicate of:                      |         |                 |                 |                 |                 |           |            |               |           |                 |                 |                 |                 |           | 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      |  |  |
| Aluminum                           | 0.05    | 37              | 31              | 34              | 35              | 35.7      | 32.7       | 36.3          | 36.1      | 1.3             | 0.17            | 0.2             | 0.64            | 3.07      | 3.06      | 0.652      | 0.876      | 0.755         | 0.530     |  |  |
| Arsenic                            | 0.01    | 0.0058          | 0.0093          | 0.011           | 0.011           | 0.0042    | 0.0150 J   | 0.0125        | 0.0055    | 0.0031          | 0.0022 J        | 0.0024 J        | 0.0029 J        | 0.0016 J  | 0.0015 J  | 0.0029     | 0.0032     | 0.0025        | 0.0010 U  |  |  |
| Beryllium                          | 0.004   | 0.023           | 0.02            | 0.02            | 0.023           | 0.0154    | 0.0211     | 0.0202        | 0.0204    | 0.003           | 0.0004 U        | 0.00069         | 0.0018          | 0.0037 J  | 0.0039 J  | 0.0018     | 0.0023     | 0.0018        | 0.0018 J  |  |  |
| Cadmium                            | 0.005   | 0.007           | 0.0032          | 0.0024          | 0.0027          | 0.0027    | 0.0022 J   | 0.002 J       | 0.0026    | 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  |  |  |
| Calcium                            | NS      | 300             | 270             | 280             | 290             | 265       | 275        | 280           | 260       | 25              | 19              | 20              | 17              | 24.4      | 24.7      | 21.3       | 19.9       | 25.2          | 13.4      |  |  |
| Iron                               | 0.3     | 460             | 510             | 520             | 500             | 423       | 483        | 366           | 438       | 57              | 39              | 47              | 43              | 74.8      | 75.7      | 58.1       | 57.5       | 72            | 41.1      |  |  |
| Lead                               | 0.015   | 0.0054          | 0.0051          | 0.0044          | 0.0046          | 0.0041    | 0.0064     | 0.0109        | 0.003     | 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  |  |  |
| Magnesium                          | NS      | 270             | 220             | 230             | 240             | 233       | 224        | 163           | 224       | 14              | 8.8             | 10              | 9.3             | 19.1      | 18.9      | 12.3       | 12.3       | 13.3          | 9.21      |  |  |
| Manganese                          | 0.05    | 210             | 240             | 230             | 240             | 204       | 206        | 181           | 202       | 2.6             | 1.7             | 1.9             | 1.7             | 3.25      | 3.18      | 2.28       | 2.26       | 3.23          | 1.58      |  |  |
| Nickel <sup>(2)</sup>              | 0.073   | 0.63            | 0.53            | 0.52            | 0.51            | 0.472     | 0.502      | 0.555         | 0.483     | 0.053           | 0.019           | 0.026           | 0.033           | 0.0787    | 0.0771    | 0.0337     | 0.0392     | 0.0401        | 0.0317    |  |  |
| Potassium                          | NS      | 20              | 17              | 19              | 20              | 19.8      | 18         | 14.5          | 19.6      | 3.2             | 2.6             | 2.9             | 2.4             | 2.55      | 2.52      | 2.62       | 2.4        | 2.78          | 2.27      |  |  |
| Sodium                             | NS      | 440             | 420             | 510             | 480             | 485       | 468        | 330           | 473       | 39              | 27              | 32              | 30              | 51.3      | 52.1      | 36.1       | 37.9       | 36.2          | 35.2      |  |  |
| Zinc                               | 5       | 1.6             | 1.4             | 1.3             | 1.3             | 1.22      | 1.54       | 1.68          | 1.16      | 0.16            | 0.034           | 0.074           | 0.11            | 0.323     | 0.319     | 0.134      | 0.166      | 0.139         | 0.124     |  |  |
| 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      | 5.9 J           | 2.9             | 2.8             | 47 J            | 1.32      | 2.3        | 3.2 J         | 3.03      | 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   |  |  |
| Chloride                           | 250     | 770             | 790             | 660             | 690             | 828       | 649        | 651           | 804       | 81              | 53              | 54              | 61              | 70.1      | 70        | 62.1       | 64.5       | 59.1          | 69.2      |  |  |
| Fluoride                           | 2       | 1.6 J           | 0.25            | 1.4             | 10 U            | 0.467     | 1.5        | 1.3 J         | 1.28      | 0.14            | 0.083 J         | 0.14            | 0.083 J         | 0.067     | 0.0727    | 0.2        | 0.21       | 0.16 J        | 0.200 U   |  |  |
| Sulfate                            | 250     | 3300            | 3200            | 3700            | 3300            | 3470      | 3240       | 6440 J        | 2760      | 45              | 81              | 180             | 190             | 239       | 238       | 194        | 195        | 158           | 119       |  |  |
| 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              | NA              | 0.05 U          | 0.137     | 0.11 U     | 0.1 U         | 0.0600 U  | 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         | 0.0600 U  |  |  |
| Nitrogen, Nitrite                  | 1       | ND              | ND              | NA              | 0.05 UJ         | 0.003 U   | 0.010 U    | 0.005 U       | 0.0600 U  | ND              | ND              | 0.05 U          | 0.05 UJ         | 0.006 U   | 0.006 U   | 0.010 U    | 0.010 U    | 0.005 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       | 0.120 U   | 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       | 0.120 U   |  |  |
| Radiochemistry                     |         | 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 <sup>(3)</sup>         | 15      | 50.7            | 6.49 U          | 21.9 U          | 35.8            | 60        | 33.6       | 22 U          | 38.4      | 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       |  |  |
| Gross Beta <sup>(4)</sup>          | 50      | 28              | 57.4            | 39.9            | 34.1            | 96.7      | 37.7       | 51.8          | 89.2      | 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       |  |  |
| Radium-226 <sup>(5)</sup>          | 5       | 1.23            | 1.21            | 1.3             | 1.8             | 9.5       | 1.79       | 0.918 J       | 7.3       | 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       |  |  |
| Radium-228 <sup>(5)</sup>          | 5       | 10.8            | 0.676 J         | 14.1            | 17.2            | 15.3      | 21.8       | 23.2          | 16.0      | 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     |  |  |
| 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           | 24.6      | 33              | 5 U             | 5 U             | 33              | 5 U       | 5 U       | 40         | 23         | 52.5          | 5.00 U    |  |  |
| Total Dissolved Solids             | 500     | 6000            | 6600            | 6200            | 6100            | 6280      | 4860       | 5290          | 6080      | 470             | 320             | 340             | 340             | 739       | 704       | 372        | 373        | 416           | 334 J     |  |  |
| Total Suspended Solids             | NS      | 23              | 15              | 11              | 23              | 6         | 121        | 30.8          | 12.0 J    | 38              | 29              | 7               | 8.1             | 3.2       | 4         | 7.8        | 6.1        | 11.8          | 2.00 U    |  |  |
| Field Parameters                   |         |                 |                 |                 |                 |           |            |               |           |                 |                 |                 |                 |           |           |            |            |               |           |  |  |
| pH (S.U.)                          | 6.5-8.5 | 3.92            | 3.72            | 4.08            | 3.98            | NA        | NA         | 3.92          | 3.96      | 5.8             | 5.67            | 6.14            | 5.4             | NA        | NA        | NA         | NA         | 5.88          | 5.35      |  |  |
| Specific Conductivity (mS/cm)      | NS      | 6.13            | 6.3             | 5.78            | 6.4             | NA        | NA         | 6.12          | 5.6       | 0.577           | 0.55            | 0.562           | 0.531           | NA        | NA        | NA         | NA         | 0.672         | 0.316     |  |  |
| Temperature (°c)                   | NS      | 14.83           | 15.99           | 17.99           | 14.84           | NA        | NA         | 15.02         | 17.12     | 17.85           | 16.3            | 16.35           | 15.66           | NA        | NA        | NA         | NA         | 14.50         | 14.24     |  |  |
| Turbidity (NTU)                    | NS      | 5.3             | 9.92            | 11.7            | 17.9            | NA        | NA         | 15            | 55.5      | 3.61            | 1.53            | 7.31            | 1.15            | NA        | NA        | NA         | NA         | 24.2          | 0.00      |  |  |
| Dissolved Oxygen (mg/L)            | NS      | 0               | 0               | 0               | 0               | NA        | NA         | 0.00          | 0.00      | 0               | 0               | 0               | 0               | NA        | NA        | NA         | NA         | 0.00          | 0.00      |  |  |
| Oxidation-Reduction Potential (mV) | NS      | 219             | 175             | 183             | 226             | NA        | NA         | 196           | 218       | 46              | -54             | -30             | 54              | NA        | NA        | NA         | NA         | -101          | 29        |  |  |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | CSW-27          |                 |                 |                 |                 |           |            |               |            |           |                 | CSW-28          |                 |                 |           |            |               |            |  |  |
|------------------------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------|------------|---------------|------------|-----------|-----------------|-----------------|-----------------|-----------------|-----------|------------|---------------|------------|--|--|
| 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-28-20170714 | CSW-28-20171011 | CSW-28-20180427 | CSW-28-20181026 | CWS-28    | CSW-28     | CSW-28_051520 | CWS-28     |  |  |
| Date Sampled:                      | <sup>(1)</sup> | 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 | 7/14/2017       | 10/11/2017      | 4/27/2018       | 10/26/2018      | 7/16/2019 | 11/20/2019 | 5/15/2020     | 09/21/2020 |  |  |
| 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       |  |  |
| Aluminum                           | 0.05           | 0.21            | 0.23            | 0.16            | 0.34            | 0.32            | 1.78      | 1.27       | 1.54          | 0.590      | 0.608     | 3.5             | 13              | 15              | 13              | 16.7      | 7.87       | 14.6          | 16.8       |  |  |
| Arsenic                            | 0.01           | 0.0017 J        | 0.003 U         | 0.004           | 0.0045          | 0.0046          | 0.0026    | 0.0042     | 0.0045        | 0.0010 J   | 0.0010 U  | 0.0081          | 0.016           | 0.012           | 0.012           | 0.0019 J  | 0.0204     | 0.0154 J      | 0.0010 U   |  |  |
| Beryllium                          | 0.004          | 0.0004 U        | 0.0004 U        | 0.0004 U        | 0.00017 J       | 0.0004 U        | 0.002 U   | 0.00018 J  | 0.00054 J     | 0.0004 J   | 0.0004 J  | 0.0031          | 0.0094          | 0.0062          | 0.007           | 0.0046 J  | 0.0047     | 0.0064        | 0.0063     |  |  |
| Cadmium                            | 0.005          | 0.0004 U        | 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  | 0.0023          | 0.04 U          | 0.0004 U        | 0.0021          | 0.0004 U  | 0.0030 U   | 0.002 U       | 0.0004 U   |  |  |
| Calcium                            | NS             | 150 J           | 150 J           | 160 J           | 140             | 130             | 114       | 104        | 101           | 90.4       | 89.6      | 230 J           | 260 J           | 190             | 210             | 224       | 236        | 236           | 230        |  |  |
| Iron                               | 0.3            | 330 J           | 360 J           | 380             | 320             | 290             | 247       | 230        | 219           | 186        | 181       | 470 J           | 540             | 390             | 400             | 398       | 418        | 376           | 406        |  |  |
| 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  | 0.0025 U        | 0.0025 U        | 0.0025 U        | 0.0025 U        | 0.0004 U  | 0.00087 J  | 0.00046 J     | 0.0004 U   |  |  |
| Magnesium                          | NS             | 140 J           | 150 J           | 150             | 140             | 130             | 117       | 102        | 92.5          | 91.2       | 90.3      | 220 J           | 270             | 200             | 230             | 234       | 222        | 216           | 227        |  |  |
| Manganese                          | 0.05           | 88 J            | 91 J            | 92 J            | 86              | 82 J            | 75.7      | 65.8       | 62.8          | 60.0       | 58.3      | 150 J           | 200 J           | 150             | 150             | 192       | 173        | 166           | 183        |  |  |
| Nickel <sup>(2)</sup>              | 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    | 0.55 J          | 0.84            | 0.69 J          | 0.69            | 0.755     | 0.632      | 0.717         | 0.783      |  |  |
| Potassium                          | NS             | 19              | 21              | 21              | 19 J            | 19 J            | 16.5      | 15.4       | 15.2          | 13.8       | 13.8      | 27              | 26              | 18 J            | 24              | 25.5      | 25.6       | 26.8          | 22.6       |  |  |
| Sodium                             | NS             | 260 J           | 290 J           | 300             | 280             | 250             | 240       | 221        | 184           | 183        | 177       | 360 J           | 420             | 330             | 380             | 443       | 427        | 411           | 461        |  |  |
| 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     | 0.96 J          | 1.5             | 1.2 J           | 1               | 1.32      | 0.692      | 1.78          | 1.09       |  |  |
| 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             | 10 U            | 10 U            | 2.7             | 2.6             | 2 J             | 1.9       | 2          | 2.2           | 2.06       | 2.01      | 5 U             | 2.5             | 2.6             | 4.6 J           | 2.44      | 1.9        | 2.9           | 114        |  |  |
| Chloride                           | 250            | 490             | 500             | 450             | 420             | 380 J           | 325       | 336        | 320           | 304        | 305       | 720             | 680             | 590             | 700 J           | 660       | 702        | 639           | 112        |  |  |
| Fluoride                           | 2              | 2 U             | 2 U             | 0.06 UJ         | 0.2 U           | 0.2 UJ          | 0.0577    | 0.37       | 0.18 J        | 0.200 U    | 0.200 U   | 0.88 J          | 0.51 J          | 1               | 1.2 J           | 0.306     | 1.1        | 0.79          | 114        |  |  |
| Sulfate                            | 250            | 1700            | 1700            | 1400            | 1700            | 1600 J          | 1420      | 1530       | 1860          | 943        | 950       | 2900            | 2600            | 2800            | 2700 J          | 2410      | 3300       | 4650          | 113        |  |  |
| 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              | 0.0032 J        | NA              | 0.05 U          | 0.281     | 0.11 U     | 0.1 U         | 0.0600 U   | 0.0986 J  | ND              | 0.0025 J        | NA              | 0.1 U           | 0.144     | 0.11 U     | 0.1 U         | 25.3       |  |  |
| Nitrogen, Nitrite                  | 1              | ND              | ND              | ND              | NA              | 0.05 U          | 0.006 U   | 0.0099 J   | 0.005 U       | 0.0600 U   | 0.0600 U  | ND              | ND              | NA              | 0.1 U           | 0.006 U   | 0.0096 J   | 0.005 U       | 3.67       |  |  |
| 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       | 0.120 U    | 0.120 U   | 0.25 U          | 0.025 U         | 1.8 J           | 0.023 J         | 0.144     | 0.1 U      | 0.095 U       | 29.0       |  |  |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 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       | 14.4 U          | 7.93 U          | 22.2 U          | 3.09 U          | 13.7      | 5.17 U     | 13.4 U        | 20.1       |  |  |
| Gross Beta <sup>(4)</sup>          | 50             | 22.5 J          | 14.9 J          | 17.2            | 17.1            | 7.8 U           | 24.4      | 18.7       | 12.4          | 29.4       | 22.5      | 24.1            | 18.6            | 18.8            | 571             | 34        | 26.1       | 18.7          | 51.6       |  |  |
| Radium-226 <sup>(5)</sup>          | 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       | 0.798 J         | 0.814 J         | 1.4             | 2               | 4.4       | 0.635      | 1.06          | 4.0        |  |  |
| Radium-228 <sup>(5)</sup>          | 5              | 1.16            | 1.34            | 2.15            | 1.15            | 0.484 U         | 2.9       | 2.55       | 1.65 J        | 1.7        | 2.1       | 1.53            | 2.36            | 3.57            | 4.19            | 4.6       | 3.73       | 4.74          | 4.0        |  |  |
| 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             | 91              | 93              | 67              | 59              | 47              | 109       | 101        | 80.5          | 80.8       | 84.3      | 28              | 9.1             | 5 U             | 10              | 5 U       | 36         | 21            | 12.8       |  |  |
| Total Dissolved Solids             | 500            | 3500            | 3600            | 3300            | 2900            | 2600            | 2790      | 2130       | 2460          | 2100       | 2160      | 5000            | 5500            | 5100            | 5400            | 5470      | 4750       | 4000          | 5460       |  |  |
| Total Suspended Solids             | NS             | 82              | 140             | 100             | 46              | 51              | 34        | 31.2       | 28.5          | 18.0       | 18.0      | 130             | 200             | 36              | 66              | 11.6      | 78         | 50            | 42.0       |  |  |
| 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        | 6.08            | 5.59            | 4.98            | 5.2             | NA        | NA         | 5.10          | 4.9        |  |  |
| Specific Conductivity (mS/cm)      | NS             | 3.67            | NA              | 4               | 3.46            | 3.45            | NA        | NA         | 3.21          | 2.26       | NA        | 4.8             | 5.6             | 5.33            | 5.76            | NA        | NA         | 5.70          | 5.43       |  |  |
| Temperature (°c)                   | NS             | 23.62           | NA              | 18.24           | 15.79           | 16.84           | NA        | NA         | 18.45         | 14.86      | NA        | 23.99           | 18.59           | 13.37           | 13.57           | NA        | NA         | 15.15         | 15.1       |  |  |
| Turbidity (NTU)                    | NS             | 18              | NA              | 10.2            | 9.12            | 19              | NA        | NA         | 39.1          | 0.00       | NA        | 59.6            | 75.6            | 8.83            | 44.5            | NA        | NA         | 22.1          | 40.4       |  |  |
| Dissolved Oxygen (mg/L)            | NS             | 0               | NA              | 0               | 0.94            | 0               | NA        | NA         | 0.00          | 0.00       | NA        | 0               | 0               | 0               | 0               | NA        | NA         | 0.00          | 0.00       |  |  |
| Oxidation-Reduction Potential (mV) | NS             | 10              | NA              | -30             | -19             | 68              | NA        | NA         | 80            | 53         | NA        | -62             | -30             | 45              | 44              | NA        | NA         | 66            | 83         |  |  |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
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     |       |       |
| 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 |       |       |
| 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  |
| 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      |       |       |
| Arsenic                            | 0.01    | 0.0038          | 0.0034          | 0.0035          | 0.0079          | 0.0081          | 0.0081          | 0.0111    | 0.0107     | 0.0092        | 0.0090     |       |       |
| 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   |       |       |
| 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   |       |       |
| Calcium                            | NS      | 53 J            | 54              | 54              | 55              | 56              | 59              | 68.3      | 61.7       | 76.1          | 73.2       |       |       |
| Iron                               | 0.3     | 47 J            | 51              | 54              | 61              | 62              | 68              | 91.4      | 80.8       | 88.7          | 92.0       |       |       |
| 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   |       |       |
| Magnesium                          | NS      | 34 J            | 35              | 33              | 36              | 37              | 41              | 52.2      | 46.2       | 48.9          | 56.2       |       |       |
| Manganese                          | 0.05    | 31 J            | 33              | 33              | 33              | 32              | 37              | 45.3      | 33.4       | 32.5          | 46.3       |       |       |
| Nickel <sup>(2)</sup>              | 0.073   | 0.018           | 0.016           | 0.016           | 0.02            | 0.021           | 0.022           | 0.0244    | 0.0185     | 0.0166        | 0.0193     |       |       |
| Potassium                          | NS      | 11              | 10              | 9.8             | 11              | 11              | 11              | 12.5      | 11.5       | 12.6          | 13.3       |       |       |
| Sodium                             | NS      | 25 J            | 28              | 28              | 31              | 32              | 37              | 64.6      | 55.4       | 55.9          | 66.3       |       |       |
| 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     |       |       |
|                                    |         |                 |                 |                 |                 |                 |                 |           |            |               |            |       |       |
| 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  |
| 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    |       |       |
| Chloride                           | 250     | 13              | 15              | 15              | 16              | 17              | 21              | 19.1      | 32.2       | 28.9          | 27.7       |       |       |
| 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          | 0.200 U    |       |       |
| Sulfate                            | 250     | 220             | 250             | 250             | 250             | 250             | 300             | 363       | 359        | 357           | 421        |       |       |
|                                    |         |                 |                 |                 |                 |                 |                 |           |            |               |            |       |       |
| 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  |
| Nitrogen, Nitrate                  | 10      | ND              | 0.0016 J        | 0.0019 J        | NA              | NA              | 0.05 UJ         | 0.0747    | 0.12       | 0.39          | 0.0600 U   |       |       |
| Nitrogen, Nitrite                  | 1       | ND              | ND              | ND              | NA              | NA              | 0.12            | 0.003 U   | 0.010 U    | 0.005 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          | 0.120 U    |       |       |
|                                    |         |                 |                 |                 |                 |                 |                 |           |            |               |            |       |       |
| Radiochemistry                     |         | 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 <sup>(3)</sup>         | 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      |       |       |
| Gross Beta <sup>(4)</sup>          | 50      | 8.65            | 8.99            | 6.9             | 10.2            | 9.14            | 5.62            | 9.3       | 14.4       | 18.5          | 17.1       |       |       |
| Radium-226 <sup>(5)</sup>          | 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      |       |       |
| Radium-228 <sup>(5)</sup>          | 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      |       |       |
|                                    |         |                 |                 |                 |                 |                 |                 |           |            |               |            |       |       |
| 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  |
| Total Alkalinity                   | NS      | 160             | 130             | 150             | 150             | 150             | 210             | 207       | 140        | 203           | 133        |       |       |
| Total Dissolved Solids             | 500     | 530             | 610             | 600             | 560             | 450             | 670             | 896       | 690        | 695           | 800        |       |       |
| Total Suspended Solids             | NS      | 26              | 59              | 58              | 67              | 80              | 43              | 104       | 50.8       | 41            | 72.0       |       |       |
|                                    |         |                 |                 |                 |                 |                 |                 |           |            |               |            |       |       |
| 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       |       |       |
| Specific Conductivity (mS/cm)      | NS      | 0.751           | 0.948           | NA              | 0.988           | NA              | 1.15            | NA        | NA         | 0.984         | 0.77       |       |       |
| Temperature (°c)                   | NS      | 16.24           | 17.87           | NA              | 16.63           | NA              | 17.33           | NA        | NA         | 21.90         | 14.99      |       |       |
| Turbidity (NTU)                    | NS      | 5.26            | 4.13            | NA              | 6.64            | NA              | 5.17            | NA        | NA         | 18.1          | 3.4        |       |       |
| Dissolved Oxygen (mg/L)            | NS      | 0               | 0.62            | NA              | 2.53            | NA              | 0               | NA        | NA         | 0.00          | 0.00       |       |       |
| Oxidation-Reduction Potential (mV) | NS      | -32             | -63             | NA              | -144            | NA              | -53             | NA        | NA         | -88           | -95        |       |       |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
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     |          |
| 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 |          |
| 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     |
| Aluminum                           | 0.05    | 1.6             | 0.7             | 0.13            | 0.089 J         | 0.091 J         | 0.0921    | 0.050 U    | 0.0808        |            | 0.0421   |
| 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      |            | 0.0010 U |
| Beryllium                          | 0.004   | 0.0005          | 0.00056         | 0.0004 U        | 0.0004 U        | 0.0004 U        | 0.002 U   | 0.0010 U   | 0.000091 J    |            | 0.0004 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 |
| Calcium                            | NS      | 21              | 26              | 110             | 53              | 55              | 28.1      | 32.7       | 29            |            | 16.4     |
| Iron                               | 0.3     | 27              | 22              | 1.8             | 2.2             | 2.3             | 38.4      | 5.19       | 20.6          |            | 23.0     |
| 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 |
| Magnesium                          | NS      | 3.2             | 2.6             | 0.46            | 0.33            | 0.33            | 4.32      | 1.3        | 1.82          |            | 2.15     |
| Manganese                          | 0.05    | 0.36 U          | 0.24            | 0.038           | 0.03            | 0.029           | 0.394     | 0.0777     | 0.253         |            | 0.209    |
| Nickel <sup>(2)</sup>              | 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 |
| Potassium                          | NS      | 19              | 23              | 15              | 6.7             | 6.8             | 3.17      | 3.81       | 2.76          |            | 2.09     |
| Sodium                             | NS      | 15              | 15              | 30              | 19              | 19              | 8.99      | 13.5       | 9.96          |            | 6.44     |
| Zinc                               | 5       | 0.29            | 0.57            | 0.072           | 0.016 J         | 0.017 J         | 0.0378    | 0.0091 J   | 0.0402 U      |            | 0.0375   |
|                                    |         |                 |                 |                 |                 |                 |           |            |               |            |          |
| Anions                             |         | 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         |            | 0.200 U  |
| Chloride                           | 250     | 5.4             | 6.5             | 44              | 44              | 44              | 14.5      | 31.6       | 18.2          |            | 7.93     |
| Fluoride                           | 2       | 0.14            | 0.067 J         | 0.12 J          | 0.059 J         | 0.057 J         | 0.0279    | 0.11 J     | 0.086 J       |            | 0.200 U  |
| Sulfate                            | 250     | 2.2             | 2.3             | 6.3 J           | 2.2             | 2.1             | 2.74      | 2.6        | 2.1           |            | 3.67 J   |
|                                    |         |                 |                 |                 |                 |                 |           |            |               |            |          |
| Nitrogen                           |         | 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        |            | 0.0600 U |
| Nitrogen, Nitrite                  | 1       | ND              | ND              | 0.05 U          | 0.05 U          | 0.05 U          | 0.006 U   | 0.092      | 0.11          |            | 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       |            | 0.120 U  |
|                                    |         |                 |                 |                 |                 |                 |           |            |               |            |          |
| Radiochemistry                     |         | pCi/L           | pCi/L           | pCi/L           | pCi/L           | pCi/L           | pCi/L     | pCi/L      | pCi/L         | pCi/L      | pCi/L    |
| Gross Alpha <sup>(3)</sup>         | 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      |
| Gross Beta <sup>(4)</sup>          | 50      | 16.1            | 20.7            | 10.3            | 4.63            | 5.71            | 8.4       | 5.6        | 5.47          |            | 4.3      |
| Radium-226 <sup>(5)</sup>          | 5       | 0.97 J          | 1.67            | 0.391 J         | 0.358 U         | 0.645 U         | 2         | 0.538      | 0.998 J       |            | 1.0      |
| Radium-228 <sup>(5)</sup>          | 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    |
|                                    |         |                 |                 |                 |                 |                 |           |            |               |            |          |
| Miscellaneous                      |         | 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          |            | 57.0     |
| Total Dissolved Solids             | 500     | 110             | 140             | 4000            | 150             | 150             | 132       | 150        | 105           |            | 98.0     |
| Total Suspended Solids             | NS      | 66              | 80              | 21              | 15              | 17              | 80        | 12.4       | 35            |            | 46.0     |
|                                    |         |                 |                 |                 |                 |                 |           |            |               |            |          |
| Field Parameters                   |         |                 |                 |                 |                 |                 |           |            |               |            |          |
| pH (S.U.)                          | 6.5-8.5 | 8.74            | 8.02            | 12.51           | 11.6            | NA              | NA        | NA         | 6.94          |            | 6.57     |
| Specific Conductivity (mS/cm)      | NS      | 0.255           | 0.264           | 1.63            | 0.687           | NA              | NA        | NA         | 0.241         |            | 0.132    |
| Temperature (°c)                   | NS      | 19.13           | 17.95           | 16.55           | 15.28           | NA              | NA        | NA         | 13.41         |            | 14.3     |
| Turbidity (NTU)                    | NS      | 105             | 165             | 6.81            | 4.29            | NA              | NA        | NA         | 40            |            | 11.8     |
| Dissolved Oxygen (mg/L)            | NS      | 0               | 0.36            | 0               | 0               | NA              | NA        | NA         | 0.00          |            | 0.00     |
| Oxidation-Reduction Potential (mV) | NS      | -242            | -373            | -317            | -298            | NA              | NA        | NA         | -146          |            | -85      |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
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   | CSW-32_052120 | CSW-32     |  |
| Date Sampled:                      | <sup>(1)</sup> | 6/29/2017       | 10/5/2017       | 5/3/2018        | 10/23/2018      | 7/9/2019  | 11/26/2019 |          | 5/21/2020     | 09/17/2020 |  |
| Duplicate of:                      |                |                 |                 |                 |                 |           |            |          |               |            |  |
|                                    |                |                 |                 |                 |                 |           |            |          |               |            |  |
| Total Inorganics                   |                | 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      |            |  |
| Arsenic                            | 0.01           | 0.0021 J        | 0.0019 J        | 0.0018 J        | 0.0065          | 0.0979    | 0.0119     | 0.0117   | 0.0158        |            |  |
| 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      |            |  |
| 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      |            |  |
| Calcium                            | NS             | 150 J           | 130             | 150             | 140             | 137       | 126        | 145      | 150           |            |  |
| Iron                               | 0.3            | 470 J           | 560             | 670             | 520             | 487       | 315        | 520      | 596           |            |  |
| 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      |            |  |
| Magnesium                          | NS             | 77 J            | 71              | 80              | 72              | 82.6      | 67.7       | 89.5     | 84.7          |            |  |
| Manganese                          | 0.05           | 15 J            | 10              | 9               | 12              | 18.3      | 24.6       | 14.3     | 11.1          |            |  |
| Nickel <sup>(2)</sup>              | 0.073          | 0.045           | 0.022           | 0.0072          | 0.026           | 0.0694    | 0.102      | 0.0532   | 0.0225        |            |  |
| Potassium                          | NS             | 8.6 J           | 6               | 6.1             | 6               | 7.69      | 8.59       | 6.73     | 6.25          |            |  |
| Sodium                             | NS             | 130 J           | 130             | 160             | 120             | 147       | 105        | 135      | 159           |            |  |
| Zinc                               | 5              | 0.023           | 0.02 U          | 0.02 U          | 0.027 U         | 0.0792    | 0.101      | 0.0415 U | 0.0183        |            |  |
|                                    |                |                 |                 |                 |                 |           |            |          |               |            |  |
| Anions                             |                | 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          |            |  |
| Chloride                           | 250            | 230             | 270             | 280             | 250             | 252       | 227        | 212      | 287           |            |  |
| Fluoride                           | 2              | 2.6 J           | 0.06 U          | 0.5 U           | 1 U             | 0.02      | 0.062 J    | 0.073 J  | 0.200 U       |            |  |
| Sulfate                            | 250            | 1800            | 1600            | 2400            | 2100            | 1870      | 1680       | 1760     | 1410          |            |  |
|                                    |                |                 |                 |                 |                 |           |            |          |               |            |  |
| Nitrogen                           |                | 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    | 0.0600 U      |            |  |
| Nitrogen, Nitrite                  | 1              | ND              | ND              | 0.05 U          | 0.05 U          | 0.00614 J | 0.010 U    | 0.0032 J | 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  | 0.120 U       |            |  |
|                                    |                |                 |                 |                 |                 |           |            |          |               |            |  |
| Radiochemistry                     |                | pCi/L           | pCi/L           | pCi/L           | pCi/L           | pCi/L     | pCi/L      | pCi/L    | pCi/L         | pCi/L      |  |
| Gross Alpha <sup>(3)</sup>         | 15             | 5.75 U          | 0.96 U          | -7.08 U         | 9.11 U          | 21.3      | -1.75 U    | -4.28 U  | 4.5 U         |            |  |
| Gross Beta <sup>(4)</sup>          | 50             | 5.85 U          | 4.47 U          | 8.41 U          | 7.58 U          | 9.3       | 3.8 U      | 8.34     | 12.2          |            |  |
| Radium-226 <sup>(5)</sup>          | 5              | 0.22 J          | 0.235 J         | 0.326 J         | 0.47 U          | 0.4       | 0.513      | 0.466 J  | 0.6           |            |  |
| Radium-228 <sup>(5)</sup>          | 5              | 0.645 J         | 0.286 U         | 1.02            | 0.431 U         | 1.0       | 0.306 U    | 0.641 U  | 0.9 U         |            |  |
|                                    |                |                 |                 |                 |                 |           |            |          |               |            |  |
| Miscellaneous                      |                | 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          |            |  |
| Total Dissolved Solids             | 500            | 2500            | 3100            | 2900            | 3100            | 2830      | 2940       | 2320     | 3260 J        |            |  |
| Total Suspended Solids             | NS             | 180             | 130             | 160             | 88              | 240       | 52         | 64.4     | 263           |            |  |
|                                    |                |                 |                 |                 |                 |           |            |          |               |            |  |
| Field Parameters                   |                |                 |                 |                 |                 |           |            |          |               |            |  |
| pH (S.U.)                          | 6.5-8.5        | 6.16            | 5.89            | 5.72            | 5.79            | NA        | NA         | 5.61     | 5.76          |            |  |
| Specific Conductivity (mS/cm)      | NS             | 2.67            | 3.48            | 3.14            | 3.1             | NA        | NA         | 2.97     | 3             |            |  |
| Temperature (°c)                   | NS             | 17.2            | 16.81           | 16.01           | 17.7            | NA        | NA         | 15.58    | 14.38         |            |  |
| Turbidity (NTU)                    | NS             | 19              | 12.2            | 14.9            | 30              | NA        | NA         | 35.1     | 35.2          |            |  |
| Dissolved Oxygen (mg/L)            | NS             | 0               | 0.4             | 0.52            | 0               | NA        | NA         | 0.00     | 0.00          |            |  |
| Oxidation-Reduction Potential (mV) | NS             | -51             | -76             | -144            | -12             | NA        | NA         | -22      | -53           |            |  |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
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     |          |
| Date Sampled:                      | <sup>(1)</sup> | 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 |          |
| 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     |
| 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   |
| 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  |            | 0.0010 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   | 0.005 U       | 0.005 U    |            | 0.0004 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 |
| Calcium                            | NS             | 270 J           | 150 J           | 250             | 180             | 110             | 110             | 41.6     | 37.3       | 39.4          | 35.8       |            | 31.6     |
| 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     |
| 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 |
| 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     |
| 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    |
| Nicke <sup>(2)</sup>               | 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 |
| Potassium                          | NS             | 42 J            | 9.2 J           | 22              | 21              | 14              | 14              | 5.69     | 6.09       | 6.75          | 7.92 J     |            | 4.25     |
| Sodium                             | NS             | 44 J            | 140 J           | 36              | 30              | 22              | 20              | 12       | 14         | 14.2          | 15.2       |            | 11.1     |
| 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   |
|                                    |                | 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             | 0.34 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     |            | 0.200 U  |
| Chloride                           | 250            | 29 J            | 230 J           | 44              | 24              | 21              | 20              | 7.11     | 9.6        | 9.3           | 10.3       |            | 6.75     |
| 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    |            | 0.200 U  |
| Sulfate                            | 250            | 5.7 J           | 1900 J          | 5.3             | 9.1             | 21              | 20              | 15       | 22.2       | 19.1          | 20.9       |            | 17.3     |
|                                    |                | 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             | 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      |            | 0.0600 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   |            | 0.0600 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    |            | 0.120 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    |
| Radiochemistry                     |                |                 |                 |                 |                 |                 |                 |          |            |               |            |            |          |
| Gross Alpha <sup>(3)</sup>         | 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      |
| Gross Beta <sup>(4)</sup>          | 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      |
| Radium-226 <sup>(5)</sup>          | 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      |
| Radium-228 <sup>(5)</sup>          | 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    |
|                                    |                | 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             | 710 J           | 5 U             | 620             | 380             | 220             | 220             | 96.8     | 55         | 70.5 J        | 51.5 J     |            | 95.4     |
| Total Dissolved Solids             | 500            | 830 J           | 2600 J          | 820             | 470             | 300             | 300             | 147      | 126        | 100           | 74         |            | 160 J    |
| Total Suspended Solids             | NS             | 8.9             | 200             | 7.1             | 62              | 83              | 98              | 38.6     | 55.5       | 45.4 J        | 66.8 J     |            | 4.00 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     |
| Specific Conductivity (mS/cm)      | NS             | 3.41            | NA              | 3.1             | 2.27            | 1.53            | NA              | NA       | NA         | 0.270         | NA         |            | 0.161    |
| Temperature (°c)                   | NS             | 16.33           | NA              | 17.47           | 15.91           | 13.51           | NA              | NA       | NA         | 14.63         | NA         |            | 14.27    |
| Turbidity (NTU)                    | NS             | 5.8             | NA              | 6.85            | 8.44            | 19              | NA              | NA       | NA         | 28.0          | NA         |            | 3.2      |
| Dissolved Oxygen (mg/L)            | NS             | 0               | NA              | 0               | 0               | 0               | NA              | NA       | NA         | 0.00          | NA         |            | 0.00     |
| Oxidation-Reduction Potential (mV) | NS             | -194            | NA              | -352            | -266            | -217            | NA              | NA       | NA         | -154          | NA         |            | -220     |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | CSW-34          |                 |                 |                 |           |            |               |            |                 |                 | CSW-35          |                 |           |            |               |            |            |  |  |  |
|------------------------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------|------------|---------------|------------|-----------------|-----------------|-----------------|-----------------|-----------|------------|---------------|------------|------------|--|--|--|
| 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-35-20170713 | CSW-35-20171013 | CSW-35-20180426 | CSW-35-20181026 | CSW-35    | CSW-35     | CSW-35_051420 | DUP_051420 | CSW-35     |  |  |  |
| Date Sampled:                      | <sup>(1)</sup> | 7/14/2017       | 10/11/2017      | 4/27/2018       | 10/25/2018      | 7/16/2019 | 11/20/2019 | 5/15/2020     | 09/21/2020 | 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 |  |  |  |
| 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           | 0.63            | 0.56            | 0.6             | 0.51            | 0.337     | 0.5        | 0.446         | 0.269      | 0.22            | 0.93            | 0.13            | 0.16            | 0.0292    | 0.436 J    | 0.182         | 0.195      | 0.103      |  |  |  |
| Arsenic                            | 0.01           | 0.0016 J        | 0.0024 J        | 0.0016 J        | 0.003 U         | 0.001 U   | 0.0011 J   | 0.00097 J     | 0.0010 U   | 0.003 U         | 0.0024 J        | 0.0021 J        | 0.003 U         | 0.001 U   | 0.020 U    | 0.00073 J     | 0.00072 J  | 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        | 0.0004 U        | 0.0004 U        | 0.0004 U  | 0.010 U    | 0.0004 U      | 0.0005 U   | 0.0004 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        | 0.0004 U        | 0.0004 U        | 0.0004 U  | 0.030 U    | 0.002 U       | 0.002 U    | 0.0004 U   |  |  |  |
| Calcium                            | NS             | 200 J           | 320 J           | 350             | 310             | 255       | 215        | 265           | 316        | 150 J           | 190 J           | 390             | 390             | 417       | 306        | 371           | 393        | 379        |  |  |  |
| Iron                               | 0.3            | 1.6 J           | 0.29            | 0.2             | 0.35            | 0.182     | 0.403      | 0.416         | 0.140      | 2               | 0.41 J          | 0.21            | 0.19            | 0.0749    | 0.217 J    | 0.0896        | 0.0846     | 0.0400 U   |  |  |  |
| 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   | 0.0025 U        | 0.0025 U        | 0.0025 U        | 0.0025 U        | 0.0004 U  | 0.0071     | 0.008         | 0.0054     | 0.0004 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      | 0.6             | 0.046 J         | 0.031 J         | 0.032 J         | 0.0321    | 5.0 U      | 0.25 U        | 0.25 U     | 0.0626 U   |  |  |  |
| Manganese                          | 0.05           | 0.038 J         | 0.0052 J        | 0.0021 U        | 0.0076          | 0.0104    | 0.0135     | 0.0186        | 0.0196 J   | 0.061 J         | 0.0046 J        | 0.005 U         | 0.0024 U        | 0.002 U   | 0.0113     | 0.0014 J      | 0.0011 U   | 0.0080 U   |  |  |  |
| Nickel <sup>(2)</sup>              | 0.073          | 0.012 J         | 0.019           | 0.02 J          | 0.019           | 0.0312    | 0.0175     | 0.017         | 0.0303     | 0.0052          | 0.011           | 0.019           | 0.024           | 0.0417    | 0.0255     | 0.0152        | 0.0141     | 0.0324     |  |  |  |
| Potassium                          | NS             | 200             | 130             | 120 J           | 87              | 68.9      | 40         | 45.6          | 43.8       | 450             | 340             | 330             | 210             | 161       | 95.6       | 92.9          | 89.1       | 79.2       |  |  |  |
| Sodium                             | NS             | 100 J           | 100             | 100             | 85              | 80.8      | 54.5       | 69.6          | 73.4       | 200 J           | 160 J           | 210             | 160             | 153       | 96.6       | 101           | 106        | 94.9       |  |  |  |
| Zinc                               | 5              | 0.02 UJ         | 0.02 U          | 0.02 UJ         | 0.013 J         | 0.0102    | 0.020 U    | 0.0049 J      | 0.0172     | 0.02 U          | 0.02 U          | 0.02 U          | 0.02 U          | 0.0054 J  | 0.20 U     | 0.0056 J      | 0.015 U    | 0.0215     |  |  |  |
| 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       | 0.31 J          | 0.25            | 0.57            | 5 UJ            | 0.769     | 0.56       | 1             | 1          | 0.932      |  |  |  |
| Chloride                           | 250            | 9.6             | 21              | 39              | 56 J            | 98.5      | 79.9       | 93.4          | 160        | 11              | 9.9             | 23              | 35 J            | 60.4      | 56.9       | 72.2          | 72         | 89.0       |  |  |  |
| Fluoride                           | 2              | 0.1             | 0.11 J          | 0.1 U           | 0.1 UJ          | 0.784     | 1.1        | 0.09 J        | 0.200 U    | 0.1 U           | 0.18            | 0.1 U           | 1 UJ            | 2.2       | 1.7        | 0.14 J        | 0.15 J     | 0.528      |  |  |  |
| Sulfate                            | 250            | 16              | 19              | 28              | 26 J            | 34.7      | 2.0 U      | 28.5          | 45.8       | 39 J            | 31              | 64              | 47 J            | 64.5      | 2.0 U      | 41.5          | 43.7       | 40.2       |  |  |  |
| 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              | 0.0070          | NA              | 0.05            | 0.0118 J  | 0.11 U     | 0.1 U         | 0.0600 U   | 0.0086 J        | 0.0070          | NA              | 0.05 U          | 0.0167 J  | 0.11 U     | 0.29          | 0.1 U      | 0.0600 U   |  |  |  |
| Nitrogen, Nitrite                  | 1              | ND              | ND              | NA              | 0.15            | 0.0968    | 0.019      | 0.0044 J      | 0.0600 U   | 0.01 J          | 0.0033 J        | NA              | 0.05 U          | 0.006 U   | 0.013      | 0.0049 J      | 0.0038 J   | 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       | 0.120 U    | 0.03 J          | 0.036 J         | 0.041 J         | 0.023 J         | 0.0167 J  | 0.10 U     | 0.29 J        | 0.095 U    | 0.120 U    |  |  |  |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 15             | 3.3 U           | 5.58 U          | 11.4 U          | 5.63 U          | 3.1 U     | 3.97       | 1.65 U        | 2.6 U      | 15.3            | 3.91 U          | 7.92 U          | 15 U            | 15.2      | 4.8 U      | 1.43 U        | 18.1       | 5.3 U      |  |  |  |
| Gross Beta <sup>(4)</sup>          | 50             | 163             | 83.1            | 95.4            | 71.5            | 69.4      | 35.4       | 28.1          | 52.7       | 354             | 260             | 252             | 136             | 188       | 77.3       | 82.1 J        | 26.2 J     | 123        |  |  |  |
| Radium-226 <sup>(5)</sup>          | 5              | 0.923 J         | 1.04            | 1.07            | 0.0567 U        | 1.8       | 1.37       | 1.18          | 1.1        | 1.87            | 1.37            | 1.57            | 1.73            | 1.17      | 1.9        | 1.01          | 1.78       | 1.7 U      |  |  |  |
| Radium-228 <sup>(5)</sup>          | 5              | 0.942 J         | 1.37            | 0.776 J         | 1.31            | 1.1       | 1.21 U     | 2.53 U        | 1.3        | 1.56 U          | 2.21            | 1.1             | 1.19            | 1         | 0.834 U    | 0.821 UJ      | 10.3 J     | 1.2        |  |  |  |
| 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       |  |  |  |
| Total Alkalinity                   | NS             | 950             | 880             | 990             | 990             | 813       | 582        | 520           | 750        | 1300            | 1100            | 1600            | 1500 J          | 1510      | 970        | 1160          | 1050       | 1100       |  |  |  |
| Total Dissolved Solids             | 500            | 1200            | 1500            | 1500            | 1200            | 1120      | 660        | 754           | 1090       | 2100            | 1800            | 1700            | 1800            | 1910      | 1210       | 1310          | 1260       | 1390       |  |  |  |
| Total Suspended Solids             | NS             | 60              | 13              | 5.7             | 7.3             | 28        | 14.3       | 9.4           | 3.00 J     | 16              | 24              | 3.1             | 7.9             | 0.8 U     | 3.8 J      | 4.6           | 4.7        | 7.00 J     |  |  |  |
| Field Parameters                   |                |                 |                 |                 |                 |           |            |               |            |                 |                 |                 |                 |           |            |               |            |            |  |  |  |
| pH (S.U.)                          | 6.5-8.5        | 12.31           | 12.37           | 13.21           | 12.66           | NA        | NA         | 12.95         | 12.61      | 12.45           | 12.5            | 12.56           | 12.76           | NA        | NA         | 13.15         | NA         | 12.82      |  |  |  |
| Specific Conductivity (mS/cm)      | NS             | 4.2             | 5.56            | 6.27            | 5.05            | NA        | NA         | 4.300         | 3.62       | 6.52            | 5.83            | 7.12            | 6.83            | NA        | NA         | 6.08          | NA         | 5.07       |  |  |  |
| Temperature (°C)                   | NS             | 20.71           | 15.59           | 14.78           | 14.37           | NA        | NA         | 14.72         | 15.11      | 21.17           | 15.19           | 15              | 14.47           | NA        | NA         | 16.21         | NA         | 16.13      |  |  |  |
| Turbidity (NTU)                    | NS             | 19.4            | 11              | 5.24            | 10.9            | NA        | NA         | 14            | 0.00       | 7.38            | 13.3            | 0.11            | 5.16            | NA        | NA         | 5.5           | NA         | 3          |  |  |  |
| Dissolved Oxygen (mg/L)            | NS             | 0.18            | 1.29            | 0               | 0               | NA        | NA         | 0.00          | 0.00       | 0.48            | 1.05            | 0.56            | 0               | NA        | NA         | 0.00          | NA         | 0.00       |  |  |  |
| Oxidation-Reduction Potential (mV) | NS             | -209            | -433            | -425            | -258            | NA        | NA         | -216          | -408       | -231            | -582            | -306            | -301            | NA        | NA         | -243          | NA         | -365       |  |  |  |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | CSW-36          |                 |                 |                 |           |            |               |           |                 |                 | CSW-37          |                 |           |            |            |               |           |  |  |  |
|------------------------------------|----------------|-----------------|-----------------|-----------------|-----------------|-----------|------------|---------------|-----------|-----------------|-----------------|-----------------|-----------------|-----------|------------|------------|---------------|-----------|--|--|--|
| 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-37-20170629 | CSW-37-20171006 | CSW-37-20180425 | CSW-37-20181015 | CSW-37    | CSW-37     | DUP-112519 | CSW-37_051820 | CSW-37    |  |  |  |
| Date Sampled:                      | <sup>(1)</sup> | 7/17/2017       | 10/4/2017       | 5/3/2018        | 10/25/2018      | 7/15/2019 | 11/20/2019 | 5/22/2020     | 9/24/2020 | 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 |  |  |  |
| 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      |  |  |  |
| Aluminum                           | 0.05           | 5.3             | 0.21 J          | 0.38            | 0.34            | 0.0764    | 0.0854     | 0.0814 J      | 0.0226 J  | 0.065 J         | 0.036 J         | 0.05 U          | 0.05 U          | 0.0382    | 0.050 U    | 0.050 U    | 0.025 U       | 0.0080 U  |  |  |  |
| Arsenic                            | 0.01           | 0.0075          | 0.0017 J        | 0.0018 J        | 0.0018 J        | 0.003 U   | 0.0014 J   | 0.002         | 0.005 U   | 0.0010 U        | 0.003 U         | 0.003 U         | 0.003 U         | 0.003 U   | 0.001 U    | 0.0020 U   | 0.0020 U      | 0.001 U   |  |  |  |
| Beryllium                          | 0.004          | 0.00066         | 0.0004 U        | 0.0004 U        | 0.0004 U        | 0.0004 U  | 0.0004 U   | 0.005 U       | 0.0004 U  | 0.0004 U        | 0.0004 U        | 0.0004 U        | 0.0004 U        | 0.0004 U  | 0.0004 U   | 0.0004 U   | 0.000068 J    | 0.0004 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        | 0.0004 U        | 0.0004 U        | 0.0004 U        | 0.0004 U  | 0.0030 U   | 0.0030 U   | 0.002 U       | 0.0004 U  |  |  |  |
| Calcium                            | NS             | 93              | 370 J           | 480             | 520             | 191       | 139        | 165           | 219       | 28 J            | 17 J            | 13              | 12              | 11.1      | 10.7       | 10.8       | 10.8          | 10.3      |  |  |  |
| Iron                               | 0.3            | 5.4             | 0.12 J          | 0.084 U         | 0.088 J         | 84.9      | 44.4       | 4.29          | 0.710     | 22 J            | 25 J            | 24              | 25              | 25.2      | 24.8       | 24.1       | 25            | 24.9      |  |  |  |
| 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  | 0.0025 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  |  |  |  |
| Magnesium                          | NS             | 2.4             | 0.12 J          | 0.058 U         | 0.11 J          | 52.7      | 25         | 6.65          | 0.838     | 3 J             | 2.6 J           | 2.6             | 2.5             | 2.55      | 2.38       | 2.22       | 2.4           | 2.43      |  |  |  |
| Manganese                          | 0.05           | 0.076           | 0.0095 UJ       | 0.0043 U        | 0.0095          | 2.98      | 1.4        | 0.15          | 0.0400 U  | 0.34 J          | 0.23 J          | 0.19            | 0.19            | 0.187     | 0.175      | 0.172      | 0.208         | 0.198     |  |  |  |
| Nickel <sup>(2)</sup>              | 0.073          | 0.0094          | 0.013 J         | 0.019           | 0.021           | 0.0078 J  | 0.0020 J   | 0.015 U       | 0.0179    | 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  |  |  |  |
| Potassium                          | NS             | 84              | 130             | 70              | 46              | 21.5      | 17.1       | 19.8          | 16.4      | 2.8 J           | 2.5 J           | 2.3             | 2.3             | 2.35      | 2.2        | 2.06       | 2.27          | 2.27      |  |  |  |
| Sodium                             | NS             | 82              | 100 J           | 70              | 57              | 101       | 56.4       | 52.9          | 40.6      | 18 J            | 18 J            | 19              | 19              | 19.9      | 19         | 19.3       | 18.7          | 20.0      |  |  |  |
| 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    | 0.02 U          | 0.02 U          | 0.02 U          | 0.02 U          | 0.0025 J  | 0.0091 J   | 0.0087 J   | 0.015 U       | 0.0063    |  |  |  |
| 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     | 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   |  |  |  |
| Chloride                           | 250            | 12              | 12              | 38              | 68 J            | 75.5      | 60.9       | 70.2          | 81.9      | 23              | 30              | 31              | 28              | 30.7      | 28.2       | 28.2       | 32.4          | 24.8      |  |  |  |
| Fluoride                           | 2              | 0.42            | 0.18 J          | 0.12            | 0.1 UJ          | 0.0557    | 0.14 J     | 0.073 J       | 0.200 U   | 0.12            | 0.063 J         | 0.083 J         | 1 U             | 0.0578    | 0.093 J    | 0.10 J     | 0.11 J        | 0.200 U   |  |  |  |
| Sulfate                            | 250            | 12              | 11              | 7.4             | 9 J             | 385       | 228        | 135           | 100       | 2.4             | 0.22 J          | 0.7 J           | 10 U            | 1.06      | 1.3 J      | 1.1 J      | 1 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      |  |  |  |
| Nitrogen, Nitrate                  | 10             | ND              | 0.0029 J        | 0.035 J         | 0.05 U          | 0.0563    | 0.11 U     | 0.1 U         | 0.0600 U  | ND              | ND              | 0.05 R          | 0.05 U          | 0.006 U   | 0.11 U     | 0.11 U     | 0.1 U         | 0.0600 U  |  |  |  |
| Nitrogen, Nitrite                  | 1              | ND              | ND              | 0.05 U          | 0.05 U          | 0.006 U   | 0.0067 J   | 0.0035 J      | 0.120 U   | ND              | ND              | 0.05 R          | 0.05 U          | 0.006 U   | 0.010 U    | 0.010 U    | 0.005 U       | 0.0600 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       | 0.0600 U  | 0.025 U         | 0.025 U         | 0.025 U         | 0.025 UJ        | 0.012 U   | 0.10 U     | 0.10 U     | 0.095 UJ      | 0.120 U   |  |  |  |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 15             | 9.74            | -2.94 U         | -5.83 U         | 4.73 U          | 2.5 U     | 0.302 U    | 1.7 U         | 2.2 U     | 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     |  |  |  |
| Gross Beta <sup>(4)</sup>          | 50             | 70.3            | 111             | 44              | 31.6            | 28.4      | 17.3       | 14.5          | 25.2      | 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       |  |  |  |
| Radium-226 <sup>(5)</sup>          | 5              | 0.779 J         | 1.7             | 1.59            | 1.55            | 0.6       | 1.22       | 0.618 J       | 0.6 U     | 0.916 J         | 0.714 J         | 0.526 U         | 0.784 U         | 0.9       | 0.918      | 1.06       | 1.04          | 0.8       |  |  |  |
| Radium-228 <sup>(5)</sup>          | 5              | 1.07 U          | 1.12            | 1.14            | 1.46            | 0.8 U     | 0.949 U    | 0.818 U       | 1.0 U     | 0.95 J          | 1.72 U          | 0.768 J         | 1.57            | 1.4       | -0.0658 U  | 1.21 U     | 0.312 U       | 1.7       |  |  |  |
| 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       | 87              | 61              | 68              | 72              | 74.7      | 28         | 34         | 60            | 77.2      |  |  |  |
| Total Dissolved Solids             | 500            | 500             | 1600            | 1600            | 1500            | 1320      | 745        | 358           | 777       | 150             | 160             | 130             | 110             | 125       | 109        | 107        | 125           | 94.0      |  |  |  |
| Total Suspended Solids             | NS             | 250             | 3.2             | 5               | 2.1             | 104       | 96.4       | 265           | 17.0 J    | 28              | 27              | 11              | 8.6             | 7.25      | 9.3        | 9.7        | 3.9 J         | 14.0      |  |  |  |
| Field Parameters                   |                |                 |                 |                 |                 |           |            |               |           |                 |                 |                 |                 |           |            |            |               |           |  |  |  |
| pH (S.U.)                          | 6.5-8.5        | 11.98           | 12.29           | 12.05           | 12.6            | NA        | NA         | 8.62          | 12.44     | 7.04            | 6.1             | 5.99            | 5.92            | NA        | NA         | NA         | 6.34          | 6.34      |  |  |  |
| Specific Conductivity (mS/cm)      | NS             | 1.65            | 5.07            | 6.07            | 5.75            | NA        | NA         | 1.090         | 1.95      | 0.122           | 0.264           | 0.268           | 0.278           | NA        | NA         | NA         | 0.225         | 0.156     |  |  |  |
| Temperature (°c)                   | NS             | 22.16           | 18.67           | 21.33           | 16.25           | NA        | NA         | 14.87         | 15.4      | 16.66           | 15.47           | 14.41           | 15.24           | NA        | NA         | NA         | 14.57         | 16.56     |  |  |  |
| Turbidity (NTU)                    | NS             | 183             | 3.24            | 2.75            | 1.88            | NA        | NA         | 37            | 7.6       | 8.34            | 10              | 0               | 7.3             | NA        | NA         | NA         | 0.0           | 0.9       |  |  |  |
| Dissolved Oxygen (mg/L)            | NS             | 0               | 1.23            | 0.75            | 0               | NA        | NA         | 0.00          | 0.00      | 0               | 0.74            | 1.57            | 0               | NA        | NA         | NA         | 0.00          | 0.00      |  |  |  |
| Oxidation-Reduction Potential (mV) | NS             | -359            | -580            | -313            | -293            | NA        | NA         | -360          | -342      | -91             | -61             | -132            | -9              | NA        | NA         | NA         | -26           | -71       |  |  |  |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | CSW-38          |                 |                 |                 |          |            |               |            | CSW-39          |                 |                 |                 |           |            |               |            |
|------------------------------------|----------------|-----------------|-----------------|-----------------|-----------------|----------|------------|---------------|------------|-----------------|-----------------|-----------------|-----------------|-----------|------------|---------------|------------|
| 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-39-20170628 | CSW-39-20171002 | CSW-39-20180507 | CSW-39-20181022 | CSW-39    | CSW-39     | CSW-39_051920 | CSW-39     |
| Date Sampled:                      | <sup>(1)</sup> | 7/5/2017        | 10/5/2017       | 5/1/2018        | 10/23/2018      | 7/9/2019 | 11/25/2019 | 5/21/2020     | 09/17/2020 | 6/28/2017       | 10/2/2017       | 5/7/2018        | 10/22/2018      | 7/11/2019 | 11/19/2019 | 5/19/2020     | 09/23/2020 |
| 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       |
| Aluminum                           | 0.05           | 0.31            | 0.58            | 0.51            | 0.58            | 2.04     | 0.927      | 1.09          | 1.48       | 1               | 2.1             | 11              | 9               | 0.468     | 0.763      | 0.572         | 0.0466     |
| 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   | 0.003 U         | 0.003 U         | 0.003 U         | 0.003 U         | 0.001 U   | 0.00082 J  | 0.00058 J     | 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        | 0.00022 J       | 0.00053         | 0.00031 J       | 0.002 U   | 0.00030 J  | 0.0005 U      | 0.0004 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        | 0.0004 U        | 0.0004 U        | 0.0004 U  | 0.0030 U   | 0.002 U       | 0.0004 U   |
| Calcium                            | NS             | 130             | 170             | 220             | 220             | 127      | 144        | 122           | 166        | 19              | 27              | 28              | 40              | 52.5      | 32.1       | 71.8          | 157        |
| Iron                               | 0.3            | 10              | 11              | 13              | 3               | 6.73     | 2.93       | 1.25          | 0.202      | 5.3             | 1.9             | 3.9             | 3.3             | 0.51      | 2.93       | 0.889         | 0.0656     |
| 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   | 0.0025 U        | 0.0025 U        | 0.0023 J        | 0.0018 J        | 0.0004 U  | 0.0015 J   | 0.00039 J     | 0.0004 U   |
| Magnesium                          | NS             | 10              | 3.1             | 3.9             | 0.76            | 4.34     | 0.491 J    | 0.228 J       | 0.0818     | 3.4             | 1.4             | 1.7             | 1.4             | 0.863     | 0.938      | 0.6           | 0.0584     |
| Manganese                          | 0.05           | 0.18            | 0.13            | 0.18            | 0.039           | 0.116    | 0.0446     | 0.0149        | 0.0080 U   | 0.11            | 0.058           | 0.064           | 0.048           | 0.0088 J  | 0.0444     | 0.0195        | 0.0080 U   |
| Nickel <sup>(2)</sup>              | 0.073          | 0.0075          | 0.0071          | 0.009           | 0.012           | 0.0121   | 0.0088     | 0.0068 U      | 0.0139     | 0.0033 U        | 0.002 J         | 0.0038 J        | 0.005           | 0.0051 J  | 0.0128     | 0.0052        | 0.0116     |
| Potassium                          | NS             | 21              | 18              | 13              | 10              | 7.36     | 5.67       | 5.69          | 5.99       | 17              | 50              | 39              | 37              | 31.9      | 23.2       | 21.1          | 25.3       |
| Sodium                             | NS             | 73              | 48              | 32              | 31              | 36.8     | 33.3       | 34.5          | 29.6       | 38              | 54              | 48              | 48              | 63.8      | 54.8       | 78            | 91.6       |
| 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     | 0.02 U          | 0.02 U          | 0.02 U          | 0.02 U          | 0.0031 J  | 0.0059 J   | 0.015 U       | 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       |
| Bromide                            | NS             | 0.84            | 0.69            | 0.82            | 0.65            | 0.458    | 0.51       | 0.52          | 0.482 J    | 0.25 J          | 0.16 J          | 0.29 J          | 0.36 J          | 0.386     | 0.34 J     | 0.79          | 0.965      |
| Chloride                           | 250            | 160             | 92              | 64              | 69              | 59.7     | 59.5       | 44.9          | 52.2       | 40              | 38              | 35              | 42              | 62.4      | 64         | 99.6          | 149        |
| Fluoride                           | 2              | 0.1 U           | 0.23            | 0.14 J          | 0.095 J         | 0.204    | 0.16 J     | 0.18 J        | 0.204      | 0.12            | 0.091 J         | 0.11            | 0.11            | 0.0677    | 0.46       | 0.12 J        | 0.200 U    |
| Sulfate                            | 250            | 160             | 97              | 52 J            | 32              | 57.5     | 57         | 32.5          | 38.3       | 16              | 11              | 7.2             | 7.3             | 9.27      | 8          | 6.6           | 8.50       |
| 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       |
| Nitrogen, Nitrate                  | 10             | ND              | ND              | 0.05 U          | 0.05 U          | 0.006 U  | 0.11 U     | 0.1 U         | 0.0864 J   | ND              | ND              | 0.05 U          | 0.05 U          | 0.006 U   | 0.11 U     | 0.1 U         | 0.0600 U   |
| Nitrogen, Nitrite                  | 1              | ND              | ND              | 0.05 U          | 0.05 U          | 0.006 U  | 0.010 U    | 0.0041 J      | 0.0600 U   | ND              | ND              | 0.05 U          | 0.05 U          | 0.006 U   | 0.010 U    | 0.005 U       | 0.0600 U   |
| Nitrogen, Nitrate-Nitrite          | 10             | 0.034 J         | 0.025 U         | 0.025 U         | 0.025 UJ        | 0.012 U  | 0.10 U     | 0.095 U       | 0.120 U    | 0.025 U         | 0.025 U         | 0.015 J         | 0.025 U         | 0.012 U   | 0.10 U     | 0.095 U       | 0.120 U    |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 15             | 2.26 U          | 0.141 U         | 2.67 U          | -1.37 U         | 6.0      | 0.893 U    | 1.55 U        | 1.7 U      | 2.58 U          | 0.601 U         | 6.41            | 4.62            | 1.1 U     | 5.48       | 2.43 U        | 2.7        |
| Gross Beta <sup>(4)</sup>          | 50             | 14.9            | 11.4            | 9.45            | 2.8 U           | 12.5     | 3.86       | 4.66 J        | 8.1        | 16.3            | 39.6            | 34.4            | 37              | 33.6      | 24.4       | 16.5          | 36.0       |
| Radium-226 <sup>(5)</sup>          | 5              | 0.28 U          | 0.268 J         | 0.294 J         | 0.293 U         | 0.3      | 0.818      | 0.721 J       | 0.4        | 0.546 J         | 0.516 J         | 0.731 J         | 0.82 U          | 0.8       | 0.527 U    | 0.247 U       | 1.3        |
| Radium-228 <sup>(5)</sup>          | 5              | 0.206 U         | 0.264 U         | 0.494 J         | 0.334 U         | 0.7 U    | 1.04 U     | 0.595 U       | 0.71       | 0.369 J         | 0.783 J         | 0.474 J         | 0.608 J         | 0.9       | 1.88 U     | 0.722 U       | 0.8 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       |
| Total Alkalinity                   | NS             | 49              | 270             | 380             | 500             | 242      | 243        | 243           | 385        | 84              | 130             | 110             | 120             | 160       | 84.5       | 177           | 389        |
| Total Dissolved Solids             | 500            | 740             | 710             | 66 U            | 780             | 468      | 246        | 346           | 546 J      | 200             | 270             | 220             | 260             | 301       | 257        | 330           | 654        |
| Total Suspended Solids             | NS             | 51              | 83              | 45              | 23              | 46       | 100        | 20.5          | 2.00 U     | 28              | 110             | 200             | 150             | 33        | 111        | 28.3          | 2.00 U     |
| Field Parameters                   |                |                 |                 |                 |                 |          |            |               |            |                 |                 |                 |                 |           |            |               |            |
| pH (S.U.)                          | 6.5-8.5        | 9.29            | 11.61           | 12.05           | 12.43           | NA       | NA         | 12.22         | 12.29      | 7.78            | 12.26           | 10.7            | 11.6            | NA        | NA         | 12.55         | 12.29      |
| Specific Conductivity (mS/cm)      | NS             | 0.386           | 1.77            | 3               | 2.79            | NA       | NA         | 1.28          | 1.62       | 0.343           | 0.695           | 0.64            | 0.879           | NA        | NA         | 1.21          | 1.8        |
| Temperature (°c)                   | NS             | 20.56           | 17.16           | 18.88           | 15.61           | NA       | NA         | 14.38         | 16.51      | 17.59           | 17.52           | 15.66           | 14.44           | NA        | NA         | 14.60         | 15.52      |
| Turbidity (NTU)                    | NS             | 35.2            | 34.9            | 15.8            | 7.5             | NA       | NA         | 5.5           | 2.4        | 26              | 70.3            | 158             | 122             | NA        | NA         | 13.2          | 2.4        |
| Dissolved Oxygen (mg/L)            | NS             | 0               | 1.89            | 0.32            | 0               | NA       | NA         | 0.00          | 0.00       | 0               | 0               | 0.13            | 0               | NA        | NA         | 0.00          | 0.00       |
| Oxidation-Reduction Potential (mV) | NS             | -378            | -498            | -317            | -247            | NA       | NA         | -249          | -377       | -338            | -359            | -313            | -198            | NA        | NA         | -207          | -340       |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/    | PZ-1          |               |               |               |           |            |             |            |           |               | PZ-2          |                 |               |                 |               |          |            |             |           |  |
|------------------------------------|---------|---------------|---------------|---------------|---------------|-----------|------------|-------------|------------|-----------|---------------|---------------|-----------------|---------------|-----------------|---------------|----------|------------|-------------|-----------|--|
| 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-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      |  |
| 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 | 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 |  |
| Duplicate of:                      |         |               |               |               |               |           |            |             |            | PZ-1      |               |               | 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    | 0.033 J       | 0.05 U        | 0.018 J       | 0.024 J       | 0.0421    | 0.050 U    | 0.0183 J    | 0.0261 J   | 0.0229 J  | 0.098 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  |  |
| 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    | 0.0045        | 0.0044        | 0.0043          | 0.005         | 0.0055          | 0.0053        | 0.0051   | 0.0052     | 0.005       | 0.0053    |  |
| Beryllium                          | 0.004   | 0.0004 U      | 0.0004 U      | 0.0004 U      | 0.0004 U      | 0.0004 U  | 0.0004 U   | 0.0005 U    | 0.0004 U   | 0.0004 U  | 0.0004 U      | 0.0004 U      | 0.0004 U        | 0.0004 U      | 0.0004 U        | 0.0004 U      | 0.002 U  | 0.0010 U   | 0.0005 U    | 0.0004 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   | 0.0004 U  | 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   |  |
| Calcium                            | NS      | 270           | 230 J         | 210           | 250           | 222       | 217        | 213         | 192        | 189       | 14            | 9.8           | 9.5             | 11            | 11              | 11            | 25       | 18.1       | 23.2        | 24.5      |  |
| Iron                               | 0.3     | 160           | 140 J         | 130           | 160           | 138       | 138        | 132         | 124        | 121       | 99            | 76            | 74              | 76            | 81              | 68            | 68       | 64.5       | 67.6        | 66.2      |  |
| 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  | 0.0025 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  |  |
| Magnesium                          | NS      | 280           | 240 J         | 220           | 270           | 248       | 235        | 223         | 217        | 212       | 12            | 9             | 8.5             | 9.4           | 10              | 8.7           | 9.64     | 7.72       | 9.77        | 9.46      |  |
| Manganese                          | 0.05    | 210           | 36 J          | 33            | 37            | 35.5      | 30.2       | 35.3        | 32.9       | 32.9      | 1.1           | 0.89          | 0.86            | 0.86          | 0.92            | 0.78          | 0.802    | 0.751      | 0.862       | 0.884     |  |
| Nickel <sup>(2)</sup>              | 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    | 0.0047 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    |  |
| Potassium                          | NS      | 33            | 29 J          | 27            | 32            | 30.5      | 29.7       | 30.7        | 27.4       | 26.6      | 2             | 1.3           | 1.3             | 1.3           | 1.4             | 1.2           | 1.81     | 1.58       | 1.52        | 1.69      |  |
| Sodium                             | NS      | 2700          | 430 J         | 400           | 490           | 468       | 442        | 449         | 429        | 423       | 86            | 67            | 65              | 55            | 59              | 50            | 56.5     | 57.2       | 56.1        | 53.3      |  |
| 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    | 0.02 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    |  |
| 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      | 7.2 J         | 4.2           | 7.8 J         | 6.1 J         | 2.01      | 3.9        | 3.8         | 3.82       | 3.58      | 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   |  |
| Chloride                           | 250     | 810           | 750           | 720           | 780           | 564       | 692        | 763         | 725        | 678       | 30            | 29            | 29              | 27 J          | 27 J            | 26            | 35.6     | 33.4       | 29.1        | 30.8      |  |
| Fluoride                           | 2       | 2.5 U         | 0.061 J       | 2.5 U         | 2.5 U         | 0.0205    | 0.89       | 0.52        | 0.200 U    | 0.200 U   | 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     | 0.200 U   |  |
| Sulfate                            | 250     | 1400          | 1300          | 1300          | 1300          | 1320      | 1110       | 1400        | 1120       | 1050      | 170           | 110           | 110             | 100 J         | 99 J            | 85            | 83.2     | 68.7       | 71.4        | 86.8      |  |
| 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            | 0.05 R        | 0.25 U        | 0.892     | 0.34       | 1           | 0.0600 U   | 0.0600 U  | ND            | ND            | ND              | 0.1 U         | 0.1 U           | 0.5 U         | 0.006 U  | 0.11 U     | 0.1 U       | 0.0600 U  |  |
| Nitrogen, Nitrite                  | 1       | ND            | ND            | 0.05 R        | 0.25 U        | 0.006 U   | 0.010 U    | 0.005 U     | 0.0600 U   | 0.120 U   | ND            | ND            | ND              | 0.1 U         | 0.1 U           | 0.5 U         | 0.006 U  | 0.0032 J   | 0.005 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           | 0.120 U    | 0.0600 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     | 0.120 U   |  |
| Radiochemistry                     |         | 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 <sup>(3)</sup>         | 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     | 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       |  |
| Gross Beta <sup>(4)</sup>          | 50      | 37.7          | 13.5          | 21            | 10.2 U        | 34.9      | 26.7       | 19.3        | 33.6       | 47.6      | 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       |  |
| Radium-226 <sup>(5)</sup>          | 5       | 0.361 J       | 0.318 J       | 0.273 U       | 0.503 U       | 2.9       | 0.589      | 1.17        | 1.0        | 1.2       | 1.25          | 0.86 J        | 1.02            | 1.09          | 1.05            | 0.875 U       | 1.5      | 1.4        | 1.62        | 1.1       |  |
| Radium-228 <sup>(5)</sup>          | 5       | 0.935 J       | 1.6 U         | 1.11          | 1.83          | 1.4       | 2.19 U     | 0.394 U     | 1.1        | 1.2       | 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      |  |
| 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      | 510           | 550           | 550           | 670           | 580       | 401        | 542         | 597        | 656       | 63            | 110           | 92              | 120           | 130             | 88            | 99       | 74         | 105         | 91.4      |  |
| Total Dissolved Solids             | 500     | 4100          | 4200          | 3200          | 3600          | 3770      | 3170       | 3570        | 3210       | 3210      | 340           | 380           | 390             | 330           | 330             | 300           | 302      | 411        | 240         | 308 J     |  |
| Total Suspended Solids             | NS      | 220           | 160           | 59            | 48            | 120       | 125        | 63.5        | 128        | 150       | 110           | 80            | 98              | 48            | 51              | 110           | 122      | 115        | 75.5        | 126       |  |
| Field Parameters                   |         |               |               |               |               |           |            |             |            |           |               |               |                 |               |                 |               |          |            |             |           |  |
| pH (S.U.)                          | 6.5-8.5 | 6.55          | 6.15          | 6.37          | 6.16          | NA        | NA         | 6.36        | 6.26       | NA        | 6.75          | 6.71          | NA              | 6.98          | NA              | 6.85          | NA       | NA         | 7.29        | 7.1       |  |
| Specific Conductivity (mS/cm)      | NS      | 5.39          | 5.24          | 4.73          | 5.1           | NA        | NA         | 5.07        | 4.15       | NA        | 0.716         | 0.72          | NA              | 0.712         | NA              | 0.593         | NA       | NA         | 0.525       | 0.385     |  |
| Temperature (°C)                   | NS      | 18.4          | 18.37         | 16.16         | 16.85         | NA        | NA         | 16.61       | 14.95      | NA        | 17.79         | 18.42         | NA              | 16.65         | NA              | 17.15         | NA       | NA         | 15.48       | 14.74     |  |
| Turbidity (NTU)                    | NS      | 3.04          | 1.09          | 1.98          | 7.2           | NA        | NA         | 9.9         | 4.1        | NA        | 8.3           | 2.46          | NA              | 9.81          | NA              | 7.33          | NA       | NA         | 15.9        | 15.8      |  |
| Dissolved Oxygen (mg/L)            | NS      | 0             | 0             | 0             | 0.03          | NA        | NA         | 0.00        | 0.00       | NA        | 0             | 0             | NA              | 0             | NA              | 0             | NA       | NA         | 0.00        | 0.00      |  |
| Oxidation-Reduction Potential (mV) | NS      | -65           | -128          | -87           | -79           | NA        | NA         | -111        | -96        | NA        | -134          | -171          | NA              | -185          | NA              | -145          | NA       | NA         | -210        | -219      |  |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Sampling Location:                 | MCL/           | PZ-3          |               |               |               |           |  |            |             |           |               | PZ-4          |               |               |           |            |             |           |  |
|------------------------------------|----------------|---------------|---------------|---------------|---------------|-----------|--|------------|-------------|-----------|---------------|---------------|---------------|---------------|-----------|------------|-------------|-----------|--|
| 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-4-20170717 | PZ-4-20171004 | PZ-4-20180503 | PZ-4-20181019 | PZ-4      | PZ-4       | PZ-4_052220 | PZ-4      |  |
| Date Sampled:                      | <sup>(1)</sup> | 7/7/2017      | 10/16/2017    | 5/2/2018      | 10/19/2018    | 7/11/2019 |  | 11/25/2019 | 5/21/2020   | 9/16/2020 | 7/17/2017     | 10/4/2017     | 5/3/2018      | 10/19/2018    | 7/15/2019 | 11/20/2019 | 5/22/2020   | 9/24/2020 |  |
| 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      |  |
| Aluminum                           | 0.05           | 19            | 16            | 16            | 16 J          | 13.7      |  | 13.5       | 14.5        | 13.3      | 0.16          | 1.2 J         | 5.7           | 2.2 J         | 4.73      | 4.83       | 12.7        | 7.31      |  |
| Arsenic                            | 0.01           | 0.0042        | 0.0057        | 0.0077        | 0.0045        | 0.0018 J  |  | 0.0158     | 0.0102 J    | 0.0010 U  | 0.0021 J      | 0.0042        | 0.0046        | 0.0039        | 0.0014 J  | 0.011      | 0.0119 J    | 0.0025    |  |
| Beryllium                          | 0.004          | 0.0089        | 0.0063        | 0.0084        | 0.0084        | 0.0052 J  |  | 0.0071     | 0.0079 J    | 0.0040 J  | 0.00031 J     | 0.0033        | 0.0056        | 0.0053        | 0.0069 J  | 0.0084     | 0.0164      | 0.0101    |  |
| Cadmium                            | 0.005          | 0.0004 U      | 0.001         | 0.0011        | 0.0013        | 0.0013 J  |  | 0.00070 J  | 0.0012 J    | 0.0015 J  | 0.00016 J     | 0.0004 U      | 0.0004 U      | 0.0004 U      | 0.0004 U  | 0.003 U    | 0.02 U      | 0.0004 U  |  |
| Calcium                            | NS             | 170           | 140           | 170           | 150           | 149       |  | 140        | 128         | 116       | 370           | 260 J         | 200           | 190           | 143       | 132        | 164         | 110       |  |
| Iron                               | 0.3            | 280           | 240           | 290           | 260           | 253       |  | 249        | 219         | 204       | 130           | 180 J         | 170           | 170           | 148       | 128        | 189         | 134       |  |
| 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    | 0.0025 U      | 0.0025 U      | 0.0025 U      | 0.0025 U      | 0.0004 U  | 0.00025 J  | 0.01 U      | 0.0004 U  |  |
| Magnesium                          | NS             | 140           | 120           | 140           | 130           | 131       |  | 125        | 116         | 108       | 100           | 94 J          | 92            | 92            | 83.6      | 73         | 102         | 72.2      |  |
| Manganese                          | 0.05           | 590           | 120           | 92            | 110           | 118       |  | 98.8       | 81.9        | 93.2      | 54            | 79 J          | 77            | 67            | 57.4      | 47.8       | 61.1        | 53.0      |  |
| Nickel <sup>(2)</sup>              | 0.073          | 0.38          | 0.34          | 0.36          | 0.33 J        | 0.35      |  | 0.285      | 0.323       | 0.272     | 0.022         | 0.076 J       | 0.15          | 0.14 J        | 0.169     | 0.167      | 0.298       | 0.155     |  |
| Potassium                          | NS             | 14            | 12            | 14            | 13 J          | 13.1      |  | 11.2       | 11.8        | 10.5      | 15            | 9.7           | 20            | 7.6 J         | 8.83      | 10.3       | 11.6        | 6.75      |  |
| Sodium                             | NS             | 270           | 240           | 280           | 250           | 260       |  | 244        | 226         | 218       | 210           | 170 J         | 160           | 140           | 129       | 119        | 157         | 121       |  |
| Zinc                               | 5              | 0.72          | 0.64          | 0.66          | 0.65          | 0.636     |  | 0.586      | 0.667 U     | 0.428     | 0.02 U        | 0.03 J        | 0.064         | 0.059         | 0.154     | 0.169      | 0.522 U     | 0.175     |  |
| 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      |  |
| Bromide                            | NS             | 5 U           | 1.9           | 2             | 1.8           | 1.76      |  | 0.66       | 1.5         | 1.85      | 1.2           | 1.4           | 2.1 J         | 3.6           | 0.874     | 0.55       | 1           | 0.806     |  |
| Chloride                           | 250            | 340           | 330           | 280           | 320           | 273       |  | 274        | 252         | 297       | 300           | 270           | 220           | 230           | 170       | 194        | 210         | 176       |  |
| Fluoride                           | 2              | 0.82 J        | 0.35 J        | 0.43          | 0.42          | 0.305     |  | 0.57       | 0.46        | 0.482     | 0.28          | 0.89 J        | 0.49 J        | 0.55          | 0.619     | 1.4        | 1.3         | 0.819     |  |
| Sulfate                            | 250            | 2300          | 1800          | 2400          | 3500          | 2410      |  | 1550       | 1850        | 1290      | 1200          | 1400          | 1500          | 1500          | 1130      | 1340       | 1430        | 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      |  |
| Nitrogen, Nitrate                  | 10             | ND            | ND            | 0.05 U        | 0.05 U        | 0.0829    |  | 0.11 U     | 0.1 U       | 0.0600 UJ | 0.0068 J      | 0.0025 J      | 0.05 U        | 0.05 U        | 0.006 U   | 0.11 U     | 0.1 U       | 0.0600 U  |  |
| Nitrogen, Nitrite                  | 1              | ND            | ND            | 0.05 U        | 0.05 UJ       | 0.006 U   |  | 0.010 U    | 0.005 U     | 0.0600 UJ | ND            | ND            | 0.05 U        | 0.05 UJ       | 0.0115 J  | 0.0032 J   | 0.005 U     | 0.0600 U  |  |
| Nitrogen, Nitrate-Nitrite          | 10             | 0.25 U        | 0.025 U       | 0.025 U       | 0.04 J        | 0.0829    |  | 0.10 U     | 0.095 U     | 0.120 U   | 0.025 U       | 0.025 U       | 0.025 UJ      | 0.028 J       | 0.012 U   | 0.10 U     | 0.095 U     | 0.120 U   |  |
| Radiochemistry                     |                | 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 <sup>(3)</sup>         | 15             | -1.48 U       | 4.74 U        | 3.47 U        | 4.97 U        | 8.9       |  | 8.22 U     | 3.82 U      | 7.2       | 3.39 U        | -1.19 U       | 7.57 U        | 0.711 U       | 9.6       | 3.56 U     | 6.43 U      | 9.9       |  |
| Gross Beta <sup>(4)</sup>          | 50             | 21.9          | 15.3          | 8.88 U        | 11.3          | 31.6      |  | 12.3       | 19.3        | 25.4      | 13.5          | 3.43 U        | 14.7          | 0.328 U       | 15        | 11.6       | 10.9        | 18.5      |  |
| Radium-226 <sup>(5)</sup>          | 5              | 0.61 J        | 0.677 J       | 0.382 J       | 0.742 U       | 2.6       |  | 0.73       | 0.505 U     | 2.1       | 0.553 J       | 0.385 J       | 0.733 J       | 0.964 U       | 2.3       | 0.599      | 0.445 J     | 2.7       |  |
| Radium-228 <sup>(5)</sup>          | 5              | 2             | 2.88 U        | 1.69          | 1.96          | 2.2       |  | 2.61       | 2.49 J      | 3.1       | 0.747 U       | 0.582 J       | 1.31          | 1.31          | 2.2       | 2.18       | 1.29 U      | 2.9       |  |
| 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      |  |
| Total Alkalinity                   | NS             | 5 U           | 5 U           | 5 U           | 5 U           | 12.6      |  | 10 U       | 4 U         | 56.8      | 43            | 81            | 66            | 59            | 31.5      | 17.5       | 4 J         | 5.00 U    |  |
| Total Dissolved Solids             | 500            | 3000          | 3400          | 3200          | 3200          | 3320      |  | 2740       | 2620        | 2800      | 2400          | 2700          | 2500          | 2300          | 2100      | 1860       | 2200        | 1770      |  |
| Total Suspended Solids             | NS             | 34            | 5.6           | 1200          | 4.4           | 22        |  | 19         | 4.6         | 8.00 J    | 84            | 110           | 43            | 19            | 17.6      | 22.3       | 22.1        | 15.0 J    |  |
| Field Parameters                   |                |               |               |               |               |           |  |            |             |           |               |               |               |               |           |            |             |           |  |
| pH (S.U.)                          | 6.5-8.5        | 4.26          | 4.18          | 5.02          | 4.55          | NA        |  | NA         | 4.10        | 4.13      | 7.27          | 6.36          | 5.47          | 5.72          | NA        | NA         | 4.87        | 4.93      |  |
| Specific Conductivity (mS/cm)      | NS             | 3.2           | 3.74          | 3.18          | 3.42          | NA        |  | NA         | 3.10        | 2.7       | 2.92          | 3.3           | 3.14          | 2.82          | NA        | NA         | 2.99        | 1.79      |  |
| Temperature (°C)                   | NS             | 18.88         | 16.87         | 21.75         | 16.14         | NA        |  | NA         | 16.64       | 15.86     | 22.57         | 18.5          | 23.2          | 16.12         | NA        | NA         | 15.32       | 14.14     |  |
| Turbidity (NTU)                    | NS             | 5.93          | 4.96          | 8.8           | 9.96          | NA        |  | NA         | 1.7         | 1.4       | 9.24          | 15.8          | 17.3          | 6.9           | NA        | NA         | 26.1        | 3.7       |  |
| Dissolved Oxygen (mg/L)            | NS             | 0             | 0             | 0             | 0             | NA        |  | NA         | 0.00        | 0.00      | 0             | 0             | 0             | 0             | NA        | NA         | 0.00        | 0.00      |  |
| Oxidation-Reduction Potential (mV) | NS             | 156           | 123           | 108           | 155           | NA        |  | NA         | 172         | 187       | -114          | -99           | 12            | 11            | NA        | NA         | 113         | 99        |  |

Table 4  
Data Summary of Analytical Results Comparison  
July 2017 through September 2020  
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       |  |
| Date Sampled:                      | <sup>(1)</sup> | 10/16/2017    | 10/16/2017    | 5/9/2018      | 10/30/2018    | 7/15/2019 | 11/20/2019 | 5/18/2020   | 09/29/2020 |  |
| Duplicate of:                      |                |               |               |               |               |           |            |             |            |  |
|                                    |                |               |               |               |               |           |            |             |            |  |
| Total Inorganics                   |                | 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    | 0.0770     |  |
| Arsenic                            | 0.01           | 0.003 U       | 0.0019 J      | 0.0018 J      | 0.0017 J*     | 0.0014 J  | 0.0015 J   | 0.00088 J   | 0.0010 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   |  |
| Cadmium                            | 0.005          | 0.0004 U      | 0.00024 J     | 0.00058       | 0.0004 J*     | 0.003     | 0.0014 J   | 0.0014 J    | 0.0038     |  |
| Calcium                            | NS             | 21            | 27            | 43            | 50 *          | 69        | 45         | 33.2        | 73.8       |  |
| Iron                               | 0.3            | 24            | 20            | 5.8           | 8.8 *         | 4.61      | 7.34       | 2.94        | 7.07       |  |
| Lead                               | 0.015          | 0.0013 J      | 0.0025 U      | 0.0025 U      | 0.0025 U*     | 0.0024    | 0.00038 J  | 0.00018 J   | 0.00050 U  |  |
| Magnesium                          | NS             | 15            | 19            | 21            | 18 *          | 27.6      | 18.3       | 17.2        | 48.8       |  |
| Manganese                          | 0.05           | 11            | 15            | 16            | 13 *          | 17.8      | 14.6       | 12.1        | 39.7       |  |
| Nickel <sup>(2)</sup>              | 0.073          | 0.042         | 0.11          | 0.11          | 0.082 *       | 0.157     | 0.108      | 0.129       | 0.327      |  |
| Potassium                          | NS             | 5.9           | 5.5           | 6.5           | 6.6 *         | 6.59      | 5.94       | 6.55        | 9.83       |  |
| Sodium                             | NS             | 22 J          | 24            | 31            | 22 *          | 15.7      | 19.2       | 22.4        | 31.2       |  |
| Zinc                               | 5              | 0.048         | 0.18          | 0.35 J        | 0.16 *        | 0.629     | 0.563      | 0.36        | 0.888      |  |
|                                    |                |               |               |               |               |           |            |             |            |  |
| Anions                             |                | 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      | 0.200 U    |  |
| Chloride                           | 250            | 24            | 34            | 23            | 22            | 12.6      | 22.5       | 29.1        | 23.3       |  |
| Fluoride                           | 2              | 0.1 U         | 0.06 UJ       | 0.1 U         | 0.1 U         | 0.02      | 0.065 J    | 0.1 U       | 0.200 U    |  |
| Sulfate                            | 250            | 130           | 180           | 210           | 190 J         | 159       | 210        | 200         | 580        |  |
|                                    |                |               |               |               |               |           |            |             |            |  |
| Nitrogen                           |                | 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        | 0.0600 U   |  |
| Nitrogen, Nitrite                  | 1              | ND            | ND            | 0.05 U        | 0.05 U        | 0.00948 J | 0.0081 J   | 0.005 U     | 0.0600 U   |  |
| Nitrogen, Nitrate-Nitrite          | 10             | 0.025 U       | 0.029 J       | 0.28          | 0.18 *        | 0.826     | 0.13       | 0.21        | 0.120 U    |  |
|                                    |                |               |               |               |               |           |            |             |            |  |
| Radiochemistry                     |                | pCi/L         | pCi/L         | pCi/L         | pCi/L         | pCi/L     | pCi/L      | pCi/L       | pCi/L      |  |
| Gross Alpha <sup>(3)</sup>         | 15             | 0.908 U       | 0.0767 U      | 3.02          | 0 U           | 5.2       | 0.343 U    | 2.43 J      | 1.5        |  |
| Gross Beta <sup>(4)</sup>          | 50             | 5.09          | 4.31          | 5.81          | 6.88          | 11.1      | 8.17       | 4.42 J      | 15.6       |  |
| Radium-226 <sup>(5)</sup>          | 5              | 0.113 J       | 0.122 J       | 0.275 J       | 0.644 J       | 1         | 0.823      | 1.39        | 0.8        |  |
| Radium-228 <sup>(5)</sup>          | 5              | 0.868 U       | 0.836 U       | 0.402 U       | 1.38 U        | 1.4       | 0.0534 U   | -0.041 U    | 1.6        |  |
|                                    |                |               |               |               |               |           |            |             |            |  |
| Miscellaneous                      |                | 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       |  |
| Total Dissolved Solids             | 500            | 140           | 440           | 430           | 440           | 481       | 390        | 346         | 842        |  |
| Total Suspended Solids             | NS             | 7.9 U         | 3.2           | 3.1           | 10            | 61        | 18.4       | 1.7 J       | 2.00 U     |  |
|                                    |                |               |               |               |               |           |            |             |            |  |
| Field Parameters                   |                |               |               |               |               |           |            |             |            |  |
| pH (S.U.)                          | 6.5-8.5        | 4.2           | 5.24          | 5.43          | 6.12          | NA        | NA         | 5.89        | 5.4        |  |
| Specific Conductivity (mS/cm)      | NS             | 0.474         | 0.615         | 0.681         | 0.655         | NA        | NA         | 0.461       | 0.65       |  |
| Temperature (°c)                   | NS             | 17.13         | 14.38         | 16.85         | 16.89         | NA        | NA         | 14.97       | 14.38      |  |
| Turbidity (NTU)                    | NS             | 6.17          | 1.81          | 3.64          | 3.77          | NA        | NA         | 2.7         | 2.3        |  |
| Dissolved Oxygen (mg/L)            | NS             | 3.2           | 1.73          | 0.79          | 0             | NA        | NA         | 0.00        | 0.00       |  |
| Oxidation-Reduction Potential (mV) | NS             | 334           | 167           | 55            | -3            | NA        | NA         | 101         | 126        |  |

Table 4  
Data Summary of Analytical Results  
Comparison July 2017 through September 2020  
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.
- 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.
- NA -- No result is available/applicable for this parameter in this sample.
- ND -- Not detected and calculated result was not determined.
- NS -- Not Specified

<sup>(1)</sup>MCL = Maximum Contaminant Level National Primary and Secondary Drinking Water Regulations, August 2009.  
<sup>(2)</sup>The Nickel screening level is the Maryland Department of the Environment (MDE) Groundwater Cleanup Standard.  
<sup>(3)</sup>Some non-detect results for Gross Alpha were greater than the screening level  
<sup>(4)</sup>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.  
<sup>(5)</sup>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.***

\* 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.

## **FIGURES**

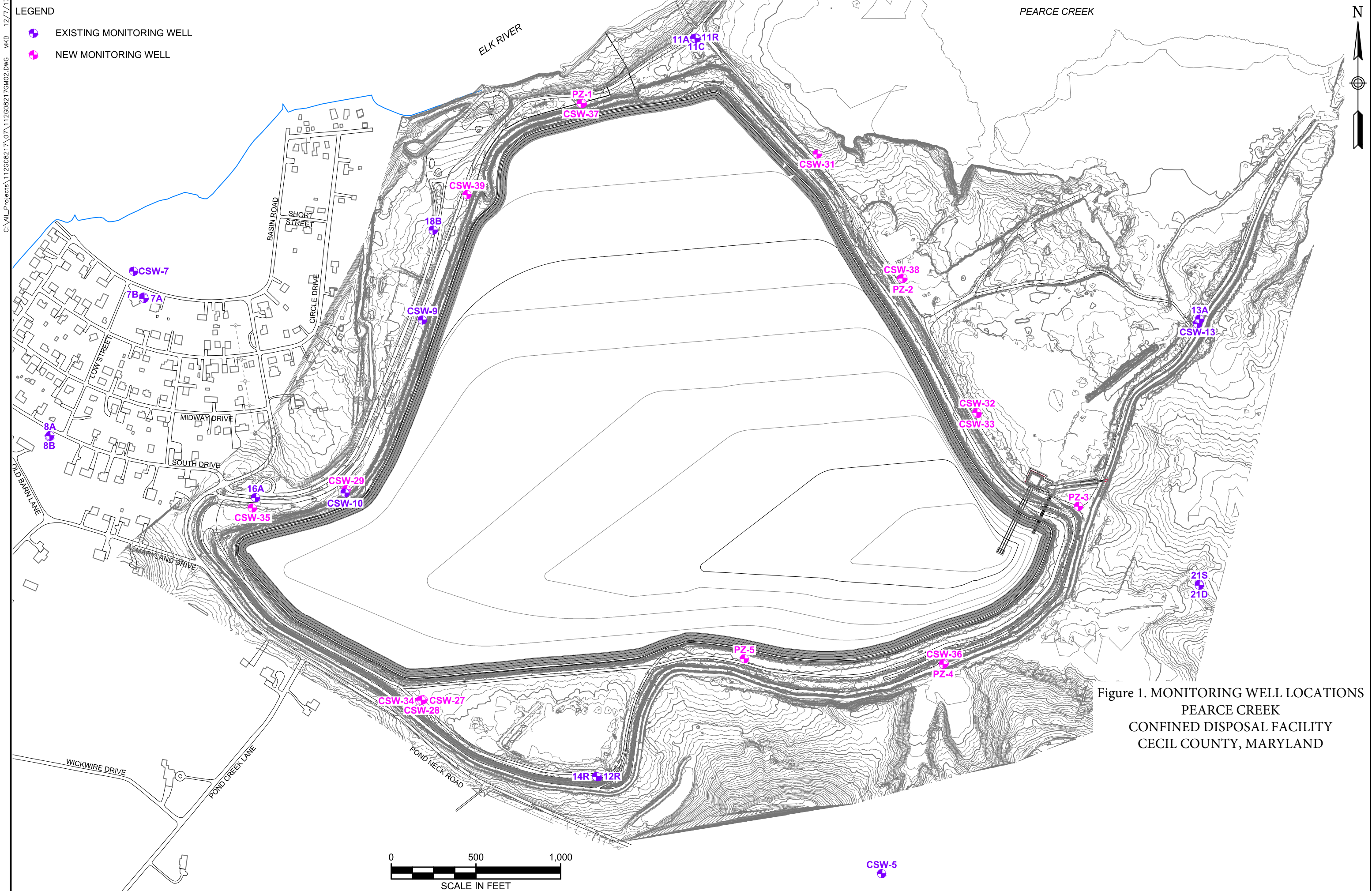


Figure 2. MONITORING WELLS IN THE MAGOTHY AQUIFER



Figure 3. MONITORING WELLS IN THE UPPER PATAPSCO SHALLOW AQUIFER



Figure 4. MONITORING WELLS IN THE UPPER PATAPSCO DEEP AQUIFER



## **ATTACHMENT A**

Water Levels and Groundwater Elevations, May 2020  
Pearce Creek Confined Disposal Facility  
Cecil County, Maryland

| Well ID                  | Elevation NAVD88 (feet)   |                               |        | Depth to Water<br>(ft bTOC) | Groundwater<br>Elevation<br>(ft AMSL) |
|--------------------------|---------------------------|-------------------------------|--------|-----------------------------|---------------------------------------|
|                          | Top of<br>Outer<br>Casing | Top of<br>Inner PVC<br>Casing | Ground |                             |                                       |
| Magothy                  |                           |                               |        |                             |                                       |
| PZ-1                     | 22.63                     | 22.51                         | 19.35  | 22.06                       | 0.45                                  |
| PZ-2                     | 25.66                     | 25.45                         | 22.56  | 17.83                       | 7.62                                  |
| PZ-3                     | 24.03                     | 23.87                         | 21.11  | 16.45                       | 7.42                                  |
| PZ-4                     | 24.38                     | 24.20                         | 21.25  | 18.05                       | 6.15                                  |
| PZ-5                     | 42.75                     | 42.62                         | 39.52  | 35.96                       | 6.66                                  |
| CSW-5                    | 47.03                     | 46.82                         | 46.82  | 41.64                       | 5.18                                  |
| CSW-13                   | 17.81                     | 17.26                         | 15.25  | 10.00                       | 7.26                                  |
| CSW-27                   | 35.57                     | 35.26                         | 31.92  | 30.32                       | 4.94                                  |
| CSW-29                   | 31.32                     | 31.20                         | 28.16  | 26.85                       | 4.35                                  |
| CSW-32                   | 25.60                     | 25.49                         | 22.78  | 12.31                       | 13.18 *                               |
| 7A                       | 11.52                     | 11.07                         | 11.07  | 6.73                        | 4.34                                  |
| 8B                       | 25.79                     | 25.49                         | 23.55  | 22.59                       | 2.90                                  |
| 11C                      | 23.88                     | 23.51                         | 20.74  | 21.88                       | 1.63                                  |
| 12R                      | 39.79                     | 39.48                         | 36.69  | 33.80                       | 5.68                                  |
| 16A                      | 24.41                     | 24.18                         | 21.48  | 19.74                       | 4.44                                  |
| 21S                      | 24.13                     | 23.93                         | 21.39  | 17.40                       | 6.53                                  |
| Upper Patapsco - Shallow |                           |                               |        |                             |                                       |
| CSW-7                    | 8.05                      | 7.74                          | 7.74   | 5.41                        | 2.33                                  |
| CSW-9                    | 31.22                     | 30.85                         | 27.53  | 26.92                       | 3.93                                  |
| CSW-10                   | 32.21                     | 31.91                         | 28.95  | 28.51                       | 3.40                                  |
| CSW-28                   | 35.56                     | 35.23                         | 32.11  | 31.06                       | 4.17                                  |
| CSW-31                   | 24.02                     | 23.90                         | 21.12  | 21.07                       | 2.83                                  |
| CSW-33                   | 25.57                     | 25.45                         | 22.77  | 22.41                       | 3.04                                  |
| CSW-37                   | 22.04                     | 21.84                         | 19.16  | 19.98                       | 1.86                                  |
| 8A                       | 25.61                     | 25.43                         | 23.52  | 22.36                       | 3.07                                  |
| 11R                      | 23.76                     | 23.43                         | 20.70  | 21.33                       | 2.10                                  |
| 13A                      | 19.72                     | 19.35                         | 15.95  | 16.11                       | 3.24                                  |
| 14R                      | 39.58                     | 39.36                         | 36.64  | 35.12                       | 4.24                                  |
| 18B                      | 30.38                     | 30.10                         | 26.74  | 26.63                       | 3.47                                  |
| 21D                      | 23.89                     | 23.53                         | 21.14  | 19.86                       | 3.67                                  |
| Upper Patapsco - Deep    |                           |                               |        |                             |                                       |
| CSW-34                   | 35.70                     | 35.47                         | 32.56  | 32.32                       | 3.15                                  |
| CSW-35                   | 28.02                     | 27.82                         | 24.69  | 27.54                       | 0.28                                  |
| CSW-36                   | 24.30                     | 24.13                         | 21.07  | 20.42                       | 3.71                                  |
| CSW-38                   | 26.64                     | 26.16                         | 22.64  | 23.68                       | 2.48                                  |
| CSW-39                   | 31.19                     | 30.89                         | 27.65  | 29.76                       | 1.13                                  |
| 7B                       | 11.32                     | 10.78                         | 10.78  | 10.12                       | 0.65                                  |
| 11A                      | 23.75                     | 23.51                         | 20.78  | 21.33                       | 2.18                                  |

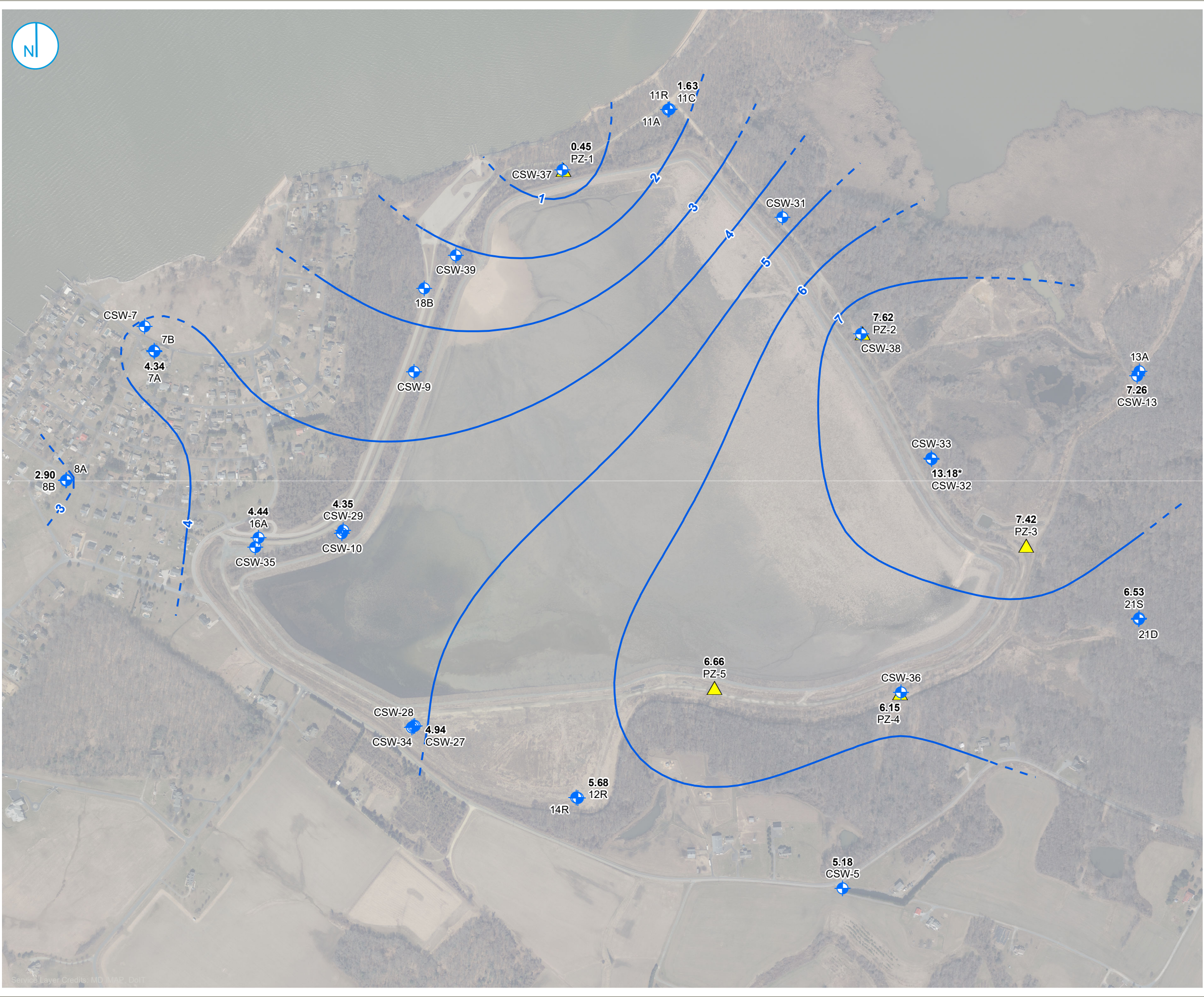
**NOTES:**

Measurement date: May 13, 2020

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

Groundwater elevations in feet above mean sea level (AMSL)

\* - indicates measurement may be erroneous



- MONITORING WELL WITH GROUNDWATER ELEVATION (FT/MSL; MAGOTHY AQUIFER WELLS ONLY)
- PIEZOMETER WITH GROUNDWATER ELEVATION (FT/MSL; MAGOTHY AQUIFER WELLS ONLY)
- GROUNDWATER ELEVATION CONTOUR (FT/MSL; DASHED WHERE INFERRED)

**NOTE**  
13.18\* INDICATES WELL NOT USED FOR CONTOURING (READING IS ANOMALOUS AND POSSIBLY ERRONEOUS)



**GROUNDWATER ELEVATIONS  
(MAGOTHY AQUIFER),  
MAY 13, 2020  
2020 SUMMARY REPORT**

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

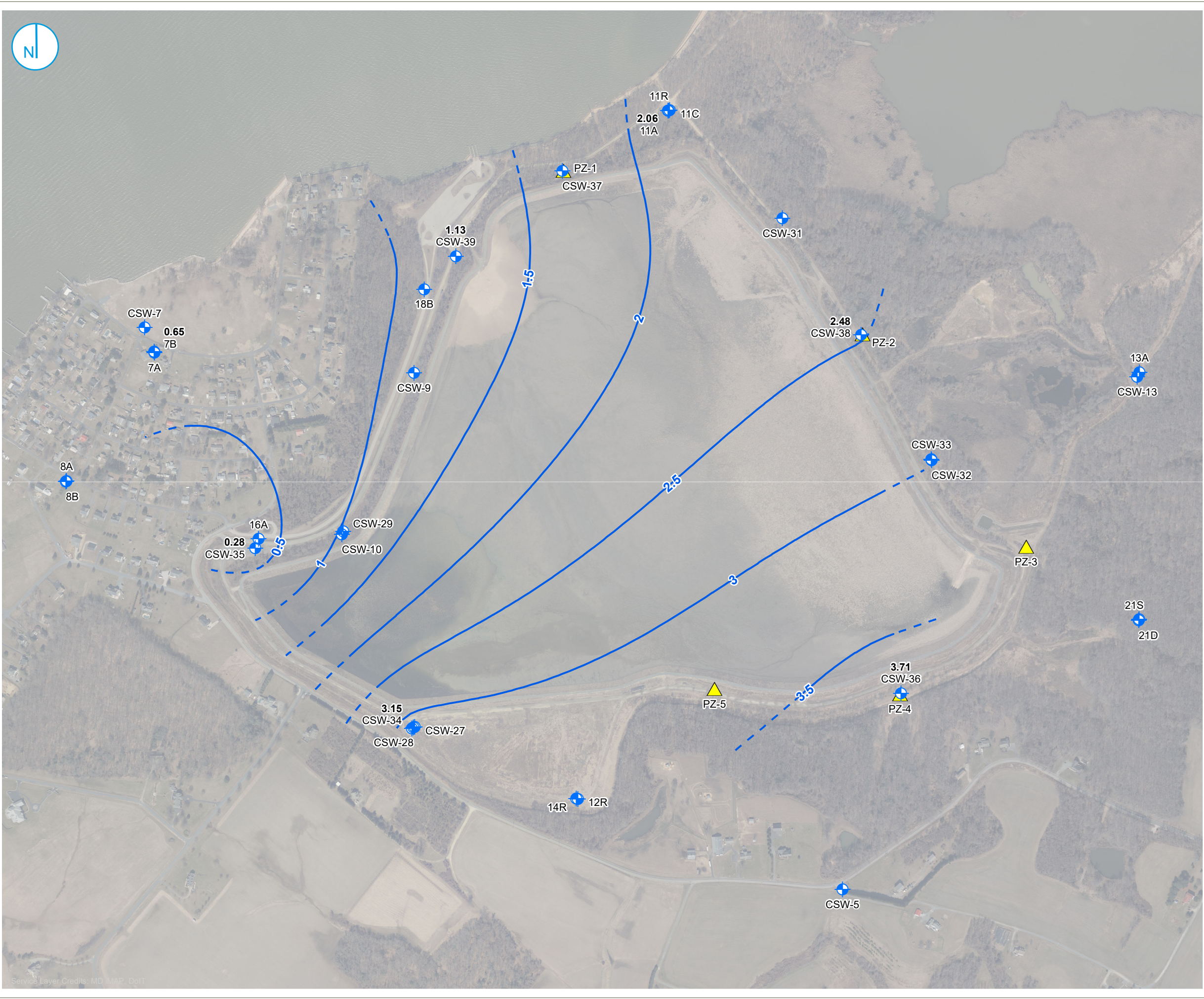


- MONITORING WELL WITH GROUNDWATER ELEVATION (FT/MSL; UPPER PATAPSCO SHALLOW AQUIFER WELLS ONLY)
- PIEZOMETER WITH GROUNDWATER ELEVATION (FT/MSL; UPPER PATAPSCO SHALLOW AQUIFER WELLS ONLY)
- GROUNDWATER ELEVATION CONTOUR (FT/MSL; DASHED WHERE INFERRED)

0 300 600 Feet

**GROUNDWATER ELEVATIONS  
(UPPER PATAPSCO AQUIFER -  
SHALLOW), MAY 13, 2020  
2020 SUMMARY REPORT**

**PEARCE CREEK CONFINED 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; DASHED WHERE INFERRED)

0 300 600 Feet

GROUNDWATER ELEVATIONS  
(UPPER PATAPSCO AQUIFER -  
DEEP), MAY 13, 2020  
2020 SUMMARY REPORT

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