

November 15, 2023  
File No. 27223188.00

Mr. Geoff Spain  
Iowa Department of Natural Resources  
Land Quality Bureau  
Wallace State Office Building  
502 East 9<sup>th</sup> Street  
Des Moines, Iowa 50319

Subject: 2023 Annual Water Quality Report,  
Leachate Control System Performance Evaluation Report, &  
Landfill Gas Annual Report  
Union County Sanitary Landfill  
Permit No. 88-SDP-01-79C

Dear Geoff:

SCS Engineers, on behalf of the Prairie Solid Waste Agency, has completed the water quality monitoring and assessment for the closed Union County Sanitary Landfill (Landfill) for the year 2023. Our services were performed in general accordance with Iowa Administrative Code (IAC) 567 Chapter 113.2(5), 113.10(6), and the current permit requirements for implementation of the Hydrologic Monitoring System Plan.

Additionally, evaluations of the leachate control system and gas monitoring results for the Landfill are included in accordance with the 2002 IAC 567-113.26(2)"l" and 113.26(15)"b," respectively. The 2023 Leachate Control System Performance Evaluation Report and the 2023 Landfill Gas Annual Report are included as appendices to the Annual Water Quality Report.

If you have any questions regarding these reports, please contact Nathan Ohrt at (319) 331-9613.

Sincerely,



Nathan Ohrt  
Senior Project Professional  
SCS Engineers



Timothy C. Buelow, P.E.  
Project Director  
SCS Engineers

NPO/TCB

Copies: Ms. Janeen Frey, Prairie Solid Waste Agency





**2023 ANNUAL WATER QUALITY REPORT,  
LEACHATE CONTROL SYSTEM PERFORMANCE EVALUATION  
REPORT, & LANDFILL GAS ANNUAL REPORT**

**FOR**

**UNION COUNTY SANITARY LANDFILL  
(CLOSED)**

**CRESTON, IOWA**

**SOLID WASTE PERMIT NO. 88-SDP-01-79C**

**SUBMITTAL DATE: NOVEMBER 2023**

**PREPARED FOR:  
PRAIRIE SOLID WASTE AGENCY**

**PREPARED BY:  
SCS ENGINEERS**



## Certification

Prepared by: Date: 4/15/2023

Typed: Nathan Ohrt

Reviewed by: Date: 4/15/2023

Typed: Timothy C. Buelow, P.E.

Certification page (PE or groundwater scientist signature) 113.10(1)"d"

For the purposes of this rule, a "qualified groundwater scientist" means a scientist or an engineer who has received a baccalaureate or postgraduate degree in the natural sciences or engineering and has sufficient training and experience in groundwater hydrology and related fields demonstrated by state registration, professional certifications, or completion of accredited university programs that enable that individual to make sound professional judgments regarding groundwater monitoring, contaminant fate and transport, and corrective action.

|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <p>I hereby certify that this engineering document was prepared by me or under my direct personal supervision and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.</p> <p><u></u> Date: <u>4/15/2023</u></p> <p>Timothy C. Buelow, P.E.</p> <p>License No. 14445</p> <p>My license renewal date is December 31, 2023.</p> <p>Pages or sheets covered by this seal:</p> <p>All except Appendix B-1.</p> |
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## **Executive Summary**

### **ES.1 Period of Report Coverage**

The period of report coverage is from May 2022 to September 2023 and includes the sampling events summarized in Table 2.

### **ES.2 Report Priority**

The following summarizes report priorities associated with groundwater compliance at the closed Union County Sanitary Landfill (Landfill):

- Department review urgency: None.
- Department review impact on rules schedule: None.
- Actions or activities on hold pending Department review or comment: None.
- Actions and/or permit amendments needed: None.

### **ES.3 Site Status and Applicable Rules**

- Landfill Status: Closed
- Types of waste accepted: None, Landfill closed.
- Applicable IAC rules: 2009 567-113.2(5), 113.10(6), 113.10(7), 113.10(8), and 113.10(9)

### **ES.4 Comments**

- Inorganic concentrations are generally stable.
- No volatile organic compounds were detected during this reporting period.
- No SSLs were measured during this reporting period.
- Monitoring well MW-89-2 did not produce sufficient water for sampling during this reporting period.
- The groundwater at the Landfill appears to be generally not impacted.

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## Section 1.0

### Acronyms/Abbreviations

ACM = Assessment of Corrective Measures  
CAMP = Corrective Action Groundwater Monitoring Program  
C&D = Construction and Demolition Waste  
CCV = Continuing Calibration Verification  
CL = Control Limit - Mean plus Two Standard Deviations  
COC = Chain of Custody  
DNR = Iowa Department of Natural Resources  
DO = Dissolved Oxygen  
DQR = Double Quantification Rule  
GWPS = Groundwater Protection Standard  
LEL = Lower Explosive Limit  
LCL = Lower Confidence Limit  
LCS = Laboratory Control Sample  
LN = Lognormal  
MCL = EPA Maximum Contaminant Level  
MSW = Municipal Solid Waste  
N = Normal  
NC = No Change  
NM = Not Measured  
NP = Non-Parametric  
ORP = Oxidation-Reduction Potential  
P = Parametric  
PL = Prediction Limit  
RL = Reporting Limit  
SWS = DNR Statewide Standard for a protected groundwater source  
SSI = Statistically Significant Increase above background  
SSL = Statistically Significant Level above groundwater protection standard  
SSS = Site-Specific Standard (Site-Specific GWPS)  
TSS = Total Suspended Solids  
UCL = Upper Confidence Limit  
VOC = Volatile Organic Compound

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## Section 2.0

### Site Background

#### 2.1 Site Location

The Landfill property is depicted in Figure 1, Approved Monitoring Network. The Landfill is located at 1774 Lark Avenue, Creston, Iowa. The Landfill property is generally within the SW  $\frac{1}{4}$  of the SW  $\frac{1}{4}$  of Section 12, T72N, R30W, and extends into the W  $\frac{1}{2}$  of the E  $\frac{1}{2}$  of the SE  $\frac{1}{4}$  of the SW  $\frac{1}{4}$  of Section 12, T72N, R30W, in Union County, Iowa.

#### 2.2 Facility

Solid waste disposal at the Landfill was initiated in 1972 in the northwest portion of the property. Refuse was deposited in an eastward direction using the area fill method. Approximately 17.7 acres of the original 40-acre site received waste from residential, commercial, and industrial sources in Union, Adams, and Taylor Counties. In 2003, 5.2 acres (the southern portion of the permitted waste boundary) were closed, and in 2005, 3.5 acres (the western portion of the permitted waste boundary) were closed. The Landfill stopped accepting waste before October 1, 2007, and in 2008, the remaining approximately 9-acre area was closed in general accordance with the approved closure plan. The closure permit was issued on July 2, 2008 (Doc #25637) and the Iowa Department of Natural Resources (DNR) incorporated the Construction Certification Report for the final closure of the Landfill into the permit documents on January 23, 2009. Prairie Solid Waste Agency now operates a transfer station at the property. The waste is hauled to the Metro Park East Landfill in Mitchellville, Iowa for disposal.

#### 2.3 Geology and Hydrogeology of the Site

The Hydrogeologic Investigation Report and Proposed Hydrologic Monitoring System Plan dated August 13, 1993, prepared by Green Environmental Services, Inc., provided the following geological description of the site:

*Loess forms the uppermost strata at the site and is observed in the high wall that forms the eastern boundary of the borrow area. Loess was not encountered in any well boring. The valleys north and south of the landfill, which are separated by a ridge crest, contain alluvial deposits. The landfill is located south of the ridge, in the surface water and groundwater drainage basins that drain southward. The alluvial deposits along the southern perimeter of the landfill consist of a fining-upward sequence of stratified sediments. An upper silty unit, with discontinuous sandy layers, varies from 14 to 20 feet in thickness. An underlying silty sand and sand unit varies from 5 to 6.5 feet in thickness. In the southwest corner of the site, 7 feet of sand and gravel underlie the sand unit. The sand is continuous across the southern perimeter of the site at an elevation of 1,146 feet MSL.*

*Clay-rich glacial till underlies the entire landfill. The loess has been eroded off the flanks of the topographic ridge. Six leachate piezometers installed in the waste penetrated till below the waste. The till consists of clay, sandy silty clay, trace gravel to sandy clayey silt, and trace gravel composition. No intra-till sand lenses were reported with the exception of one 3 cm thick lens at a depth of 76.5 feet in the upgradient well location.*

*Deep sand units were noted in the upgradient and southwest downgradient well locations and likely represent an alluvial inter-till sequence. The sand is at least 17 feet thick and is sub-rounded, stratified, and leached. These sands appear to form one continuous unit. The sand deposits coincide with the axis of the "Hatfield" buried channel that is carved into the bedrock surface. However, since the bedrock channel occurs below an elevation of 1,000 feet MSL, while the observed sand occurs at about 1,100 feet MSL, and local well logs indicate the "Hatfield" channel is in-filled with clayey material in the vicinity of the landfill, it is concluded that the deep sand is not a bedrock channel deposit.*

According to the above-referenced 1993 Hydrogeologic Investigation Report:

*In-situ hydraulic conductivity testing determined a permeability value range for alluvium (silt and sand) of  $2.0 \times 10^{-5}$  to  $6.0 \times 10^{-5}$  cm/sec. Values for till varied from  $3 \times 10^{-8}$  to  $7.0 \times 10^{-6}$  cm/sec. Hydraulic conductivities are lower for till in deeper wells or for till that is less weathered. The conductivities of the till range over two orders of magnitude. These results show that the alluvium and shallow weathered till function as an aquifer, while the deep, unweathered till is an aquitard. The in-situ values in the lower sand unit varied from  $4.4 \times 10^{-5}$  to  $4.2 \times 10^{-4}$  cm/sec.*

*The primary horizontal groundwater flow direction is southward toward the east-west oriented intermittent stream situated along the southern perimeter of the site. Horizontal water table flow gradients and flow velocities attain maximum values of 0.140 (unitless) and 0.091 feet per day, respectively, in the alluvium along the southern portion of the site. The maximum recharge flux rate in the alluvium is 0.0163 ft<sup>3</sup>/day per square foot. The large downward vertical gradient of 0.740 between the alluvium and deep sand in the south-central area illustrates the minimal hydraulic connection of these two units; a situation arising from the low permeability of the intervening clay-rich till which acts as an aquitard.*

*The horizontal water table gradient is approximately 8.5 times greater than the vertical gradient in the alluvium in the south-central area. This demonstrates that the greatest potential for landfill impact is the horizontal migration of contaminants from the waste into the alluvium in this area.*

## Section 3.0

### Figures Discussion

The following figures are attached.

#### **3.1 Figure 1 - Approved Monitoring Network**

The Landfill property and hydrologic monitoring system plan (HMSP) network is depicted in Figure 1. Figure 1 indicates the locations of each monitoring well and its respective monitoring program as of the beginning of this reporting period.

#### **3.2 Figure 2 - Groundwater Contours**

A groundwater contour map based on water levels measured during the July 2023 sampling event is included in Figure 2. Groundwater flow is generally a subdued reflection of the topography with the direction primarily to the south toward the intermittent creek in the southern portion of the property. This flow direction is generally consistent with previous groundwater contour maps. It does not appear that significant changes to the hydrologic setting or flow paths have occurred. Figure 2 also includes leachate level data, although not reflected in the groundwater contours. Based on the leachate elevations compared to the interpolated groundwater contours, it appears that leachate mounding may be occurring. However, it is not known whether the leachate elevations measured in the leachate piezometers are the result of the intersection of perched leachate zones within the waste mass or a fully saturated waste mass in the vicinity of the monitoring point. It is also not known whether the leachate is in direct hydraulic communication with the water table or is perched above the water table within the waste mass.

#### **3.3 Figure 3 - Reporting Period Detection Summary**

Figure 3 shows the range of measured concentrations by monitoring point for the HMSP monitoring wells during this reporting period. Further discussion of the detected constituents is included in Section 6.0 – Data Evaluation and Summary of this report.

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## Section 4.0

### Standards History Graphs

Standards history graphs are included in Appendix E. Standards history graphs for the following parameters are included:

- Antimony
- Arsenic
- Barium
- Beryllium
- Cadmium
- Chromium
- Cobalt
- Copper
- Lead
- Nickel
- Selenium
- Vanadium
- Zinc

Graphs for silver and thallium are not included as these parameters have not been detected above the reporting limit in the background. The prediction limits were below the associated GWPS for the included parameters.

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## Section 5.0

### QA/QC Summary

The quality assurance/quality control (QA/QC) program for the Landfill generally follows the protocols included in the HMSP. Data validation procedures were performed on analytical results for laboratory quality control samples and a quality assurance assessment of the data was conducted as the data were generated. The QA review procedure provided documentation of the accuracy and precision of the analytical data and confirmed that the analyses were sufficiently sensitive to detect constituents at levels below regulatory standards when technically feasible with the laboratory method utilized. SCS then conducts QA/QC data validation of the produced data, which includes a review of sample handling, analytical sensitivity, blanks, accuracy, and precision. A summary of the laboratory QA/QC and data validation can be found in Appendices B-1, Laboratory Analytical Data Sheets, and B-2, Data Validation, respectively.

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## Section 6.0

### Data Evaluation

Detection and assessment monitoring statistical evaluation in accordance with the requirements of IAC 567-113.10(5) and 113.10(6) were conducted for the groundwater analytical data collected during the 2023 annual sampling event. The statistical evaluations for the samples collected during this reporting period are located in Appendix D (Summary of Statistical Methodology and Output) of this report.

#### 6.1 Data Evaluation

Groundwater monitoring for the Landfill consists of samples from one monitoring well to the east, one monitoring well to the west, three monitoring wells to the south, and one monitoring well south of the lagoon on the southeast side of the MSWLF unit. The background monitoring point PZ-22 is located to the northeast of the MSWLF unit. The range of measured concentrations for the detected constituents during this reporting period is shown in Figure 3, Reporting Period Detection Summary.

Several SSIs were measured for arsenic, barium, cobalt, and nickel during this reporting period; however, concentrations were below their respective GWPS values with the exceptions of arsenic and cobalt in monitoring well MW-89-6R and cobalt in monitoring well MW-89-9R. Three site-wide maximum metal concentrations each were measured in monitoring wells MW-89-6R and PZ-21; however, it should be noted that monitoring well MW-89-6R measured the highest TSS concentration measured in the monitoring network during this reporting period.

Volatile organic compounds (VOCs) were removed from the routine sampling list in 2020 due to the infrequency of detections. Monitoring wells MW-89-7 and MW-89-9R were analyzed for the full Appendix II list during this reporting period, including VOCs; no VOCs were detected. Therefore, the groundwater monitoring wells at the Landfill appear to be generally not impacted.

#### 6.2 Trending in Assessment Monitoring Wells

A statistically significant decreasing trend for barium in monitoring well MW-89-7 was identified by Mann-Kendall analysis during this reporting period. The trend analysis is included in the Summary of Statistical Methodology and Output in Appendix D.

Although not necessarily statistically significant, the Mann-Kendall statistics can indicate general trending in the data. Trend indications for wells in the assessment monitoring program are shown in the following table. The statistics used to develop the general trending differ from the Mann-Kendall statistics used in the diagnostics section of the statistical reports in that a much lower trend threshold is applied for the general trending information ( $\alpha=0.20$  versus  $\alpha=0.01$ ). Trends classified as decreasing or increasing exhibited a statistically significant trend with 80% confidence using the most recent eight data points, if available. Trends classified as stable did not exhibit a statistically significant trend with 80% confidence using the eight most recent data points, if available.

| Trending in Assessment Monitoring Wells |                   |               |                   |                                 |
|-----------------------------------------|-------------------|---------------|-------------------|---------------------------------|
| Monitoring Well                         | Decreasing Trends | Stable Trends | Increasing Trends | Number of Constituents Analyzed |
| MW-89-2                                 | 0.00%             | 100.00%       | 0.00%             | 7                               |
| MW-89-6R                                | 0.00%             | 100.00%       | 0.00%             | 7                               |
| MW-89-7                                 | 100.00%           | 0.00%         | 0.00%             | 4                               |

| Trending in Assessment Monitoring Wells |                   |               |                   |                                 |
|-----------------------------------------|-------------------|---------------|-------------------|---------------------------------|
| Monitoring Well                         | Decreasing Trends | Stable Trends | Increasing Trends | Number of Constituents Analyzed |
| MW-89-9R                                | 0.00%             | 100.00%       | 0.00%             | 6                               |
| PZ-21                                   | 0.00%             | 90.91%        | 9.09%             | 11                              |
| Site-Wide                               | 11.43%            | 85.71%        | 2.86%             | 35                              |

A review of the Mann-Kendall statistics indicated that most of the Mann-Kendall statistics following the 2023 statistical evaluation were considered stable or decreasing. The increasing trend in monitoring well PZ-21 was copper. Copper had four detections in the most recent eight samples, and the highest measured concentration in that time was less than 10% of the GWPS.

## Section 7.0

### **Summary and Recommendations**

#### **7.1 Site Impact on Groundwater**

- Inorganic concentrations are generally stable.
- No VOCs were detected in the monitoring wells during this reporting period.
- No SSLs were measured during this reporting period.
- The groundwater monitoring wells at the Landfill appear to be generally not impacted.

#### **7.2 Proposed Monitoring**

Monitoring during the 2024 and 2025 reporting periods is included in Table 2.

#### **7.3 Proposed Monitoring Well Changes**

There are no changes to the monitoring wells proposed at this time.



## Tables



**Table 1**  
**Monitoring Program Summary Table**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

| Monitoring Well         | Formation <sup>(1)</sup> | Current Monitoring Program | Change for Next Sampling Event | Constituents with SSIs During the 2023 Reporting Period | Constituents with SSLs | Total Number of Samples in Each Monitoring Program |            |                   |
|-------------------------|--------------------------|----------------------------|--------------------------------|---------------------------------------------------------|------------------------|----------------------------------------------------|------------|-------------------|
|                         |                          |                            |                                |                                                         |                        | Detection                                          | Assessment | Corrective Action |
| HMSP Monitoring Points  |                          |                            |                                |                                                         |                        |                                                    |            |                   |
| PZ-22                   | Clay/Gravel              | Background                 | No Change                      | Not Applicable                                          | Not Applicable         | 9                                                  |            |                   |
| MW-89-2                 | Weathered Till           | Assessment                 | No Change                      | Not Sampled                                             | None                   |                                                    | 25         |                   |
| MW-89-6R                | Silty Sand               | Assessment                 | No Change                      | Arsenic, Barium, Cobalt, Nickel                         | None                   |                                                    | 27         |                   |
| MW-89-7                 | Weathered Till           | Assessment                 | No Change                      | Barium, Cobalt                                          | None                   |                                                    | 29         |                   |
| MW-89-9R                | Sandy Silt               | Assessment                 | No Change                      | Barium, Cobalt, Nickel                                  | None                   |                                                    | 30         |                   |
| PZ-21                   | Weathered Till           | Assessment                 | No Change                      | Barium                                                  | None                   |                                                    | 22         |                   |
| MW-21                   | Sandy Clay               | Detection                  | No Change                      | None                                                    | Not Applicable         | 9                                                  |            |                   |
| Other Monitoring Points |                          |                            |                                |                                                         |                        |                                                    |            |                   |
| MW-18                   | Clay/Gravel              | Water Level                |                                |                                                         |                        |                                                    |            |                   |
| MW-19                   | Clay/Gravel              | Water Level                |                                |                                                         |                        |                                                    |            |                   |
| MW-20                   | Clay/Sand                | Water Level                |                                |                                                         |                        |                                                    |            |                   |
| MW-89-1R                | Clay                     | Water Level                |                                |                                                         |                        |                                                    |            |                   |
| MW-89-8                 | Clay/Alluvium            | Water Level                |                                |                                                         |                        |                                                    |            |                   |
| MW-89-16                | Weathered Till           | Water Level                |                                |                                                         |                        |                                                    |            |                   |
| Lagoon Underdrain       | Not Applicable           | Water Level                |                                |                                                         |                        |                                                    |            |                   |

**Notes:**

<sup>(1)</sup> Obtained from screened interval in boring logs.

SSI = Statistically Significant Increase above background.

SSL = Statistically Significant Level above groundwater protection standard.



**Table 2**  
**Monitoring Program Implementation Schedule**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

| Monitoring Well | Recent Sampling Dates and Constituents | Upcoming Sampling Dates and Constituents   |                                            | Full Appendix II Sample Dates                   |                |
|-----------------|----------------------------------------|--------------------------------------------|--------------------------------------------|-------------------------------------------------|----------------|
|                 | July 2023                              | 2024 Annual                                | 2025 Annual                                | Previously Collected                            | Next Event     |
| PZ-22           | Metals List, Sulfide, TSS              | Metals List, Sulfide, TSS                  | Metals List, Sulfide, TSS                  | Not Applicable                                  | Not Applicable |
| MW-89-2         | No sample (insufficient water)         | Appendix II, TSS                           | Metal List, TSS                            | 7/21/2009, 9/22/2014,<br>6/4/2019               | 2024           |
| MW-89-6R        | Metals List, Endrin aldehyde, TSS      | Appendix II, TSS                           | Metals List, Endrin aldehyde, TSS          | 7/21/2009, 9/22/2014,<br>2/25/2019              | 2024           |
| MW-89-7         | Appendix II, TSS                       | Metals List, Appendix I VOCs, TSS          | Metals List, Appendix I VOCs, TSS          | 6/10/2008, 10/2/2013,<br>3/28/2018, 7/13/2023   | 2028           |
| MW-89-9R        | Appendix II, TSS                       | Metals List, Appendix I VOCs, Sulfide, TSS | Metals List, Appendix I VOCs, Sulfide, TSS | 6/10/2008, 10/2/2013,<br>7/12/2018, 7/13/2023   | 2028           |
| PZ-21           | Metals List, Sulfide, TSS              | Metals List, Sulfide, TSS                  | Appendix II, TSS                           | 12/27/2010, 11/20/2015,<br>3/1/2017, 07/16/2020 | 2025           |
| MW-21           | Metals List, TSS                       | Metals List, TSS                           | Metals List, TSS                           | Not Applicable                                  | Not Applicable |

Notes:

TSS: Total Suspended Solids.

Metals List Includes: Antimony, Arsenic, Barium, Beryllium, Cadmium, Cobalt, Copper, and Nickel.



**Table 3**  
**Monitoring Well Maintenance and Performance Revaluation Schedule**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

| Compliance with:                                                           | 2021      | 2022      | 2023     | 2024      | 2025      |
|----------------------------------------------------------------------------|-----------|-----------|----------|-----------|-----------|
| 2002 567 IAC 113.21(2)"a" high and low water levels                        |           | Completed |          | Scheduled |           |
| 2002 567 IAC 113.21(2)"b" changes in the hydrologic setting and flow paths | Completed | Completed | Included | Scheduled | Scheduled |
| 2002 567 IAC 113.21(2)"c" well depths                                      | Completed | Completed | Included | Scheduled | Scheduled |
| 2009 567 IAC 113.10(2)"f"(4) well recharge rates and chemistry             |           | Completed |          | Scheduled |           |
| Waste separation from ground water 2009 567 IAC 113.6(2) <sup>(1)</sup>    | Completed | Completed | Included | Scheduled | Scheduled |

Notes:

(1) See Table 4.



**Table 4**  
**Monitoring Well Maintenance and Performance Summary**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

| Well     | Top of Casing | Top of Screen | Total Depth |                                | Date of Measurement | Maximum Depth Discrepancy (ft) |
|----------|---------------|---------------|-------------|--------------------------------|---------------------|--------------------------------|
|          |               |               |             |                                | 7/13/2023           |                                |
| MW-89-2  | 1207.08       | 1160.50       | 70.4        | Groundwater Level (ft)         | 54.38               | NM                             |
|          |               |               |             | Groundwater Elevation (Ft MSL) | 1152.70             |                                |
|          |               |               |             | Measured Well Depth (ft)       | NM                  |                                |
|          |               |               |             | Submerged Screen               | N                   |                                |
| MW-89-6R | 1168.87       | 1155.47       | 23.4        | Groundwater Level (ft)         | 13.13               | -0.1                           |
|          |               |               |             | Groundwater Elevation (Ft MSL) | 1155.74             |                                |
|          |               |               |             | Measured Well Depth (ft)       | 23.5                |                                |
|          |               |               |             | Submerged Screen               | Y                   |                                |
| MW-89-7  | 1169.23       | 1142.50       | 39.1        | Groundwater Level (ft)         | 10.66               | -1.1                           |
|          |               |               |             | Groundwater Elevation (Ft MSL) | 1158.57             |                                |
|          |               |               |             | Measured Well Depth (ft)       | 40.2                |                                |
|          |               |               |             | Submerged Screen               | Y                   |                                |
| MW-89-9R | 1172.80       | 1164.55       | 18.3        | Groundwater Level (ft)         | 10.95               | -0.1                           |
|          |               |               |             | Groundwater Elevation (Ft MSL) | 1161.85             |                                |
|          |               |               |             | Measured Well Depth (ft)       | 18.4                |                                |
|          |               |               |             | Submerged Screen               | N                   |                                |
| PZ-21    | 1190.77       | 1163.20       | 48.1        | Groundwater Level (ft)         | 26.76               | NM                             |
|          |               |               |             | Groundwater Elevation (Ft MSL) | 1164.01             |                                |
|          |               |               |             | Measured Well Depth (ft)       | NM                  |                                |
|          |               |               |             | Submerged Screen               | Y                   |                                |
| PZ-22    | 1243.51       | 1187.80       | 70.2        | Groundwater Level (ft)         | 18.90               | NM                             |
|          |               |               |             | Groundwater Elevation (Ft MSL) | 1224.61             |                                |
|          |               |               |             | Measured Well Depth (ft)       | NM                  |                                |
|          |               |               |             | Submerged Screen               | Y                   |                                |
| MW-21    | 1178.13       | 1150.15       | 38.3        | Groundwater Level (ft)         | 14.67               | 0.0                            |
|          |               |               |             | Groundwater Elevation (Ft MSL) | 1163.46             |                                |
|          |               |               |             | Measured Well Depth (ft)       | 38.3                |                                |
|          |               |               |             | Submerged screen               | Y                   |                                |

Notes:

NM: Not measured; wells with submersible pumps are only measured once every 5 years.

Comments:

- 1) Monitoring wells with submersible pumps are only measured once every 5 years. Monitoring wells MW-89-2, PZ-21, and PZ-22 were last measured during the 1<sup>st</sup> 2020 semi-annual sampling event and will be measured next during the 2025 reporting period.
- 2) Measured well depths were within 1.1 foot of the installed depths, so it appears siltation is not affected the ability of the wells to produce samples.

#### Groundwater Underdrain Piezometer

| Well |                                  | Date of Measurement |
|------|----------------------------------|---------------------|
|      |                                  | 7/13/2023           |
| NA   | Bottom of Waste (feet MSL)       | NA                  |
|      | Groundwater Elevation (feet MSL) | Dry                 |
|      | Separation Distance (feet)       | >5                  |

Comments:

Groundwater underdrain point, Lagoon Underdrain, has been continuously dry. Due to the monitoring point remaining dry with few exceptions since 2005 it is likely that greater than 5 foot separation is present. The monitoring point Lagoon Underdrain will continue to be monitored to ensure separation.



**Table 5**  
**Background and GWPS Summary Tables**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

**Interwell Background/GWPS (PZ-22)**

| Constituent    | Units | Samples | Detections | Min              | Max              | Mean     | Background level | Statistical Test | GWPS    | Source |
|----------------|-------|---------|------------|------------------|------------------|----------|------------------|------------------|---------|--------|
| Antimony (Sb)  | mg/L  | 9       | 1          | 0.0005 (1/2 RL)  | 0.004 (1/2 RL)   | 0.001111 | 0.004            | PL (NP)          | 0.006   | MCL    |
| Arsenic (As)   | mg/L  | 9       | 8          | 0.00205          | 0.00519          | 0.002998 | 0.004996         | PL (P)           | 0.01    | MCL    |
| Barium (Ba)    | mg/L  | 9       | 9          | 0.0106           | 0.0141           | 0.011656 | 0.0141           | PL (NP)          | 2       | MCL    |
| Beryllium (Be) | mg/L  | 9       | 6          | 0.000404*        | 0.0035*          | 0.001184 | 0.003118         | PL (P)           | 0.004   | MCL    |
| Cadmium (Cd)   | mg/L  | 9       | 3          | 0.00005 (1/2 RL) | 0.00025 (1/2 RL) | 0.000154 | 0.00025          | PL (NP)          | 0.005   | MCL    |
| Chromium (Cr)  | mg/L  | 6       | 3          | 0.00108*         | 0.0025 (1/2 RL)  | 0.002028 | 0.0025           | PL (NP)          | 0.1     | MCL    |
| Cobalt (Co)    | mg/L  | 9       | 9          | 0.000973         | 0.00309          | 0.001673 | 0.002877         | PL (P)           | 0.01651 | SSGWPS |
| Copper (Cu)    | mg/L  | 9       | 6          | 0.0025 (1/2 RL)  | 0.497            | 0.090577 | 0.3953           | PL (P)           | 1.3     | MCL    |
| Lead (Pb)      | mg/L  | 6       | 3          | 0.00025 (1/2 RL) | 0.00137          | 0.000612 | 0.00137          | PL (NP)          | 0.015   | MCL    |
| Nickel (Ni)    | mg/L  | 9       | 7          | 0.0025 (1/2 RL)  | 0.0109           | 0.005692 | 0.01006          | PL (P)           | 0.1     | SWS    |
| Selenium (Se)  | mg/L  | 6       | 1          | 0.00154*         | 0.01 (1/2 RL)    | 0.003590 | 0.01             | PL (NP)          | 0.05    | MCL    |
| Silver (Ag)    | mg/L  | 6       | 0          | 0.00025 (1/2 RL) | 0.0005 (1/2 RL)  | 0.000458 | < 0.001          | DQR              | 0.1     | SWS    |
| Thallium (Tl)  | mg/L  | 6       | 0          | 0.0005 (1/2 RL)  | 0.001 (1/2 RL)   | 0.000583 | < 0.002          | DQR              | 0.002   | MCL    |
| Vanadium (V)   | mg/L  | 6       | 1          | 0.001*           | 0.0025 (1/2 RL)  | 0.002250 | 0.0025           | PL (NP)          | 0.035   | SWS    |
| Zinc (Zn)      | mg/L  | 6       | 5          | 0.01 (1/2 RL)    | 0.0757*          | 0.046700 | 0.1001           | PL (P)           | 2       | SWS    |

\* Indicates a J Flag; the concentration is below the reporting limit but above the method detection limit. The concentration is estimated.

Acronyms/Abbreviations:

GWPS = Groundwater Protection Standard

DQR = Double Quantification Rule

SSS = Site-specific GWPS

HAL = Health Advisory Level

RL = Reporting Limit

PL = Prediction Limit

MCL = EPA Maximum Contaminant Level

CL = Control Limits (mean + two standard deviations)

NP = Non-Parametric

ND = Not Determined

P = Parametric

SWS = Statewide Standard

Comments:

- 1) Water quality results and effectiveness of the statistical data evaluation criteria:** Statistical evaluations consist of prediction limits and confidence intervals/confidence bands, as appropriate. Data from the background wells is not used for development of the confidence intervals or confidence bands.
- 2) Changes to the previous statistical method during reporting period:** Interwell prediction limit analysis was approved to replace historical control limits as the statistical method at the Landfill in permit correspondence dated April 2, 2019 (Doc No. 94796).
- 3) Re-sampling strategy:** Retesting is performed on a 1-of-2 scheme.
- 4) Justification for data exclusion:** Comparison of inorganic and TSS concentrations indicates that TSS does in part affect the elevated inorganic concentrations present at the site prior to the change in sampling methodology which occurred during the 2015 reporting period. Inorganic data was not collected from the background monitoring point prior to the implementation of low-flow sampling.



**Table 6**  
**Summary of Well/Detected Constituent Pairs With No Previous SSIs**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

| Well     | Constituent | Units | Most Recent Result | Background Standard |
|----------|-------------|-------|--------------------|---------------------|
| MW-89-6R | Nickel      | mg/L  | 0.0292             | 0.01006             |
| MW-89-9R | Nickel      | mg/L  | 0.02               | 0.01006             |
| PZ-21    | Barium      | mg/L  | 0.0147             | 0.01410             |

Notes:

- 1) Criteria for inclusion in this table is a well/constituent pair with an SSI indicated during the 2023 reporting period and no SSI indicated during the 2022 reporting period.

Comments:

- 1) **Problems with the current detection network:** None
- 2) **Schedule to implement remedies:** None.
- 3) **Alternative constituent or sample frequency changes:** None.
- 4) **Significant changes to calculated prediction limits:** None.
- 5) **Resampling strategy:** A 1-of-2 resampling strategy was established for the Landfill.



**Table 7**  
**Summary Table of Ongoing and Newly Identified SSIs**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

| Well     | Constituent | Units | Most Recent Result | Background Standard | Lower Confidence Limit | GWPS    | Sample Dates       |             |                       |
|----------|-------------|-------|--------------------|---------------------|------------------------|---------|--------------------|-------------|-----------------------|
|          |             |       |                    |                     |                        |         | Initial Exceedance | Resample(s) | 5th background sample |
| MW-89-6R | Arsenic     | mg/L  | 0.0102             | 0.004996            | 0.000902               | 0.01    | 7/13/2023          | NM          | 9/29/2010             |
|          | Barium      | mg/L  | 0.176              | 0.0141              | 0.1877                 | 2       | 7/13/2023          | NM          | 9/29/2010             |
|          | Cobalt      | mg/L  | 0.0278             | 0.002877            | 0.00728                | 0.01651 | 7/13/2023          | NM          | 9/29/2010             |
|          | Nickel      | mg/L  | 0.0292             | 0.01006             | 0.0103                 | 0.1     | 7/13/2023          | NA          | 3/25/2011             |
| MW-89-7  | Barium      | mg/L  | 0.347              | 0.0141              | TS                     | 2       | 7/13/2023          | NM          | 9/9/2009              |
|          | Cobalt      | mg/L  | 0.0046             | 0.002877            | 0.004363               | 0.01651 | 7/13/2023          | NM          | 9/9/2009              |
| MW-89-9R | Barium      | mg/L  | 0.253              | 0.0141              | 0.09739                | 2       | 7/13/2023          | NM          | 9/9/2009              |
|          | Cobalt      | mg/L  | 0.0213             | 0.002877            | 0.001845               | 0.01651 | 7/13/2023          | NM          | 9/9/2009              |
|          | Nickel      | mg/L  | 0.02               | 0.01006             | 0.008285               | 0.1     | 7/13/2023          | NA          | 9/9/2009              |
| PZ-21    | Barium      | mg/L  | 0.0147             | 0.01410             | 0.01314                | 2       | 7/13/2023          | NA          | 10/18/2012            |

Notes:

1) A single exceedance in an assessment monitoring well is recorded above as an SSI. Retesting is not performed as the monitoring wells are not in the detection monitoring program.

2) Ongoing SSI is defined as one or more indicated SSIs for a monitoring well/constituent pair in both the 2023 and 2022 reporting periods.

NM - Not Measured; Historical statistical evaluations utilized control limits to determine SSIs, therefore resampling of constituents with indicated SSIs above background was not part of the statistical methodology performed.

TS - Indicated Thiel-Sen trending evaluation indicates a statistically significant trend was identified so a confidence interval cannot be calculated.

 Shaded indicates a newly identified SSI, as defined under Table 6.

Comments:

- 1) **Problems with the current assessment network:** None.
- 2) **Proposed remedies:** None.
- 3) **Alternative constituent or sample frequency changes:** None.
- 4) **Plume delineation strategies:** Not Applicable.



**Table 8**  
**Summary Table of Ongoing and Newly Identified SSLs**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

| Well | Constituent | Units | Most Recent Result | Upper Confidence Limit | GWPS | Initial Exceedance | Date of Most Recent Exceedance | Upper Confidence Limit Below GWPS |                      |                      |
|------|-------------|-------|--------------------|------------------------|------|--------------------|--------------------------------|-----------------------------------|----------------------|----------------------|
|      |             |       |                    |                        |      |                    |                                | 1 <sup>st</sup> Year              | 2 <sup>nd</sup> Year | 3 <sup>rd</sup> Year |
| None |             |       |                    |                        |      |                    |                                |                                   |                      |                      |

Comments:

Previous SSLs measured in monitoring wells MW-89-6R and MW-89-9R were removed in accordance with the Alternative Source Demonstration (Doc #94783) submitted March 28, 2019 and approved in DNR correspondence dated April 18, 2019 (Doc #94934). Monitoring wells MW-89-6R and MW-89-9R were placed back into the assessment monitoring program. There are no constituents currently measured at an SSL at the Landfill.



**Table 9**  
**Summary of Groundwater Chemistry**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

The Summary of Groundwater Chemistry Table is located in Appendix C.

Note:

Background monitoring well PZ-22 was historically sampled for IAC 567-113.2(5) parameters prior to the 2018 reporting period. Historical PZ-22 data can be found in the 2017 AWQR (Doc #90951).



**Table 10**  
**Historical SSI and SSL**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

Key

|  |     |
|--|-----|
|  | SSI |
|  | SSL |

| Well     | Constituent | Spring<br>2020 | Fall<br>2020 | 2021 | 2022 | 2023 |
|----------|-------------|----------------|--------------|------|------|------|
| MW-89-2  | None        |                |              |      |      |      |
| MW-89-6R | None        |                |              |      |      |      |
| MW-89-7  | None        |                |              |      |      |      |
| MW-89-9R | None        |                |              |      |      |      |
| MW-21    | None        |                |              |      |      |      |
| PZ-21    | None        |                |              |      |      |      |

Comments:

- 1) SSIs are only recorded for the initial confirmed SSI measurement. SSIs are not confirmed for assessment monitoring wells.
- 2) Previous and historical SSLs were removed as a result of the Alternative Source Demonstration submitted on March 28, 2019 (Document #94783) and approved in DNR correspondence dated April 18, 2019 (Document #94934).



**Table 11**  
**Corrective Action Trend Analysis**  
**2023 Annual Water Quality Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

| Well | Current SSL | Trend | Calculated S | Critical S | Total N | Projected Date to Completion* |
|------|-------------|-------|--------------|------------|---------|-------------------------------|
| NA   |             |       |              |            |         |                               |

Notes:

NA - Not Applicable; there are currently no SSLs measured in the monitoring wells at the Landfill.

N - Number of samples utilized in statistical evaluation.

S - Mann-Kendall Statistic.

\* - To satisfy IAC 113.10(9)"e"; Projected Date to Completion was based on utilizing the slope calculation to determine when the concentration would be below the GWPS for eight sampling events and remain at that level for three years.

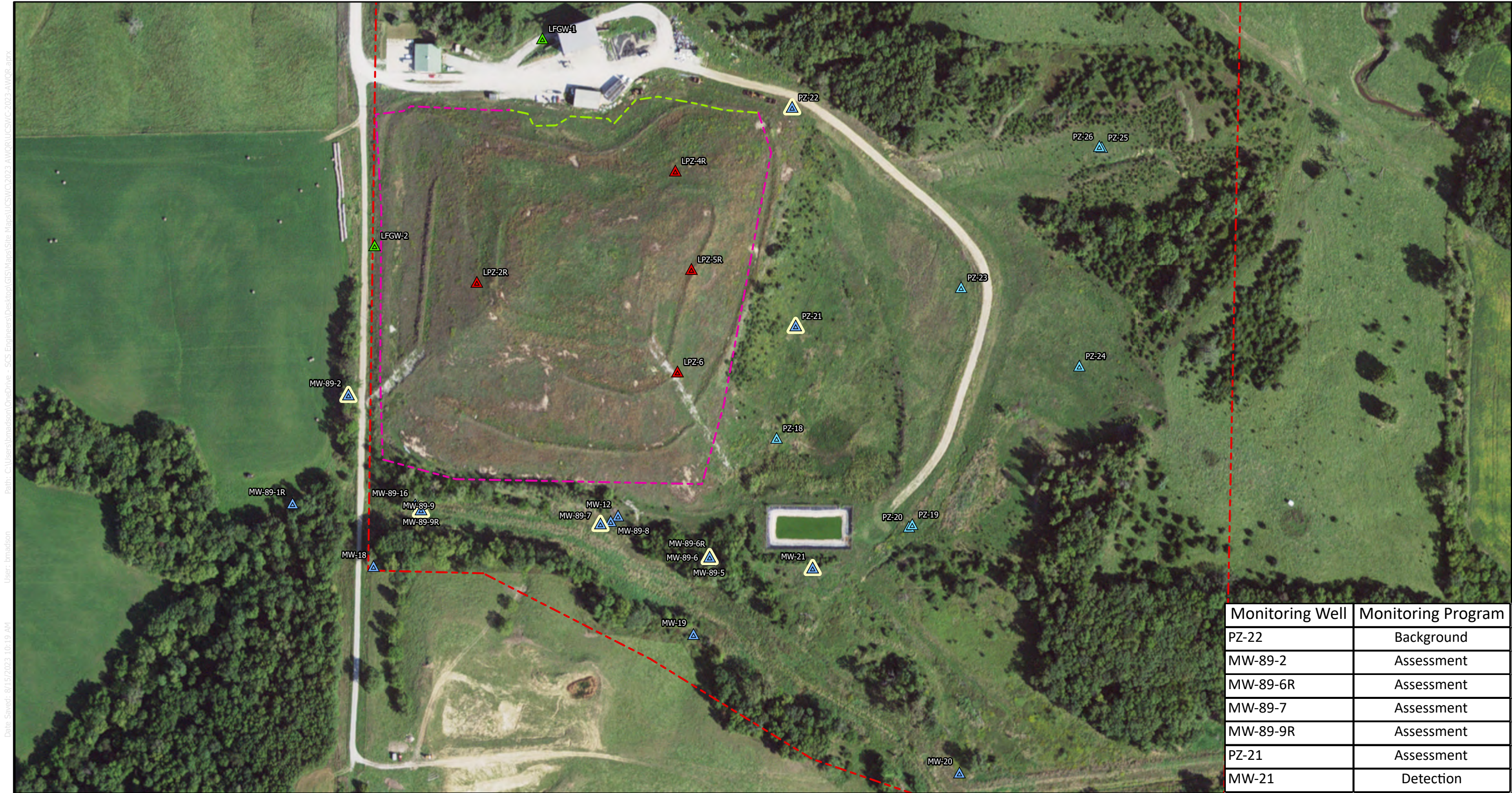
Comments:

- 1) An Alternative Source Demonstration was submitted on March 28, 2019 (Document #94783) and approved in DNR correspondence dated April 18, 2019 (Document #94934) which removed historical SSLs from monitoring wells MW-89-6R and MW-89-9R. Therefore, corrective action is not applicable at this time.



## Figures





| Monitoring Well | Monitoring Program |
|-----------------|--------------------|
| PZ-22           | Background         |
| MW-89-2         | Assessment         |
| MW-89-6R        | Assessment         |
| MW-89-7         | Assessment         |
| MW-89-9R        | Assessment         |
| PZ-21           | Assessment         |
| MW-21           | Detection          |



### Approved Monitoring Network

**Legend**

- Approximate Leachate Monitoring Location
- HMSF Monitoring Well
- Approximate Monitoring Well Location
- Approximate Groundwater Piezometer Location

- Approximate Landfill Gas Well Location
- Approximate Property Boundary
- Approximate Waste Boundary
- Located Waste Boundary

Union County Sanitary Landfill  
Creston, Iowa  
Project No: 27223188.00  
Drawing Date: August 2023

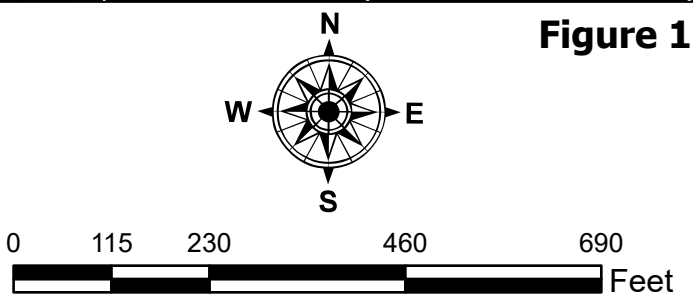
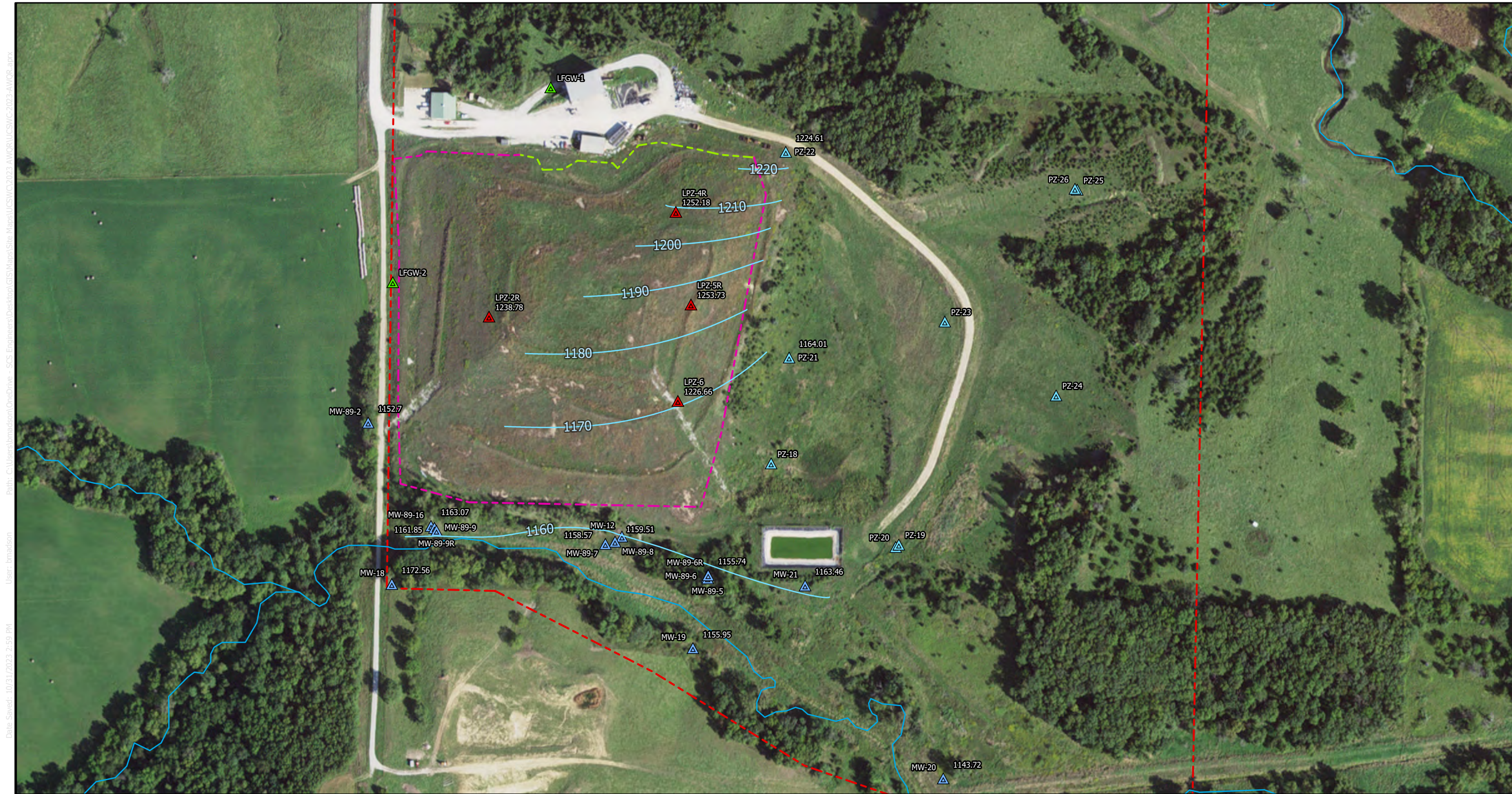


Figure 1



Data Saved: 10/31/2023 2:59 PM User: bmadison Path: C:\Users\bmadison\OneDrive - SCS Engineers\Desktop\GIS\Mapa\Site Mapa\UCS\Mapa\UCS\Mapa\UCS\Mapa\UCS.aprx



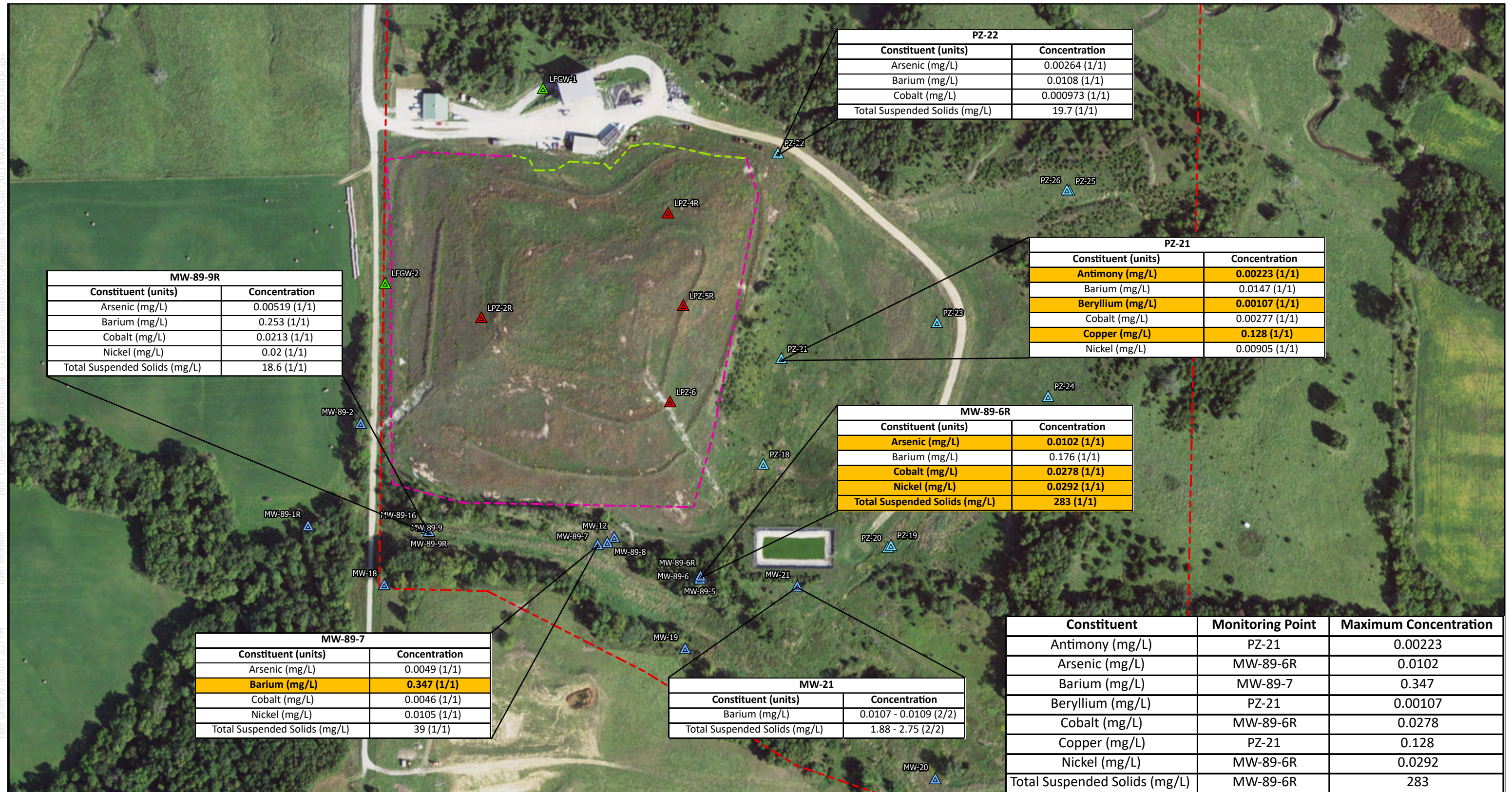
| Groundwater Contours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  | Union County Sanitary Landfill<br>Creston, Iowa<br>Project No: 27223188.00<br>Drawing Date: October 2023 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|----------------------------------------------------------------------------------------------------------|
| <b>Legend</b><br><div style="display: flex; justify-content: space-between;"> <div> <p><span style="color: blue;">▲</span> Approximate Monitoring Well Location</p> <p><span style="color: blue;">▲</span> Approximate Groundwater Piezometer Location</p> <p><span style="color: green;">▲</span> Approximate Landfill Gas Well Location</p> <p><span style="color: red;">▲</span> Approximate Leachate Monitoring Location</p> <p><span style="color: blue;">—</span> Approximate Contours Based on Measurements Taken on July 13, 2023</p> </div> <div> <p><span style="color: red;">---</span> Approximate Property Boundary</p> <p><span style="color: pink;">---</span> Approximate Waste Boundary</p> <p><span style="color: green;">---</span> Located Waste Boundary</p> <p><span style="color: blue;">—</span> Stream</p> </div> </div> |  |                                                                                                          |

GEOGRAPHIC DATA, ESRI, HERE, Garmin, FourSquare, FRC, Mapbox, NASA, USGS, Esri, Google, USGS

**Figure 2**

0 120 240 480 720 Feet

Path: C:\Users\hmadani\OneDrive - SCS Engineers\Desktop\GIS\Map\Site Map\UCCSWC 2023 AVORP.aprx  
User: hmadani  
Date Saved: 8/18/2023 3:27 PM

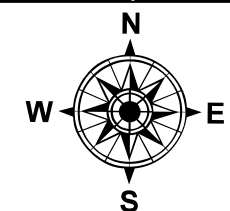


## Reporting Period Detection Summary

### Legend

- ▲ Approximate Leachate Monitoring Location
- ▲ Approximate Monitoring Well Location
- ▲ Approximate Groundwater Piezometer Location
- ▲ Approximate Landfill Gas Well Location
- - - Approximate Property Boundary
- - - Approximate Waste Boundary
- - - Located Waste Boundary

Union County Sanitary Landfill  
Creston, Iowa  
Project No: 27223188.00  
Drawing Date: August 2023



0 120 240 480 720 Feet

Figure 3



**Appendix A**  
**Field Sampling Forms**



# FORM FOR GROUNDWATER SAMPLING

|                                                |                               |
|------------------------------------------------|-------------------------------|
| Project: <b>Union County Sanitary Landfill</b> |                               |
| Monitoring Well/Piezometer ID: <b>PZ-22</b>    | Date: <b>7/13/2023</b>        |
| Gradient: <b>Up</b>                            | Sampler: <b>Scott Stoller</b> |

## A. MW/PIEZOMETER CONDITIONS

|                         |     |  |
|-------------------------|-----|--|
| Well/Piezometer Capped? | Yes |  |
| Litter/Standing Water?  | No  |  |

## B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

|                                          |                            |
|------------------------------------------|----------------------------|
| Measured Well Total Depth (feet):        | NM                         |
| Initial Static Water Level (feet):       | 18.90                      |
| Initial Groundwater Elevation (ft-amsl): | 1224.61                    |
| Equipment Used:                          | Dedicated Submersible Pump |

## C. WELL PURGING

**FIELD PARAMETERS** [stabilization criteria] RECORD EVERY 3 MINUTES

| Time                                     | Temperature<br>(°C)<br>10% | Dissolved<br>Oxygen<br>(mg/L) | Specific<br>Conductivity<br>(µS/cm)<br>+/- 10% | pH<br>(S.U.)<br>+/- 0.1 | ORP<br>(mV) | Turbidity<br>(FNU) |  |
|------------------------------------------|----------------------------|-------------------------------|------------------------------------------------|-------------------------|-------------|--------------------|--|
| 11:56 AM                                 | Purging start time.        |                               |                                                |                         |             |                    |  |
| 11:59 AM                                 | 16.8                       | 1.2                           | 3259.7                                         | 6.85                    | 45.2        | 9.7                |  |
| 12:02 PM                                 | 16.4                       | 0.8                           | 3274.1                                         | 6.84                    | 17.2        | 20.7               |  |
| 12:05 PM                                 | 16.7                       | 0.7                           | 3302.5                                         | 6.74                    | 11.1        | 27.5               |  |
| 12:08 PM                                 | 16.5                       | 0.6                           | 3254.8                                         | 6.83                    | 11.1        | 27.3               |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
| Parameters stabilized, sample collected. |                            |                               |                                                |                         |             |                    |  |

|                                                |        |
|------------------------------------------------|--------|
| Quantity of Water Removed from Well (liters):  | 1.8    |
| Was well pumped/bailed dry?                    | No     |
| Total Amount of Time Purged (minutes:seconds): | 15:00  |
| Average Purge Rate (mL/min):                   | 120.00 |

## D. WELL MAINTENANCE

|                                               |  |    |
|-----------------------------------------------|--|----|
| Does the well require any future maintenance? |  | No |
| If yes,<br>explain:                           |  |    |
| Additional<br>Comments:                       |  |    |

# FORM FOR GROUNDWATER SAMPLING

|                                                |                               |
|------------------------------------------------|-------------------------------|
| Project: <b>Union County Sanitary Landfill</b> |                               |
| Monitoring Well/Piezometer ID: <b>MW-89-2</b>  | Date: <b>7/13/2023</b>        |
| Gradient: <b>Down</b>                          | Sampler: <b>Scott Stoller</b> |

|                                    |  |
|------------------------------------|--|
| <b>A. MW/PIEZOMETER CONDITIONS</b> |  |
| Well/Piezometer Capped? <b>Yes</b> |  |
| Litter/Standing Water? <b>No</b>   |  |

|                                                                  |                |
|------------------------------------------------------------------|----------------|
| <b>B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)</b> |                |
| Measured Well Total Depth (feet):                                | <b>NM</b>      |
| Initial Static Water Level (feet):                               | <b>54.38</b>   |
| Initial Groundwater Elevation (ft-amsl):                         | <b>1152.70</b> |
| Equipment Used:                                                  |                |

| <b>C. WELL PURGING</b>                                                  |                                          |                               |                                                |                         |             |                    |  |
|-------------------------------------------------------------------------|------------------------------------------|-------------------------------|------------------------------------------------|-------------------------|-------------|--------------------|--|
| <b>FIELD PARAMETERS</b> [stabilization criteria] RECORD EVERY 3 MINUTES |                                          |                               |                                                |                         |             |                    |  |
| Time                                                                    | Temperature<br>(°C)<br>10%               | Dissolved<br>Oxygen<br>(mg/L) | Specific<br>Conductivity<br>(µS/cm)<br>+/- 10% | pH<br>(S.U.)<br>+/- 0.1 | ORP<br>(mV) | Turbidity<br>(FNU) |  |
|                                                                         | Purging start time.                      |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
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|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         |                                          |                               |                                                |                         |             |                    |  |
|                                                                         | Parameters stabilized, sample collected. |                               |                                                |                         |             |                    |  |

|                                                |             |
|------------------------------------------------|-------------|
| Quantity of Water Removed from Well (liters):  | <b>0.0</b>  |
| Was well pumped/bailed dry?                    | <b>No</b>   |
| Total Amount of Time Purged (minutes:seconds): |             |
| Average Purge Rate (mL/min):                   | <b>0.00</b> |

|                                               |                                                                                                                                                                       |
|-----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>D. WELL MAINTENANCE</b>                    |                                                                                                                                                                       |
| Does the well require any future maintenance? | <b>Yes</b> Pump problems                                                                                                                                              |
| If yes, explain:                              | Pump spliced unable to purge water with two batteries, may need service.                                                                                              |
| Additional Comments:                          | Water drew down about 7 inches. Water could not get up to surface, attempted to use extra battery and still unable to collect sample. Respliced. No sample collected. |

# FORM FOR GROUNDWATER SAMPLING

|                                                |                               |
|------------------------------------------------|-------------------------------|
| Project: <b>Union County Sanitary Landfill</b> |                               |
| Monitoring Well/Piezometer ID: <b>MW-89-6R</b> | Date: <b>7/13/2023</b>        |
| Gradient: <b>Down</b>                          | Sampler: <b>Scott Stoller</b> |

## A. MW/PIEZOMETER CONDITIONS

|                         |     |
|-------------------------|-----|
| Well/Piezometer Capped? | Yes |
| Litter/Standing Water?  | No  |

## B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

|                                          |                                     |
|------------------------------------------|-------------------------------------|
| Measured Well Total Depth (feet):        | 23.6                                |
| Initial Static Water Level (feet):       | 13.13                               |
| Initial Groundwater Elevation (ft-amsl): | 1155.74                             |
| Equipment Used:                          | Dedicated Tubing – Peristaltic Pump |

## C. WELL PURGING

**FIELD PARAMETERS** [stabilization criteria] RECORD EVERY 3 MINUTES

| Time                                     | Temperature<br>(°C)<br>10% | Dissolved<br>Oxygen<br>(mg/L) | Specific<br>Conductivity<br>(µS/cm)<br>+/- 10% | pH<br>(S.U.)<br>+/- 0.1 | ORP<br>(mV) | Turbidity<br>(FNU) |  |
|------------------------------------------|----------------------------|-------------------------------|------------------------------------------------|-------------------------|-------------|--------------------|--|
| 1:55 PM                                  | Purging start time.        |                               |                                                |                         |             |                    |  |
| 1:58 PM                                  | 16.6                       | 1.4                           | 520.5                                          | 6.29                    | 52.8        | 33.6               |  |
| 2:01 PM                                  | 16.6                       | 0.8                           | 479.2                                          | 6.11                    | 72.0        | 64.6               |  |
| 2:04 PM                                  | 16.3                       | 0.7                           | 453.3                                          | 6.04                    | 80.4        | 77.7               |  |
| 2:07 PM                                  | 15.9                       | 0.7                           | 441.3                                          | 6.01                    | 86.0        | 81.2               |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
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|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
| Parameters stabilized, sample collected. |                            |                               |                                                |                         |             |                    |  |

|                                                |        |
|------------------------------------------------|--------|
| Quantity of Water Removed from Well (liters):  | 2.0    |
| Was well pumped/bailed dry?                    | No     |
| Total Amount of Time Purged (minutes:seconds): | 12:00  |
| Average Purge Rate (mL/min):                   | 166.67 |

## D. WELL MAINTENANCE

|                                               |                                  |    |
|-----------------------------------------------|----------------------------------|----|
| Does the well require any future maintenance? |                                  | No |
| If yes, explain:                              |                                  |    |
| Additional Comments:                          | No lock on well, added new lock. |    |

# FORM FOR GROUNDWATER SAMPLING

|                                                |                               |
|------------------------------------------------|-------------------------------|
| Project: <b>Union County Sanitary Landfill</b> |                               |
| Monitoring Well/Piezometer ID: <b>MW-89-7</b>  | Date: <b>7/13/2023</b>        |
| Gradient: <b>Down</b>                          | Sampler: <b>Scott Stoller</b> |

## A. MW/PIEZOMETER CONDITIONS

|                                    |  |
|------------------------------------|--|
| Well/Piezometer Capped? <b>Yes</b> |  |
| Litter/Standing Water? <b>No</b>   |  |

## B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

|                                          |                                     |
|------------------------------------------|-------------------------------------|
| Measured Well Total Depth (feet):        | 40.3                                |
| Initial Static Water Level (feet):       | 10.66                               |
| Initial Groundwater Elevation (ft-amsl): | 1158.57                             |
| Equipment Used:                          | Dedicated Tubing – Peristaltic Pump |

## C. WELL PURGING

**FIELD PARAMETERS** [stabilization criteria] RECORD EVERY 3 MINUTES

| Time                                     | Temperature<br>(°C)<br>10% | Dissolved<br>Oxygen<br>(mg/L) | Specific<br>Conductivity<br>(µS/cm)<br>+/- 10% | pH<br>(S.U.)<br>+/- 0.1 | ORP<br>(mV) | Turbidity<br>(FNU) |  |
|------------------------------------------|----------------------------|-------------------------------|------------------------------------------------|-------------------------|-------------|--------------------|--|
| 2:27 PM                                  | Purging start time.        |                               |                                                |                         |             |                    |  |
| 2:30 PM                                  | 16.2                       | 1.5                           | 1336.1                                         | 6.51                    | 89.2        | 32.4               |  |
| 2:33 PM                                  | 15.7                       | 0.8                           | 1345.7                                         | 6.54                    | 98.3        | 67.1               |  |
| 2:36 PM                                  | 15.3                       | 0.6                           | 1362.0                                         | 6.55                    | 106.3       | 13.1               |  |
| 2:39 PM                                  | 15.2                       | 0.5                           | 1381.4                                         | 6.55                    | 96.4        | 10.2               |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
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|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
| Parameters stabilized, sample collected. |                            |                               |                                                |                         |             |                    |  |

|                                                |        |
|------------------------------------------------|--------|
| Quantity of Water Removed from Well (liters):  | 2.3    |
| Was well pumped/bailed dry?                    | No     |
| Total Amount of Time Purged (minutes:seconds): | 12:00  |
| Average Purge Rate (mL/min):                   | 191.67 |

## D. WELL MAINTENANCE

|                                                         |  |
|---------------------------------------------------------|--|
| Does the well require any future maintenance? <b>No</b> |  |
| If yes,<br>explain:                                     |  |
| Additional<br>Comments:                                 |  |

# FORM FOR GROUNDWATER SAMPLING

|                                                |                               |
|------------------------------------------------|-------------------------------|
| Project: <b>Union County Sanitary Landfill</b> |                               |
| Monitoring Well/Piezometer ID: <b>MW-89-9R</b> | Date: <b>7/13/2023</b>        |
| Gradient: <b>Down</b>                          | Sampler: <b>Scott Stoller</b> |

## A. MW/PIEZOMETER CONDITIONS

|                                    |  |
|------------------------------------|--|
| Well/Piezometer Capped? <b>Yes</b> |  |
| Litter/Standing Water? <b>No</b>   |  |

## B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

|                                          |                                     |
|------------------------------------------|-------------------------------------|
| Measured Well Total Depth (feet):        | 18.5                                |
| Initial Static Water Level (feet):       | 10.95                               |
| Initial Groundwater Elevation (ft-amsl): | 1161.85                             |
| Equipment Used:                          | Dedicated Tubing – Peristaltic Pump |

## C. WELL PURGING

**FIELD PARAMETERS** [stabilization criteria] RECORD EVERY 3 MINUTES

| Time                                     | Temperature<br>(°C)<br>10% | Dissolved<br>Oxygen<br>(mg/L) | Specific<br>Conductivity<br>(µS/cm)<br>+/- 10% | pH<br>(S.U.)<br>+/- 0.1 | ORP<br>(mV) | Turbidity<br>(FNU) |  |
|------------------------------------------|----------------------------|-------------------------------|------------------------------------------------|-------------------------|-------------|--------------------|--|
| 3:24 PM                                  | Purging start time.        |                               |                                                |                         |             |                    |  |
| 3:27 PM                                  | 15.5                       | 1.6                           | 1014.1                                         | 6.58                    | 92.3        | 72.1               |  |
| 3:30 PM                                  | 15.1                       | 0.9                           | 1006.1                                         | 6.41                    | 95.8        | 29.6               |  |
| 3:33 PM                                  | 15.6                       | 0.7                           | 1004.0                                         | 6.32                    | 95.0        | 17.0               |  |
| 3:36 PM                                  | 15.5                       | 0.6                           | 1006.1                                         | 6.29                    | 92.6        | 24.8               |  |
| 3:39 PM                                  | 15.7                       | 0.5                           | 1006.3                                         | 6.28                    | 91.2        | 29.7               |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
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|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
| Parameters stabilized, sample collected. |                            |                               |                                                |                         |             |                    |  |

|                                                |        |
|------------------------------------------------|--------|
| Quantity of Water Removed from Well (liters):  | 2.6    |
| Was well pumped/bailed dry?                    | No     |
| Total Amount of Time Purged (minutes:seconds): | 15:00  |
| Average Purge Rate (mL/min):                   | 173.33 |

## D. WELL MAINTENANCE

|                                                         |  |
|---------------------------------------------------------|--|
| Does the well require any future maintenance? <b>No</b> |  |
| If yes,<br>explain:                                     |  |
| Additional<br>Comments:                                 |  |

# FORM FOR GROUNDWATER SAMPLING

|                                                |                               |
|------------------------------------------------|-------------------------------|
| Project: <b>Union County Sanitary Landfill</b> |                               |
| Monitoring Well/Piezometer ID: <b>MW-21</b>    | Date: <b>7/13/2023</b>        |
| Gradient: <b>Down</b>                          | Sampler: <b>Scott Stoller</b> |

## A. MW/PIEZOMETER CONDITIONS

|                         |     |  |
|-------------------------|-----|--|
| Well/Piezometer Capped? | Yes |  |
| Litter/Standing Water?  | No  |  |

## B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)

|                                          |                                     |
|------------------------------------------|-------------------------------------|
| Measured Well Total Depth (feet):        | 38.3                                |
| Initial Static Water Level (feet):       | 19.67                               |
| Initial Groundwater Elevation (ft-amsl): | 1158.46                             |
| Equipment Used:                          | Dedicated Tubing – Peristaltic Pump |

## C. WELL PURGING

**FIELD PARAMETERS** [stabilization criteria] RECORD EVERY 3 MINUTES

| Time                                     | Temperature<br>(°C)<br>10% | Dissolved<br>Oxygen<br>(mg/L) | Specific<br>Conductivity<br>(µS/cm)<br>+/- 10% | pH<br>(S.U.)<br>+/- 0.1 | ORP<br>(mV) | Turbidity<br>(FNU) |  |
|------------------------------------------|----------------------------|-------------------------------|------------------------------------------------|-------------------------|-------------|--------------------|--|
| 1:16 PM                                  | Purging start time.        |                               |                                                |                         |             |                    |  |
| 1:19 PM                                  | 15.3                       | 4.0                           | 2866.5                                         | 7.19                    | 168.4       | 4.7                |  |
| 1:22 PM                                  | 15.2                       | 3.3                           | 2858.3                                         | 7.05                    | 165.7       | 7.5                |  |
| 1:25 PM                                  | 15.7                       | 3.1                           | 2851.3                                         | 6.97                    | 164.9       | 4.9                |  |
| 1:28 PM                                  | 15.8                       | 3.0                           | 2841.2                                         | 6.96                    | 164.8       | 4.5                |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
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|                                          |                            |                               |                                                |                         |             |                    |  |
|                                          |                            |                               |                                                |                         |             |                    |  |
| Parameters stabilized, sample collected. |                            |                               |                                                |                         |             |                    |  |

|                                                |        |
|------------------------------------------------|--------|
| Quantity of Water Removed from Well (liters):  | 1.9    |
| Was well pumped/bailed dry?                    | No     |
| Total Amount of Time Purged (minutes:seconds): | 12:00  |
| Average Purge Rate (mL/min):                   | 158.33 |

## D. WELL MAINTENANCE

|                                               |  |    |
|-----------------------------------------------|--|----|
| Does the well require any future maintenance? |  | No |
| If yes,<br>explain:                           |  |    |
| Additional<br>Comments:                       |  |    |

## FORM FOR GROUNDWATER SAMPLING

| <b>Project:</b> Union County Sanitary Landfill                          |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
|-------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|------------------------------------------------|----------------------------|--------------|--------------------|------------------|
| <b>Monitoring Well/Piezometer ID:</b>                                   |                                                                                                                                                                                                         |                               |                                                | <b>PZ-21</b>               | <b>Date:</b> |                    | <b>7/13/2023</b> |
| <b>Gradient:</b>                                                        |                                                                                                                                                                                                         | Down                          |                                                | <b>Sampler:</b>            |              | Scott Stoller      |                  |
| <b>A. MW/PIEZOMETER CONDITIONS</b>                                      |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
| Well/Piezometer Capped?                                                 |                                                                                                                                                                                                         | Yes                           |                                                |                            |              |                    |                  |
| Litter/Standing Water?                                                  |                                                                                                                                                                                                         | No                            |                                                |                            |              |                    |                  |
| <b>B. GROUNDWATER ELEVATION MEASUREMENT (+/- 0.01 foot, MSL)</b>        |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
| Measured Well Total Depth (feet):                                       |                                                                                                                                                                                                         |                               |                                                | NM                         |              |                    |                  |
| Initial Static Water Level (feet):                                      |                                                                                                                                                                                                         |                               |                                                | 26.76                      |              |                    |                  |
| Initial Groundwater Elevation (ft-amsl):                                |                                                                                                                                                                                                         |                               |                                                | 1164.01                    |              |                    |                  |
| Equipment Used:                                                         |                                                                                                                                                                                                         |                               |                                                | Dedicated Submersible Pump |              |                    |                  |
| <b>C. WELL PURGING</b>                                                  |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
| <b>FIELD PARAMETERS [stabilization criteria] RECORD EVERY 3 MINUTES</b> |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
| Time                                                                    | Temperature<br>(°C)<br>10%                                                                                                                                                                              | Dissolved<br>Oxygen<br>(mg/L) | Specific<br>Conductivity<br>(µS/cm)<br>+/- 10% | pH<br>(S.U.)<br>+/- 0.1    | ORP<br>(mV)  | Turbidity<br>(FNU) |                  |
| 12:28 PM                                                                | Purging start time.                                                                                                                                                                                     |                               |                                                |                            |              |                    |                  |
| 12:31 PM                                                                | 15.5                                                                                                                                                                                                    | 1.6                           | 3429.8                                         | 6.99                       | 10.3         | 7.5                |                  |
| 12:34 PM                                                                | 16.9                                                                                                                                                                                                    | 1.1                           | 3395.9                                         | 6.82                       | 21.7         | 9.5                |                  |
| 12:37 PM                                                                | 15.1                                                                                                                                                                                                    | 0.8                           | 3432.9                                         | 6.90                       | 29.4         | 8.2                |                  |
| 12:40 PM                                                                | 15.4                                                                                                                                                                                                    | 0.7                           | 3340.0                                         | 6.90                       | 34.2         | 93.3               |                  |
|                                                                         |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
|                                                                         |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
|                                                                         |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
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|                                                                         |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
|                                                                         |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
|                                                                         |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
|                                                                         |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
|                                                                         |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
|                                                                         |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
|                                                                         |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
| Parameters stabilized, sample collected.                                |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
| Quantity of Water Removed from Well (liters):                           |                                                                                                                                                                                                         |                               |                                                | 2.1                        |              |                    |                  |
| Was well pumped/bailed dry?                                             |                                                                                                                                                                                                         |                               |                                                | No                         |              |                    |                  |
| Total Amount of Time Purged (minutes:seconds):                          |                                                                                                                                                                                                         |                               |                                                | 12:00                      |              |                    |                  |
| Average Purge Rate (mL/min):                                            |                                                                                                                                                                                                         |                               |                                                | 175.00                     |              |                    |                  |
| <b>D. WELL MAINTENANCE</b>                                              |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
| Does the well require any future maintenance?                           |                                                                                                                                                                                                         |                               |                                                | No                         |              |                    |                  |
| If yes,<br>explain:                                                     |                                                                                                                                                                                                         |                               |                                                |                            |              |                    |                  |
| Additional Comments:                                                    | Huge wasp nest. Pump stopped purging during sampling. Used gator batter and turned up, as well as allowing time for some recharge, and no water more water came up. Filled all bottles besides the TSS. |                               |                                                |                            |              |                    |                  |



**Appendix B-1**  
**Laboratory Analytical Data Sheets**



# ANALYTICAL REPORT

## PREPARED FOR

Attn: Nathan Ohrt  
SCS Engineers  
1690 All State Court  
Suite 100  
West Des Moines, Iowa 50265

Generated 8/2/2023 3:49:27 PM

## JOB DESCRIPTION

Union County Sanitary Landfill (2023 Annual)

## JOB NUMBER

310-260435-1

# Eurofins Cedar Falls

## Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

## Authorization



Generated  
8/2/2023 3:49:27 PM

Authorized for release by  
Meredith Liechti, Service Center Manager  
[meredith.liechti@et.eurofinsus.com](mailto:meredith.liechti@et.eurofinsus.com)  
(319)277-2401

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## Case Narrative

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

**Job ID: 310-260435-1**

**Laboratory: Eurofins Cedar Falls**

### Narrative

#### Job Narrative 310-260435-1

#### Receipt

The samples were received on 7/14/2023 4:40 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 1.8°C and 1.9°C

#### GC/MS VOA

Method 8260D: The initial calibration verification (ICV) result for batch 310-393777 was above the upper control limit for acrolein. Sample results were non-detects, and have been reported as qualified data.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### GC/MS Semi VOA

Method 8270E: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-393841.

Method 8270E: The continuing calibration verification (CCV) associated with batch 310-394008 recovered above the upper control limit for Methapyrilene (63.9%D), Famphur (110.8%D), Ethyl parathion (21.9%D), Dimethoate (57.0%D), N-Nitrosodi-n-butylamine (23.7%D), Pronamide (26.6%D), 3,3'-Dimethylbenzidine (27.6%D), N-Nitrosopyrrolidine (24.2%D), Methyl parathion (42.2%D), Thionazin (22.4%D), o-Toluidine (24.6%D), Disulfoton (21.9%D) and Dinoseb (24.8%D). The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported.

Method 8270E: The laboratory control sample (LCS) for preparation batch 310-393841 and analytical batch 310-394008 recovered outside control limits for the following analytes: Famphur. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8270E: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for preparation batch 310-393841 and analytical batch 310-394008 recovered outside control limits for the following analyte(s): p-Phenylene diamine. p-Phenylene diamine has been identified as a poor performing analyte when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8270E: The RPD of the laboratory control sample (LCS) and laboratory control sample duplicate (LCSD) for preparation batch 310-393841 and analytical batch 310-394008 recovered outside control limits for the following analytes: Famphur, 3,3'-Dimethylbenzidine and Methapyrilene.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### Herbicides

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### PCBs

Method 8082A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 310-393849.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### Pesticides

Method 8081B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with

## Case Narrative

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

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### Job ID: 310-260435-1 (Continued)

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#### Laboratory: Eurofins Cedar Falls (Continued)

preparation batch 310-393849.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### Metals

Method 6020B: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for preparation batch 310-393827 and analytical batch 310-395331 recovered outside control limits for the following analytes: Silver and Tin. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

#### General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

## Sample Summary

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

| Lab Sample ID | Client Sample ID | Matrix | Collected      | Received       |
|---------------|------------------|--------|----------------|----------------|
| 310-260435-1  | PZ-22            | Water  | 07/13/23 12:08 | 07/14/23 16:40 |
| 310-260435-2  | MW-89-6R         | Water  | 07/13/23 14:07 | 07/14/23 16:40 |
| 310-260435-3  | MW-89-7          | Water  | 07/13/23 14:39 | 07/14/23 16:40 |
| 310-260435-4  | MW-89-9R         | Water  | 07/13/23 15:39 | 07/14/23 16:40 |
| 310-260435-5  | PZ-21            | Water  | 07/13/23 12:40 | 07/14/23 16:40 |
| 310-260435-6  | MW-21            | Water  | 07/13/23 13:28 | 07/14/23 16:40 |
| 310-260435-7  | MW-D             | Water  | 07/13/23 13:28 | 07/14/23 16:40 |
| 310-260435-8  | Trip Blank       | Water  | 07/13/23 00:00 | 07/14/23 16:40 |

## Detection Summary

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

### Client Sample ID: PZ-22

### Lab Sample ID: 310-260435-1

| Analyte                | Result   | Qualifier | RL       | MDL      | Unit | Dil Fac | D | Method    | Prep Type |
|------------------------|----------|-----------|----------|----------|------|---------|---|-----------|-----------|
| Arsenic                | 0.00264  |           | 0.00200  | 0.000530 | mg/L | 1       |   | 6020B     | Total/NA  |
| Barium                 | 0.0108   |           | 0.00200  | 0.000640 | mg/L | 1       |   | 6020B     | Total/NA  |
| Beryllium              | 0.000404 | J         | 0.00100  | 0.000330 | mg/L | 1       |   | 6020B     | Total/NA  |
| Cadmium                | 0.000105 | J         | 0.000200 | 0.000100 | mg/L | 1       |   | 6020B     | Total/NA  |
| Cobalt                 | 0.000973 |           | 0.000500 | 0.000170 | mg/L | 1       |   | 6020B     | Total/NA  |
| Sulfide                | 0.448    | J         | 1.00     | 0.231    | mg/L | 1       |   | 9034      | Total/NA  |
| Total Suspended Solids | 19.7     |           | 5.00     | 1.70     | mg/L | 1       |   | I-3765-85 | Total/NA  |

### Client Sample ID: MW-89-6R

### Lab Sample ID: 310-260435-2

| Analyte                | Result   | Qualifier | RL       | MDL      | Unit | Dil Fac | D | Method    | Prep Type |
|------------------------|----------|-----------|----------|----------|------|---------|---|-----------|-----------|
| Arsenic                | 0.0102   |           | 0.00200  | 0.000530 | mg/L | 1       |   | 6020B     | Total/NA  |
| Barium                 | 0.176    |           | 0.00200  | 0.000640 | mg/L | 1       |   | 6020B     | Total/NA  |
| Cadmium                | 0.000166 | J         | 0.000200 | 0.000100 | mg/L | 1       |   | 6020B     | Total/NA  |
| Cobalt                 | 0.0278   |           | 0.000500 | 0.000170 | mg/L | 1       |   | 6020B     | Total/NA  |
| Copper                 | 0.00210  | J         | 0.00500  | 0.00180  | mg/L | 1       |   | 6020B     | Total/NA  |
| Nickel                 | 0.0292   |           | 0.00500  | 0.00190  | mg/L | 1       |   | 6020B     | Total/NA  |
| Total Suspended Solids | 283      |           | 7.50     | 2.55     | mg/L | 1       |   | I-3765-85 | Total/NA  |

### Client Sample ID: MW-89-7

### Lab Sample ID: 310-260435-3

| Analyte                | Result  | Qualifier | RL       | MDL      | Unit | Dil Fac | D | Method    | Prep Type |
|------------------------|---------|-----------|----------|----------|------|---------|---|-----------|-----------|
| 1,1-Dichloroethane     | 0.361   | J         | 1.00     | 0.220    | ug/L | 1       |   | 8260D     | Total/NA  |
| Vinyl chloride         | 0.187   | J         | 1.00     | 0.180    | ug/L | 1       |   | 8260D     | Total/NA  |
| Arsenic                | 0.00490 |           | 0.00200  | 0.000530 | mg/L | 1       |   | 6020B     | Total/NA  |
| Barium                 | 0.347   |           | 0.00200  | 0.000640 | mg/L | 1       |   | 6020B     | Total/NA  |
| Cobalt                 | 0.00460 |           | 0.000500 | 0.000170 | mg/L | 1       |   | 6020B     | Total/NA  |
| Nickel                 | 0.0105  |           | 0.00500  | 0.00190  | mg/L | 1       |   | 6020B     | Total/NA  |
| Total Suspended Solids | 39.0    |           | 5.00     | 1.70     | mg/L | 1       |   | I-3765-85 | Total/NA  |

### Client Sample ID: MW-89-9R

### Lab Sample ID: 310-260435-4

| Analyte                | Result   | Qualifier | RL       | MDL      | Unit | Dil Fac | D | Method    | Prep Type |
|------------------------|----------|-----------|----------|----------|------|---------|---|-----------|-----------|
| cis-1,2-Dichloroethene | 0.579    | J         | 1.00     | 0.210    | ug/L | 1       |   | 8260D     | Total/NA  |
| Arsenic                | 0.00519  |           | 0.00200  | 0.000530 | mg/L | 1       |   | 6020B     | Total/NA  |
| Barium                 | 0.253    |           | 0.00200  | 0.000640 | mg/L | 1       |   | 6020B     | Total/NA  |
| Cobalt                 | 0.0213   |           | 0.000500 | 0.000170 | mg/L | 1       |   | 6020B     | Total/NA  |
| Lead                   | 0.000312 | J         | 0.000500 | 0.000240 | mg/L | 1       |   | 6020B     | Total/NA  |
| Nickel                 | 0.0200   |           | 0.00500  | 0.00190  | mg/L | 1       |   | 6020B     | Total/NA  |
| Total Suspended Solids | 18.6     |           | 1.88     | 0.638    | mg/L | 1       |   | I-3765-85 | Total/NA  |

### Client Sample ID: PZ-21

### Lab Sample ID: 310-260435-5

| Analyte   | Result  | Qualifier | RL       | MDL      | Unit | Dil Fac | D | Method | Prep Type |
|-----------|---------|-----------|----------|----------|------|---------|---|--------|-----------|
| Antimony  | 0.00223 |           | 0.00200  | 0.00100  | mg/L | 1       |   | 6020B  | Total/NA  |
| Arsenic   | 0.00116 | J         | 0.00200  | 0.000530 | mg/L | 1       |   | 6020B  | Total/NA  |
| Barium    | 0.0147  |           | 0.00200  | 0.000640 | mg/L | 1       |   | 6020B  | Total/NA  |
| Beryllium | 0.00107 |           | 0.00100  | 0.000330 | mg/L | 1       |   | 6020B  | Total/NA  |
| Cobalt    | 0.00277 |           | 0.000500 | 0.000170 | mg/L | 1       |   | 6020B  | Total/NA  |
| Copper    | 0.128   |           | 0.00500  | 0.00180  | mg/L | 1       |   | 6020B  | Total/NA  |
| Nickel    | 0.00905 |           | 0.00500  | 0.00190  | mg/L | 1       |   | 6020B  | Total/NA  |

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

## Detection Summary

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

### Client Sample ID: MW-21

Lab Sample ID: 310-260435-6

| Analyte                | Result   | Qualifier | RL       | MDL      | Unit | Dil Fac | D | Method    | Prep Type |
|------------------------|----------|-----------|----------|----------|------|---------|---|-----------|-----------|
| Barium                 | 0.0107   |           | 0.00200  | 0.000640 | mg/L | 1       |   | 6020B     | Total/NA  |
| Cobalt                 | 0.000254 | J         | 0.000500 | 0.000170 | mg/L | 1       |   | 6020B     | Total/NA  |
| Total Suspended Solids | 2.75     |           | 1.88     | 0.638    | mg/L | 1       |   | I-3765-85 | Total/NA  |

### Client Sample ID: MW-D

Lab Sample ID: 310-260435-7

| Analyte                | Result   | Qualifier | RL       | MDL      | Unit | Dil Fac | D | Method    | Prep Type |
|------------------------|----------|-----------|----------|----------|------|---------|---|-----------|-----------|
| Barium                 | 0.0109   |           | 0.00200  | 0.000640 | mg/L | 1       |   | 6020B     | Total/NA  |
| Cobalt                 | 0.000264 | J         | 0.000500 | 0.000170 | mg/L | 1       |   | 6020B     | Total/NA  |
| Total Suspended Solids | 1.88     |           | 1.88     | 0.638    | mg/L | 1       |   | I-3765-85 | Total/NA  |

### Client Sample ID: Trip Blank

Lab Sample ID: 310-260435-8

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: PZ-22

Lab Sample ID: 310-260435-1

Date Collected: 07/13/23 12:08

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 6020B - Metals (ICP/MS)

| Analyte   | Result   | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------|----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Antimony  | <0.00200 |           | 0.00200  | 0.00100  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:13 | 1       |
| Arsenic   | 0.00264  |           | 0.00200  | 0.000530 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:13 | 1       |
| Barium    | 0.0108   |           | 0.00200  | 0.000640 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:13 | 1       |
| Beryllium | 0.000404 | J         | 0.00100  | 0.000330 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:13 | 1       |
| Cadmium   | 0.000105 | J         | 0.000200 | 0.000100 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:13 | 1       |
| Cobalt    | 0.000973 |           | 0.000500 | 0.000170 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:13 | 1       |
| Copper    | <0.00500 |           | 0.00500  | 0.00180  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:13 | 1       |
| Nickel    | <0.00500 |           | 0.00500  | 0.00190  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:13 | 1       |

## General Chemistry

| Analyte                                 | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Sulfide (SW846 9034)                    | 0.448  | J         | 1.00 | 0.231 | mg/L |   | 07/20/23 18:30 | 07/24/23 21:41 | 1       |
| Total Suspended Solids (USGS I-3765-85) | 19.7   |           | 5.00 | 1.70  | mg/L |   |                | 07/19/23 20:36 | 1       |

# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-6R

Lab Sample ID: 310-260435-2

Date Collected: 07/13/23 14:07

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8081B - Organochlorine Pesticides (GC)

| Analyte                       | Result    | Qualifier | RL       | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------|----------|--------|------|---|----------------|----------------|---------|
| Endrin aldehyde               | <0.0640   |           | 0.0640   | 0.0290 | ug/L |   | 07/18/23 08:23 | 07/18/23 16:04 | 1       |
| Surrogate                     | %Recovery | Qualifier | Limits   |        |      |   | Prepared       | Analyzed       | Dil Fac |
| DCB Decachlorobiphenyl (Surr) | 68        |           | 10 - 136 |        |      |   | 07/18/23 08:23 | 07/18/23 16:04 | 1       |
| Tetrachloro-m-xylene          | 69        |           | 10 - 130 |        |      |   | 07/18/23 08:23 | 07/18/23 16:04 | 1       |

## Method: SW846 6020B - Metals (ICP/MS)

| Analyte   | Result   | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------|----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Antimony  | <0.00200 |           | 0.00200  | 0.00100  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:48 | 1       |
| Arsenic   | 0.0102   |           | 0.00200  | 0.000530 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:48 | 1       |
| Barium    | 0.176    |           | 0.00200  | 0.000640 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:48 | 1       |
| Beryllium | <0.00100 |           | 0.00100  | 0.000330 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:48 | 1       |
| Cadmium   | 0.000166 | J         | 0.000200 | 0.000100 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:48 | 1       |
| Cobalt    | 0.0278   |           | 0.000500 | 0.000170 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:48 | 1       |
| Copper    | 0.00210  | J         | 0.00500  | 0.00180  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:48 | 1       |
| Nickel    | 0.0292   |           | 0.00500  | 0.00190  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:48 | 1       |

## General Chemistry

| Analyte                                 | Result | Qualifier | RL   | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------------|--------|-----------|------|------|------|---|----------|----------------|---------|
| Total Suspended Solids (USGS I-3765-85) | 283    |           | 7.50 | 2.55 | mg/L |   |          | 07/19/23 20:36 | 1       |

# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-7

Lab Sample ID: 310-260435-3

Date Collected: 07/13/23 14:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS

| Analyte                     | Result | Qualifier | RL    | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|-------|-------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane   | <1.00  |           | 1.00  | 0.380 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,1,1-Trichloroethane       | <1.00  |           | 1.00  | 0.190 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,1,2,2-Tetrachloroethane   | <1.00  |           | 1.00  | 0.470 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,1,2-Trichloroethane       | <1.00  |           | 1.00  | 0.450 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,1-Dichloroethane          | 0.361  | J         | 1.00  | 0.220 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,1-Dichloroethene          | <2.00  |           | 2.00  | 0.560 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,1-Dichloropropene         | <1.00  |           | 1.00  | 0.430 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,2,3-Trichloropropane      | <1.00  |           | 1.00  | 0.590 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,2,4-Trichlorobenzene      | <5.00  |           | 5.00  | 0.750 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,2-Dibromo-3-chloropropane | <5.00  |           | 5.00  | 1.20  | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,2-Dibromoethane (EDB)     | <1.00  |           | 1.00  | 0.340 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,2-Dichlorobenzene         | <1.00  |           | 1.00  | 0.370 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,2-Dichloroethane          | <1.00  |           | 1.00  | 0.390 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,2-Dichloropropane         | <1.00  |           | 1.00  | 0.270 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,3-Dichlorobenzene         | <1.00  |           | 1.00  | 0.300 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,3-Dichloropropane         | <1.00  |           | 1.00  | 0.400 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 1,4-Dichlorobenzene         | <1.00  |           | 1.00  | 0.230 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 2,2-Dichloropropane         | <4.00  |           | 4.00  | 0.690 | ug/L |   |          | 07/17/23 15:13 | 1       |
| 2-Butanone (MEK)            | <10.0  |           | 10.0  | 2.10  | ug/L |   |          | 07/17/23 15:13 | 1       |
| 2-Hexanone                  | <10.0  |           | 10.0  | 2.00  | ug/L |   |          | 07/17/23 15:13 | 1       |
| 4-Methyl-2-pentanone (MIBK) | <10.0  |           | 10.0  | 2.10  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Acetone                     | <10.0  |           | 10.0  | 3.10  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Acrolein                    | <10.0  |           | 10.0  | 3.60  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Acrylonitrile               | <5.00  |           | 5.00  | 2.20  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Allyl chloride              | <2.00  |           | 2.00  | 0.700 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Benzene                     | <0.500 |           | 0.500 | 0.220 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Bromochloromethane          | <5.00  |           | 5.00  | 0.540 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Bromodichloromethane        | <1.00  |           | 1.00  | 0.390 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Bromoform                   | <5.00  |           | 5.00  | 0.780 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Bromomethane                | <4.00  |           | 4.00  | 1.10  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Carbon disulfide            | <1.00  |           | 1.00  | 0.450 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Carbon tetrachloride        | <2.00  |           | 2.00  | 0.650 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Chlorobenzene               | <1.00  |           | 1.00  | 0.400 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Chlorodibromomethane        | <5.00  |           | 5.00  | 0.750 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Chloroethane                | <4.00  |           | 4.00  | 0.790 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Chloroform                  | <3.00  |           | 3.00  | 1.30  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Chloromethane               | <3.00  |           | 3.00  | 0.610 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Chloroprene                 | <1.00  |           | 1.00  | 0.230 | ug/L |   |          | 07/17/23 15:13 | 1       |
| cis-1,2-Dichloroethene      | <1.00  |           | 1.00  | 0.210 | ug/L |   |          | 07/17/23 15:13 | 1       |
| cis-1,3-Dichloropropene     | <5.00  |           | 5.00  | 0.250 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Dibromomethane              | <1.00  |           | 1.00  | 0.330 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Dichlorodifluoromethane     | <3.00  |           | 3.00  | 0.250 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Ethyl methacrylate          | <2.00  |           | 2.00  | 0.680 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Ethylbenzene                | <1.00  |           | 1.00  | 0.310 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Iodomethane                 | <10.0  |           | 10.0  | 7.00  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Methacrylonitrile           | <10.0  |           | 10.0  | 3.30  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Methyl methacrylate         | <2.00  |           | 2.00  | 0.760 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Methylene chloride          | <5.00  |           | 5.00  | 1.70  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Naphthalene                 | <5.00  |           | 5.00  | 3.00  | ug/L |   |          | 07/17/23 15:13 | 1       |

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-7

Lab Sample ID: 310-260435-3

Date Collected: 07/13/23 14:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Propionitrile               | <10.0  |           | 10.0 | 3.40  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Styrene                     | <1.00  |           | 1.00 | 0.370 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Tetrachloroethene           | <1.00  |           | 1.00 | 0.480 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Toluene                     | <1.00  |           | 1.00 | 0.430 | ug/L |   |          | 07/17/23 15:13 | 1       |
| trans-1,2-Dichloroethene    | <1.00  |           | 1.00 | 0.270 | ug/L |   |          | 07/17/23 15:13 | 1       |
| trans-1,3-Dichloropropene   | <5.00  |           | 5.00 | 0.560 | ug/L |   |          | 07/17/23 15:13 | 1       |
| trans-1,4-Dichloro-2-butene | <10.0  |           | 10.0 | 1.10  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Trichloroethene             | <1.00  |           | 1.00 | 0.430 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Trichlorofluoromethane      | <4.00  |           | 4.00 | 0.380 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Vinyl acetate               | <10.0  |           | 10.0 | 2.50  | ug/L |   |          | 07/17/23 15:13 | 1       |
| Vinyl chloride              | 0.187  | J         | 1.00 | 0.180 | ug/L |   |          | 07/17/23 15:13 | 1       |
| Xylenes, Total              | <3.00  |           | 3.00 | 0.400 | ug/L |   |          | 07/17/23 15:13 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr) | 101       |           | 80 - 128 |          | 07/17/23 15:13 | 1       |
| Toluene-d8 (Surr)           | 98        |           | 80 - 120 |          | 07/17/23 15:13 | 1       |
| 4-Bromofluorobenzene (Surr) | 101       |           | 80 - 120 |          | 07/17/23 15:13 | 1       |

## Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

| Analyte                    | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| 1,2,4,5-Tetrachlorobenzene | <10.0  |           | 10.0 | 0.540 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 1,3,5-Trinitrobenzene      | <10.0  |           | 10.0 | 2.30  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| 1,3-Dinitrobenzene         | <10.0  |           | 10.0 | 3.20  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 1,4-Naphthoquinone         | <10.0  |           | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| 1,4-Phenylenediamine       | <10.0  | *- *1     | 10.0 | 1.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| 1-Naphthylamine            | <10.0  |           | 10.0 | 2.50  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| 2,3,4,6-Tetrachlorophenol  | <10.0  |           | 10.0 | 5.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2,4,5-Trichlorophenol      | <10.0  |           | 10.0 | 5.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2,4,6-Trichlorophenol      | <10.0  |           | 10.0 | 5.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2,4-Dichlorophenol         | <10.0  |           | 10.0 | 0.850 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2,4-Dimethylphenol         | <10.0  |           | 10.0 | 0.580 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2,4-Dinitrophenol          | <20.0  |           | 20.0 | 13.0  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2,4-Dinitrotoluene         | <10.0  |           | 10.0 | 6.40  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2,6-Dichlorophenol         | <10.0  |           | 10.0 | 0.690 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2,6-Dinitrotoluene         | <10.0  |           | 10.0 | 0.520 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2-Acetylaminofluorene      | <10.0  |           | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| 2-Chloronaphthalene        | <10.0  |           | 10.0 | 0.640 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2-Chlorophenol             | <10.0  |           | 10.0 | 0.540 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2-Methylnaphthalene        | <10.0  |           | 10.0 | 0.590 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2-Methylphenol             | <10.0  |           | 10.0 | 0.650 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2-Naphthylamine            | <10.0  |           | 10.0 | 2.10  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| 2-Nitroaniline             | <10.0  |           | 10.0 | 5.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2-Nitrophenol              | <10.0  |           | 10.0 | 6.80  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 3,3'-Dichlorobenzidine     | <10.0  |           | 10.0 | 1.40  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 3,3'-Dimethylbenzidine     | <10.0  | *1        | 10.0 | 1.50  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| 3-Methylcholanthrene       | <10.0  |           | 10.0 | 0.320 | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| 3-Nitroaniline             | <10.0  |           | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 4,6-Dinitro-2-methylphenol | <10.0  |           | 10.0 | 6.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 4-Aminobiphenyl            | <10.0  |           | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| 4-Bromophenyl phenyl ether | <10.0  |           | 10.0 | 0.700 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

Client Sample ID: MW-89-7

Lab Sample ID: 310-260435-3

Date Collected: 07/13/23 14:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                                | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| 4-Chloro-3-methylphenol                | <10.0  |           | 10.0 | 0.840 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 4-Chloroaniline                        | <10.0  |           | 10.0 | 0.620 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 4-Chlorophenyl phenyl ether            | <10.0  |           | 10.0 | 0.690 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 4-Methylphenol (and/or 3-Methylphenol) | <10.0  |           | 10.0 | 0.700 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 4-Nitroaniline                         | <10.0  |           | 10.0 | 1.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 4-Nitrophenol                          | <10.0  |           | 10.0 | 7.60  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 5-Nitro-o-toluidine                    | <10.0  |           | 10.0 | 2.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| 7,12-Dimethylbenz(a)anthracene         | <10.0  |           | 10.0 | 1.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Acenaphthene                           | <10.0  |           | 10.0 | 0.640 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Acenaphthylene                         | <10.0  |           | 10.0 | 0.720 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Acetophenone                           | <10.0  |           | 10.0 | 0.690 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Anthracene                             | <10.0  |           | 10.0 | 0.870 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Benzo[a]anthracene                     | <10.0  |           | 10.0 | 0.850 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Benzo[a]pyrene                         | <10.0  |           | 10.0 | 8.10  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Benzo[b]fluoranthene                   | <10.0  |           | 10.0 | 4.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Benzo[g,h,i]perylene                   | <10.0  |           | 10.0 | 6.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Benzo[k]fluoranthene                   | <10.0  |           | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Benzyl alcohol                         | <10.0  |           | 10.0 | 1.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Bis(2-chloroethoxy)methane             | <10.0  |           | 10.0 | 0.760 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Bis(2-chloroethyl)ether                | <10.0  |           | 10.0 | 0.820 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| bis (2-chloroisopropyl) ether          | <10.0  |           | 10.0 | 0.540 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Bis(2-ethylhexyl) phthalate            | <10.0  |           | 10.0 | 5.50  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Butyl benzyl phthalate                 | <10.0  |           | 10.0 | 5.40  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Chlorobenzilate                        | <10.0  |           | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Chrysene                               | <10.0  |           | 10.0 | 0.870 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Diallate                               | <10.0  |           | 10.0 | 4.00  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Dibenz(a,h)anthracene                  | <10.0  |           | 10.0 | 3.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Dibenzofuran                           | <10.0  |           | 10.0 | 0.740 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Diethyl phthalate                      | <10.0  |           | 10.0 | 1.70  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Dimethoate                             | <10.0  |           | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Dimethyl phthalate                     | <10.0  |           | 10.0 | 1.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Di-n-butyl phthalate                   | <10.0  |           | 10.0 | 5.60  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Di-n-octyl phthalate                   | <20.0  |           | 20.0 | 7.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Dinoseb                                | <10.0  |           | 10.0 | 2.40  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Diphenylamine                          | <10.0  |           | 10.0 | 6.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Disulfoton                             | <10.0  |           | 10.0 | 2.40  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Ethyl methanesulfonate                 | <10.0  |           | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Ethyl parathion                        | <10.0  |           | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Famphur                                | <10.0  | +         | 10.0 | 3.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Fluoranthene                           | <10.0  |           | 10.0 | 1.70  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Fluorene                               | <10.0  |           | 10.0 | 0.790 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Hexachlorobenzene                      | <10.0  |           | 10.0 | 0.700 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Hexachlorobutadiene                    | <10.0  |           | 10.0 | 0.860 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Hexachlorocyclopentadiene              | <10.0  |           | 10.0 | 5.10  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Hexachloroethane                       | <10.0  |           | 10.0 | 0.970 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Hexachloropropene                      | <10.0  |           | 10.0 | 2.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Indeno(1,2,3-cd)pyrene                 | <10.0  |           | 10.0 | 4.20  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Isodrin                                | <10.0  |           | 10.0 | 4.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Isophorone                             | <10.0  |           | 10.0 | 0.930 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-7

Lab Sample ID: 310-260435-3

Date Collected: 07/13/23 14:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                          | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Isosafrole                       | <10.0  |           | 10.0 | 2.30  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Kepone                           | <10.0  |           | 10.0 | 1.00  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Methapyrilene                    | <10.0  | *1        | 10.0 | 0.760 | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Methyl methanesulfonate          | <10.0  |           | 10.0 | 3.30  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Methyl parathion                 | <10.0  |           | 10.0 | 2.30  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Nitrobenzene                     | <10.0  |           | 10.0 | 0.800 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| N-Nitrosodiethylamine            | <10.0  |           | 10.0 | 3.40  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| N-Nitrosodimethylamine           | <10.0  |           | 10.0 | 0.720 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| N-Nitrosodi-n-butylamine         | <10.0  |           | 10.0 | 3.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| N-Nitrosodi-n-propylamine        | <10.0  |           | 10.0 | 0.920 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| N-Nitrosodiphenylamine           | <10.0  |           | 10.0 | 0.750 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| N-Nitrosomethylethylamine        | <10.0  |           | 10.0 | 4.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| N-Nitrosopiperidine              | <10.0  |           | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| N-Nitrosopyrrolidine             | <10.0  |           | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| o,o',o"-Triethylphosphorothioate | <10.0  |           | 10.0 | 3.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| o-Toluidine                      | <10.0  |           | 10.0 | 2.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| p-Dimethylamino azobenzene       | <10.0  |           | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Pentachlorobenzene               | <10.0  |           | 10.0 | 2.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Pentachloronitrobenzene          | <10.0  |           | 10.0 | 5.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Pentachlorophenol                | <10.0  |           | 10.0 | 9.60  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Phenacetin                       | <10.0  |           | 10.0 | 1.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Phenanthrene                     | <10.0  |           | 10.0 | 0.790 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Phenol                           | <10.0  |           | 10.0 | 1.10  | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Phorate                          | <10.0  |           | 10.0 | 3.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Pronamide                        | <10.0  |           | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Pyrene                           | <10.0  |           | 10.0 | 0.790 | ug/L |   | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Safrole                          | <10.0  |           | 10.0 | 2.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |
| Thionazin                        | <10.0  |           | 10.0 | 3.50  | ug/L |   | 07/18/23 06:45 | 07/19/23 14:39 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol (Surr)       | 71        |           | 25 - 110 | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Phenol-d5 (Surr)            | 61        |           | 21 - 110 | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Nitrobenzene-d5 (Surr)      | 105       |           | 45 - 129 | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2-Fluorobiphenyl (Surr)     | 75        |           | 39 - 118 | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| 2,4,6-Tribromophenol (Surr) | 83        |           | 27 - 136 | 07/18/23 06:45 | 07/18/23 21:53 | 1       |
| Terphenyl-d14 (Surr)        | 97        |           | 12 - 144 | 07/18/23 06:45 | 07/18/23 21:53 | 1       |

## Method: SW846 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

| Analyte      | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Acetonitrile | <10.0  |           | 10.0 | 0.570 | mg/L |   |          | 07/26/23 15:13 | 1       |
| Isobutanol   | <10.0  |           | 10.0 | 0.550 | mg/L |   |          | 07/26/23 15:13 | 1       |

## Method: SW846 8081B - Organochlorine Pesticides (GC)

| Analyte   | Result  | Qualifier | RL     | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------|---------|-----------|--------|--------|------|---|----------------|----------------|---------|
| 4,4'-DDD  | <0.0640 |           | 0.0640 | 0.0270 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| 4,4'-DDE  | <0.0640 |           | 0.0640 | 0.0270 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| 4,4'-DDT  | <0.0640 |           | 0.0640 | 0.0420 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Aldrin    | <0.0640 |           | 0.0640 | 0.0320 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| alpha-BHC | <0.0640 |           | 0.0640 | 0.0290 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| beta-BHC  | <0.0640 |           | 0.0640 | 0.0370 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |

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# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-7

Lab Sample ID: 310-260435-3

Date Collected: 07/13/23 14:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

| Analyte               | Result  | Qualifier | RL     | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------|---------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chlordane (technical) | <2.00   |           | 2.00   | 0.810  | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| delta-BHC             | <0.0640 |           | 0.0640 | 0.0270 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Dieldrin              | <0.0640 |           | 0.0640 | 0.0260 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Endosulfan I          | <0.0640 |           | 0.0640 | 0.0330 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Endosulfan II         | <0.0640 |           | 0.0640 | 0.0290 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Endosulfan sulfate    | <0.0640 |           | 0.0640 | 0.0300 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Endrin                | <0.0640 |           | 0.0640 | 0.0260 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Endrin aldehyde       | <0.0640 |           | 0.0640 | 0.0290 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| gamma-BHC (Lindane)   | <0.0640 |           | 0.0640 | 0.0360 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Heptachlor            | <0.0640 |           | 0.0640 | 0.0330 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Heptachlor epoxide    | <0.0640 |           | 0.0640 | 0.0290 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Methoxychlor          | <0.0640 |           | 0.0640 | 0.0410 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Toxaphene             | <2.00   |           | 2.00   | 0.690  | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |

| Surrogate                     | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl (Surr) | 65        |           | 10 - 136 | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Tetrachloro-m-xylene          | 64        |           | 10 - 130 | 07/18/23 08:23 | 07/18/23 17:17 | 1       |

## Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte  | Result | Qualifier | RL    | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| PCB-1016 | <0.800 |           | 0.800 | 0.170 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| PCB-1221 | <0.800 |           | 0.800 | 0.170 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| PCB-1232 | <0.800 |           | 0.800 | 0.170 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| PCB-1242 | <0.800 |           | 0.800 | 0.170 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| PCB-1248 | <0.800 |           | 0.800 | 0.110 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| PCB-1254 | <0.800 |           | 0.800 | 0.110 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| PCB-1260 | <0.800 |           | 0.800 | 0.110 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:17 | 1       |

| Surrogate                     | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl (Surr) | 65        |           | 10 - 136 | 07/18/23 08:23 | 07/18/23 17:17 | 1       |
| Tetrachloro-m-xylene (Surr)   | 64        |           | 10 - 130 | 07/18/23 08:23 | 07/18/23 17:17 | 1       |

## Method: SW846 8151A - Herbicides (GC)

| Analyte           | Result | Qualifier | RL    | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|--------|-----------|-------|--------|------|---|----------------|----------------|---------|
| 2,4-D             | <0.980 |           | 0.980 | 0.301  | ug/L |   | 07/19/23 16:28 | 07/20/23 17:04 | 1       |
| Silvex (2,4,5-TP) | <0.980 |           | 0.980 | 0.0817 | ug/L |   | 07/19/23 16:28 | 07/20/23 17:04 | 1       |
| 2,4,5-T           | <0.980 |           | 0.980 | 0.141  | ug/L |   | 07/19/23 16:28 | 07/20/23 17:04 | 1       |

| Surrogate | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------------|----------------|---------|
| DCAA      | 70        |           | 25 - 130 | 07/19/23 16:28 | 07/20/23 17:04 | 1       |

## Method: SW846 6020B - Metals (ICP/MS)

| Analyte   | Result    | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Antimony  | <0.00200  |           | 0.00200  | 0.00100  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Arsenic   | 0.00490   |           | 0.00200  | 0.000530 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Barium    | 0.347     |           | 0.00200  | 0.000640 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Beryllium | <0.00100  |           | 0.00100  | 0.000330 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Cadmium   | <0.000200 |           | 0.000200 | 0.000100 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Chromium  | <0.00500  |           | 0.00500  | 0.00110  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Cobalt    | 0.00460   |           | 0.000500 | 0.000170 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Copper    | <0.00500  |           | 0.00500  | 0.00180  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |

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# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-7

Lab Sample ID: 310-260435-3

Date Collected: 07/13/23 14:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 6020B - Metals (ICP/MS) (Continued)

| Analyte  | Result    | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------|-----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Lead     | <0.000500 |           | 0.000500 | 0.000240 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Nickel   | 0.0105    |           | 0.00500  | 0.00190  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Selenium | <0.00500  |           | 0.00500  | 0.00140  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Silver   | <0.00100  | *+        | 0.00100  | 0.000500 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Thallium | <0.00100  |           | 0.00100  | 0.000260 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Vanadium | <0.00500  |           | 0.00500  | 0.00110  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Zinc     | <0.0200   |           | 0.0200   | 0.00640  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |
| Tin      | <0.00500  | *+        | 0.00500  | 0.00230  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:50 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result    | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|-----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Mercury | <0.000200 |           | 0.000200 | 0.000140 | mg/L |   | 07/18/23 11:02 | 07/19/23 12:42 | 1       |

## General Chemistry

| Analyte                                 | Result  | Qualifier | RL     | MDL     | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------------|---------|-----------|--------|---------|------|---|----------------|----------------|---------|
| Cyanide, Total (SW846 9012B)            | <0.0100 |           | 0.0100 | 0.00430 | mg/L |   | 07/19/23 09:11 | 07/20/23 20:24 | 1       |
| Sulfide (SW846 9034)                    | <1.00   |           | 1.00   | 0.231   | mg/L |   | 07/20/23 18:30 | 07/24/23 21:41 | 1       |
| Total Suspended Solids (USGS I-3765-85) | 39.0    |           | 5.00   | 1.70    | mg/L |   |                | 07/19/23 20:36 | 1       |

# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-9R

Lab Sample ID: 310-260435-4

Date Collected: 07/13/23 15:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS

| Analyte                     | Result  | Qualifier | RL    | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|---------|-----------|-------|-------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane   | <1.00   |           | 1.00  | 0.380 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,1,1-Trichloroethane       | <1.00   |           | 1.00  | 0.190 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,1,2,2-Tetrachloroethane   | <1.00   |           | 1.00  | 0.470 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,1,2-Trichloroethane       | <1.00   |           | 1.00  | 0.450 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,1-Dichloroethane          | <1.00   |           | 1.00  | 0.220 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,1-Dichloroethene          | <2.00   |           | 2.00  | 0.560 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,1-Dichloropropene         | <1.00   |           | 1.00  | 0.430 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,2,3-Trichloropropane      | <1.00   |           | 1.00  | 0.590 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,2,4-Trichlorobenzene      | <5.00   |           | 5.00  | 0.750 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,2-Dibromo-3-chloropropane | <5.00   |           | 5.00  | 1.20  | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,2-Dibromoethane (EDB)     | <1.00   |           | 1.00  | 0.340 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,2-Dichlorobenzene         | <1.00   |           | 1.00  | 0.370 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,2-Dichloroethane          | <1.00   |           | 1.00  | 0.390 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,2-Dichloropropane         | <1.00   |           | 1.00  | 0.270 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,3-Dichlorobenzene         | <1.00   |           | 1.00  | 0.300 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,3-Dichloropropane         | <1.00   |           | 1.00  | 0.400 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 1,4-Dichlorobenzene         | <1.00   |           | 1.00  | 0.230 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 2,2-Dichloropropane         | <4.00   |           | 4.00  | 0.690 | ug/L |   |          | 07/17/23 15:35 | 1       |
| 2-Butanone (MEK)            | <10.0   |           | 10.0  | 2.10  | ug/L |   |          | 07/17/23 15:35 | 1       |
| 2-Hexanone                  | <10.0   |           | 10.0  | 2.00  | ug/L |   |          | 07/17/23 15:35 | 1       |
| 4-Methyl-2-pentanone (MIBK) | <10.0   |           | 10.0  | 2.10  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Acetone                     | <10.0   |           | 10.0  | 3.10  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Acrolein                    | <10.0   |           | 10.0  | 3.60  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Acrylonitrile               | <5.00   |           | 5.00  | 2.20  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Allyl chloride              | <2.00   |           | 2.00  | 0.700 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Benzene                     | <0.500  |           | 0.500 | 0.220 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Bromochloromethane          | <5.00   |           | 5.00  | 0.540 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Bromodichloromethane        | <1.00   |           | 1.00  | 0.390 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Bromoform                   | <5.00   |           | 5.00  | 0.780 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Bromomethane                | <4.00   |           | 4.00  | 1.10  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Carbon disulfide            | <1.00   |           | 1.00  | 0.450 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Carbon tetrachloride        | <2.00   |           | 2.00  | 0.650 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Chlorobenzene               | <1.00   |           | 1.00  | 0.400 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Chlorodibromomethane        | <5.00   |           | 5.00  | 0.750 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Chloroethane                | <4.00   |           | 4.00  | 0.790 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Chloroform                  | <3.00   |           | 3.00  | 1.30  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Chloromethane               | <3.00   |           | 3.00  | 0.610 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Chloroprene                 | <1.00   |           | 1.00  | 0.230 | ug/L |   |          | 07/17/23 15:35 | 1       |
| cis-1,2-Dichloroethene      | 0.579 J |           | 1.00  | 0.210 | ug/L |   |          | 07/17/23 15:35 | 1       |
| cis-1,3-Dichloropropene     | <5.00   |           | 5.00  | 0.250 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Dibromomethane              | <1.00   |           | 1.00  | 0.330 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Dichlorodifluoromethane     | <3.00   |           | 3.00  | 0.250 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Ethyl methacrylate          | <2.00   |           | 2.00  | 0.680 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Ethylbenzene                | <1.00   |           | 1.00  | 0.310 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Iodomethane                 | <10.0   |           | 10.0  | 7.00  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Methacrylonitrile           | <10.0   |           | 10.0  | 3.30  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Methyl methacrylate         | <2.00   |           | 2.00  | 0.760 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Methylene chloride          | <5.00   |           | 5.00  | 1.70  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Naphthalene                 | <5.00   |           | 5.00  | 3.00  | ug/L |   |          | 07/17/23 15:35 | 1       |

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# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-9R

Lab Sample ID: 310-260435-4

Date Collected: 07/13/23 15:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Propionitrile               | <10.0  |           | 10.0 | 3.40  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Styrene                     | <1.00  |           | 1.00 | 0.370 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Tetrachloroethene           | <1.00  |           | 1.00 | 0.480 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Toluene                     | <1.00  |           | 1.00 | 0.430 | ug/L |   |          | 07/17/23 15:35 | 1       |
| trans-1,2-Dichloroethene    | <1.00  |           | 1.00 | 0.270 | ug/L |   |          | 07/17/23 15:35 | 1       |
| trans-1,3-Dichloropropene   | <5.00  |           | 5.00 | 0.560 | ug/L |   |          | 07/17/23 15:35 | 1       |
| trans-1,4-Dichloro-2-butene | <10.0  |           | 10.0 | 1.10  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Trichloroethene             | <1.00  |           | 1.00 | 0.430 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Trichlorofluoromethane      | <4.00  |           | 4.00 | 0.380 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Vinyl acetate               | <10.0  |           | 10.0 | 2.50  | ug/L |   |          | 07/17/23 15:35 | 1       |
| Vinyl chloride              | <1.00  |           | 1.00 | 0.180 | ug/L |   |          | 07/17/23 15:35 | 1       |
| Xylenes, Total              | <3.00  |           | 3.00 | 0.400 | ug/L |   |          | 07/17/23 15:35 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr) | 105       |           | 80 - 128 |          | 07/17/23 15:35 | 1       |
| Toluene-d8 (Surr)           | 96        |           | 80 - 120 |          | 07/17/23 15:35 | 1       |
| 4-Bromofluorobenzene (Surr) | 100       |           | 80 - 120 |          | 07/17/23 15:35 | 1       |

## Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS)

| Analyte                    | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| 1,2,4,5-Tetrachlorobenzene | <10.0  |           | 10.0 | 0.540 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 1,3,5-Trinitrobenzene      | <10.0  |           | 10.0 | 2.30  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| 1,3-Dinitrobenzene         | <10.0  |           | 10.0 | 3.20  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 1,4-Naphthoquinone         | <10.0  |           | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| 1,4-Phenylenediamine       | <10.0  | *- *1     | 10.0 | 1.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| 1-Naphthylamine            | <10.0  |           | 10.0 | 2.50  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| 2,3,4,6-Tetrachlorophenol  | <10.0  |           | 10.0 | 5.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2,4,5-Trichlorophenol      | <10.0  |           | 10.0 | 5.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2,4,6-Trichlorophenol      | <10.0  |           | 10.0 | 5.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2,4-Dichlorophenol         | <10.0  |           | 10.0 | 0.850 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2,4-Dimethylphenol         | <10.0  |           | 10.0 | 0.580 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2,4-Dinitrophenol          | <20.0  |           | 20.0 | 13.0  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2,4-Dinitrotoluene         | <10.0  |           | 10.0 | 6.40  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2,6-Dichlorophenol         | <10.0  |           | 10.0 | 0.690 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2,6-Dinitrotoluene         | <10.0  |           | 10.0 | 0.520 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2-Acetylaminofluorene      | <10.0  |           | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| 2-Chloronaphthalene        | <10.0  |           | 10.0 | 0.640 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2-Chlorophenol             | <10.0  |           | 10.0 | 0.540 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2-Methylnaphthalene        | <10.0  |           | 10.0 | 0.590 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2-Methylphenol             | <10.0  |           | 10.0 | 0.650 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2-Naphthylamine            | <10.0  |           | 10.0 | 2.10  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| 2-Nitroaniline             | <10.0  |           | 10.0 | 5.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2-Nitrophenol              | <10.0  |           | 10.0 | 6.80  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 3,3'-Dichlorobenzidine     | <10.0  |           | 10.0 | 1.40  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 3,3'-Dimethylbenzidine     | <10.0  | *1        | 10.0 | 1.50  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| 3-Methylcholanthrene       | <10.0  |           | 10.0 | 0.320 | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| 3-Nitroaniline             | <10.0  |           | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 4,6-Dinitro-2-methylphenol | <10.0  |           | 10.0 | 6.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 4-Aminobiphenyl            | <10.0  |           | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| 4-Bromophenyl phenyl ether | <10.0  |           | 10.0 | 0.700 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |

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# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-9R

Lab Sample ID: 310-260435-4

Date Collected: 07/13/23 15:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                                | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| 4-Chloro-3-methylphenol                | <10.0  |           | 10.0 | 0.840 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 4-Chloroaniline                        | <10.0  |           | 10.0 | 0.620 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 4-Chlorophenyl phenyl ether            | <10.0  |           | 10.0 | 0.690 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 4-Methylphenol (and/or 3-Methylphenol) | <10.0  |           | 10.0 | 0.700 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 4-Nitroaniline                         | <10.0  |           | 10.0 | 1.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 4-Nitrophenol                          | <10.0  |           | 10.0 | 7.60  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 5-Nitro-o-toluidine                    | <10.0  |           | 10.0 | 2.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| 7,12-Dimethylbenz(a)anthracene         | <10.0  |           | 10.0 | 1.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Acenaphthene                           | <10.0  |           | 10.0 | 0.640 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Acenaphthylene                         | <10.0  |           | 10.0 | 0.720 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Acetophenone                           | <10.0  |           | 10.0 | 0.690 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Anthracene                             | <10.0  |           | 10.0 | 0.870 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Benzo[a]anthracene                     | <10.0  |           | 10.0 | 0.850 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Benzo[a]pyrene                         | <10.0  |           | 10.0 | 8.10  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Benzo[b]fluoranthene                   | <10.0  |           | 10.0 | 4.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Benzo[g,h,i]perylene                   | <10.0  |           | 10.0 | 6.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Benzo[k]fluoranthene                   | <10.0  |           | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Benzyl alcohol                         | <10.0  |           | 10.0 | 1.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Bis(2-chloroethoxy)methane             | <10.0  |           | 10.0 | 0.760 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Bis(2-chloroethyl)ether                | <10.0  |           | 10.0 | 0.820 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| bis (2-chloroisopropyl) ether          | <10.0  |           | 10.0 | 0.540 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Bis(2-ethylhexyl) phthalate            | <10.0  |           | 10.0 | 5.50  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Butyl benzyl phthalate                 | <10.0  |           | 10.0 | 5.40  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Chlorobenzilate                        | <10.0  |           | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Chrysene                               | <10.0  |           | 10.0 | 0.870 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Diallate                               | <10.0  |           | 10.0 | 4.00  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Dibenz(a,h)anthracene                  | <10.0  |           | 10.0 | 3.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Dibenzofuran                           | <10.0  |           | 10.0 | 0.740 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Diethyl phthalate                      | <10.0  |           | 10.0 | 1.70  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Dimethoate                             | <10.0  |           | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Dimethyl phthalate                     | <10.0  |           | 10.0 | 1.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Di-n-butyl phthalate                   | <10.0  |           | 10.0 | 5.60  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Di-n-octyl phthalate                   | <20.0  |           | 20.0 | 7.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Dinoseb                                | <10.0  |           | 10.0 | 2.40  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Diphenylamine                          | <10.0  |           | 10.0 | 6.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Disulfoton                             | <10.0  |           | 10.0 | 2.40  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Ethyl methanesulfonate                 | <10.0  |           | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Ethyl parathion                        | <10.0  |           | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Famphur                                | <10.0  | +         | 10.0 | 3.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Fluoranthene                           | <10.0  |           | 10.0 | 1.70  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Fluorene                               | <10.0  |           | 10.0 | 0.790 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Hexachlorobenzene                      | <10.0  |           | 10.0 | 0.700 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Hexachlorobutadiene                    | <10.0  |           | 10.0 | 0.860 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Hexachlorocyclopentadiene              | <10.0  |           | 10.0 | 5.10  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Hexachloroethane                       | <10.0  |           | 10.0 | 0.970 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Hexachloropropene                      | <10.0  |           | 10.0 | 2.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Indeno(1,2,3-cd)pyrene                 | <10.0  |           | 10.0 | 4.20  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Isodrin                                | <10.0  |           | 10.0 | 4.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Isophorone                             | <10.0  |           | 10.0 | 0.930 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |

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# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-9R

Lab Sample ID: 310-260435-4

Date Collected: 07/13/23 15:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

| Analyte                          | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Isosafrole                       | <10.0  |           | 10.0 | 2.30  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Kepone                           | <10.0  |           | 10.0 | 1.00  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Methapyrilene                    | <10.0  | *1        | 10.0 | 0.760 | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Methyl methanesulfonate          | <10.0  |           | 10.0 | 3.30  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Methyl parathion                 | <10.0  |           | 10.0 | 2.30  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Nitrobenzene                     | <10.0  |           | 10.0 | 0.800 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| N-Nitrosodiethylamine            | <10.0  |           | 10.0 | 3.40  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| N-Nitrosodimethylamine           | <10.0  |           | 10.0 | 0.720 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| N-Nitrosodi-n-butylamine         | <10.0  |           | 10.0 | 3.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| N-Nitrosodi-n-propylamine        | <10.0  |           | 10.0 | 0.920 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| N-Nitrosodiphenylamine           | <10.0  |           | 10.0 | 0.750 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| N-Nitrosomethylethylamine        | <10.0  |           | 10.0 | 4.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| N-Nitrosopiperidine              | <10.0  |           | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| N-Nitrosopyrrolidine             | <10.0  |           | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| o,o',o"-Triethylphosphorothioate | <10.0  |           | 10.0 | 3.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| o-Toluidine                      | <10.0  |           | 10.0 | 2.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| p-Dimethylamino azobenzene       | <10.0  |           | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Pentachlorobenzene               | <10.0  |           | 10.0 | 2.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Pentachloronitrobenzene          | <10.0  |           | 10.0 | 5.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Pentachlorophenol                | <10.0  |           | 10.0 | 9.60  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Phenacetin                       | <10.0  |           | 10.0 | 1.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Phenanthrene                     | <10.0  |           | 10.0 | 0.790 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Phenol                           | <10.0  |           | 10.0 | 1.10  | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Phorate                          | <10.0  |           | 10.0 | 3.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Pronamide                        | <10.0  |           | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Pyrene                           | <10.0  |           | 10.0 | 0.790 | ug/L |   | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Safrole                          | <10.0  |           | 10.0 | 2.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |
| Thionazin                        | <10.0  |           | 10.0 | 3.50  | ug/L |   | 07/18/23 06:45 | 07/19/23 15:04 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------------|----------------|---------|
| 2-Fluorophenol (Surr)       | 64        |           | 25 - 110 | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Phenol-d5 (Surr)            | 56        |           | 21 - 110 | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Nitrobenzene-d5 (Surr)      | 97        |           | 45 - 129 | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2-Fluorobiphenyl (Surr)     | 72        |           | 39 - 118 | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| 2,4,6-Tribromophenol (Surr) | 73        |           | 27 - 136 | 07/18/23 06:45 | 07/18/23 22:20 | 1       |
| Terphenyl-d14 (Surr)        | 93        |           | 12 - 144 | 07/18/23 06:45 | 07/18/23 22:20 | 1       |

## Method: SW846 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

| Analyte      | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Acetonitrile | <10.0  |           | 10.0 | 0.570 | mg/L |   |          | 07/26/23 15:36 | 1       |
| Isobutanol   | <10.0  |           | 10.0 | 0.550 | mg/L |   |          | 07/26/23 15:36 | 1       |

## Method: SW846 8081B - Organochlorine Pesticides (GC)

| Analyte   | Result  | Qualifier | RL     | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------|---------|-----------|--------|--------|------|---|----------------|----------------|---------|
| 4,4'-DDD  | <0.0627 |           | 0.0627 | 0.0265 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| 4,4'-DDE  | <0.0627 |           | 0.0627 | 0.0265 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| 4,4'-DDT  | <0.0627 |           | 0.0627 | 0.0412 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Aldrin    | <0.0627 |           | 0.0627 | 0.0314 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| alpha-BHC | <0.0627 |           | 0.0627 | 0.0284 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| beta-BHC  | <0.0627 |           | 0.0627 | 0.0363 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

Client Sample ID: MW-89-9R

Lab Sample ID: 310-260435-4

Date Collected: 07/13/23 15:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8081B - Organochlorine Pesticides (GC) (Continued)

| Analyte               | Result  | Qualifier | RL     | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------|---------|-----------|--------|--------|------|---|----------------|----------------|---------|
| Chlordane (technical) | <1.96   |           | 1.96   | 0.794  | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| delta-BHC             | <0.0627 |           | 0.0627 | 0.0265 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Dieldrin              | <0.0627 |           | 0.0627 | 0.0255 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Endosulfan I          | <0.0627 |           | 0.0627 | 0.0324 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Endosulfan II         | <0.0627 |           | 0.0627 | 0.0284 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Endosulfan sulfate    | <0.0627 |           | 0.0627 | 0.0294 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Endrin                | <0.0627 |           | 0.0627 | 0.0255 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Endrin aldehyde       | <0.0627 |           | 0.0627 | 0.0284 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| gamma-BHC (Lindane)   | <0.0627 |           | 0.0627 | 0.0353 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Heptachlor            | <0.0627 |           | 0.0627 | 0.0324 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Heptachlor epoxide    | <0.0627 |           | 0.0627 | 0.0284 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Methoxychlor          | <0.0627 |           | 0.0627 | 0.0402 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Toxaphene             | <1.96   |           | 1.96   | 0.676  | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |

| Surrogate                     | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl (Surr) | 75        |           | 10 - 136 | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Tetrachloro-m-xylene          | 75        |           | 10 - 130 | 07/18/23 08:23 | 07/18/23 17:31 | 1       |

## Method: SW846 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

| Analyte  | Result | Qualifier | RL    | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------|--------|-----------|-------|-------|------|---|----------------|----------------|---------|
| PCB-1016 | <0.784 |           | 0.784 | 0.167 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| PCB-1221 | <0.784 |           | 0.784 | 0.167 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| PCB-1232 | <0.784 |           | 0.784 | 0.167 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| PCB-1242 | <0.784 |           | 0.784 | 0.167 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| PCB-1248 | <0.784 |           | 0.784 | 0.108 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| PCB-1254 | <0.784 |           | 0.784 | 0.108 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| PCB-1260 | <0.784 |           | 0.784 | 0.108 | ug/L |   | 07/18/23 08:23 | 07/18/23 17:31 | 1       |

| Surrogate                     | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl (Surr) | 75        |           | 10 - 136 | 07/18/23 08:23 | 07/18/23 17:31 | 1       |
| Tetrachloro-m-xylene (Surr)   | 75        |           | 10 - 130 | 07/18/23 08:23 | 07/18/23 17:31 | 1       |

## Method: SW846 8151A - Herbicides (GC)

| Analyte           | Result | Qualifier | RL    | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|--------|-----------|-------|--------|------|---|----------------|----------------|---------|
| 2,4-D             | <0.978 |           | 0.978 | 0.300  | ug/L |   | 07/19/23 16:28 | 07/20/23 17:22 | 1       |
| Silvex (2,4,5-TP) | <0.978 |           | 0.978 | 0.0816 | ug/L |   | 07/19/23 16:28 | 07/20/23 17:22 | 1       |
| 2,4,5-T           | <0.978 |           | 0.978 | 0.141  | ug/L |   | 07/19/23 16:28 | 07/20/23 17:22 | 1       |

| Surrogate | %Recovery | Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------------|----------------|---------|
| DCAA      | 68        |           | 25 - 130 | 07/19/23 16:28 | 07/20/23 17:22 | 1       |

## Method: SW846 6020B - Metals (ICP/MS)

| Analyte   | Result    | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Antimony  | <0.00200  |           | 0.00200  | 0.00100  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Arsenic   | 0.00519   |           | 0.00200  | 0.000530 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Barium    | 0.253     |           | 0.00200  | 0.000640 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Beryllium | <0.00100  |           | 0.00100  | 0.000330 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Cadmium   | <0.000200 |           | 0.000200 | 0.000100 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Chromium  | <0.00500  |           | 0.00500  | 0.00110  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Cobalt    | 0.0213    |           | 0.000500 | 0.000170 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Copper    | <0.00500  |           | 0.00500  | 0.00180  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |

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# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-89-9R

Lab Sample ID: 310-260435-4

Date Collected: 07/13/23 15:39

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 6020B - Metals (ICP/MS) (Continued)

| Analyte  | Result   | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------|----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Lead     | 0.000312 | J         | 0.000500 | 0.000240 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Nickel   | 0.0200   |           | 0.00500  | 0.00190  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Selenium | <0.00500 |           | 0.00500  | 0.00140  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Silver   | <0.00100 | *+        | 0.00100  | 0.000500 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Thallium | <0.00100 |           | 0.00100  | 0.000260 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Vanadium | <0.00500 |           | 0.00500  | 0.00110  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Zinc     | <0.0200  |           | 0.0200   | 0.00640  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |
| Tin      | <0.00500 | *+        | 0.00500  | 0.00230  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:53 | 1       |

## Method: SW846 7470A - Mercury (CVAA)

| Analyte | Result    | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|-----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Mercury | <0.000200 |           | 0.000200 | 0.000140 | mg/L |   | 07/18/23 11:02 | 07/19/23 12:44 | 1       |

## General Chemistry

| Analyte                                 | Result  | Qualifier | RL     | MDL     | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------------------------|---------|-----------|--------|---------|------|---|----------------|----------------|---------|
| Cyanide, Total (SW846 9012B)            | <0.0100 |           | 0.0100 | 0.00430 | mg/L |   | 07/19/23 09:11 | 07/20/23 20:23 | 1       |
| Sulfide (SW846 9034)                    | <1.00   |           | 1.00   | 0.231   | mg/L |   | 07/20/23 18:30 | 07/24/23 21:41 | 1       |
| Total Suspended Solids (USGS I-3765-85) | 18.6    |           | 1.88   | 0.638   | mg/L |   |                | 07/19/23 20:36 | 1       |

# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: PZ-21

Lab Sample ID: 310-260435-5

Date Collected: 07/13/23 12:40

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 6020B - Metals (ICP/MS)

| Analyte   | Result    | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Antimony  | 0.00223   |           | 0.00200  | 0.00100  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:55 | 1       |
| Arsenic   | 0.00116   | J         | 0.00200  | 0.000530 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:55 | 1       |
| Barium    | 0.0147    |           | 0.00200  | 0.000640 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:55 | 1       |
| Beryllium | 0.00107   |           | 0.00100  | 0.000330 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:55 | 1       |
| Cadmium   | <0.000200 |           | 0.000200 | 0.000100 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:55 | 1       |
| Cobalt    | 0.00277   |           | 0.000500 | 0.000170 | mg/L |   | 07/18/23 08:45 | 08/01/23 21:55 | 1       |
| Copper    | 0.128     |           | 0.00500  | 0.00180  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:55 | 1       |
| Nickel    | 0.00905   |           | 0.00500  | 0.00190  | mg/L |   | 07/18/23 08:45 | 08/01/23 21:55 | 1       |

## General Chemistry

| Analyte              | Result | Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
| Sulfide (SW846 9034) | <1.00  |           | 1.00 | 0.231 | mg/L |   | 07/20/23 18:30 | 07/24/23 21:41 | 1       |

## Client Sample Results

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

Client Sample ID: MW-21

Lab Sample ID: 310-260435-6

Date Collected: 07/13/23 13:28

Matrix: Water

Date Received: 07/14/23 16:40

### Method: SW846 6020B - Metals (ICP/MS)

| Analyte   | Result    | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Antimony  | <0.00200  |           | 0.00200  | 0.00100  | mg/L |   | 07/18/23 08:45 | 08/01/23 22:02 | 1       |
| Arsenic   | <0.00200  |           | 0.00200  | 0.000530 | mg/L |   | 07/18/23 08:45 | 08/01/23 22:02 | 1       |
| Barium    | 0.0107    |           | 0.00200  | 0.000640 | mg/L |   | 07/18/23 08:45 | 08/01/23 22:02 | 1       |
| Beryllium | <0.00100  |           | 0.00100  | 0.000330 | mg/L |   | 07/18/23 08:45 | 08/01/23 22:02 | 1       |
| Cadmium   | <0.000200 |           | 0.000200 | 0.000100 | mg/L |   | 07/18/23 08:45 | 08/01/23 22:02 | 1       |
| Cobalt    | 0.000254  | J         | 0.000500 | 0.000170 | mg/L |   | 07/18/23 08:45 | 08/01/23 22:02 | 1       |
| Copper    | <0.00500  |           | 0.00500  | 0.00180  | mg/L |   | 07/18/23 08:45 | 08/01/23 22:02 | 1       |
| Nickel    | <0.00500  |           | 0.00500  | 0.00190  | mg/L |   | 07/18/23 08:45 | 08/01/23 22:02 | 1       |

### General Chemistry

| Analyte                                 | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Total Suspended Solids (USGS I-3765-85) | 2.75   |           | 1.88 | 0.638 | mg/L |   |          | 07/19/23 20:36 | 1       |

## Client Sample Results

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

Client Sample ID: MW-D

Lab Sample ID: 310-260435-7

Date Collected: 07/13/23 13:28

Matrix: Water

Date Received: 07/14/23 16:40

### Method: SW846 6020B - Metals (ICP/MS)

| Analyte   | Result    | Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------|-----------|----------|----------|------|---|----------------|----------------|---------|
| Antimony  | <0.00200  |           | 0.00200  | 0.00100  | mg/L |   | 07/18/23 08:45 | 08/01/23 22:15 | 1       |
| Arsenic   | <0.00200  |           | 0.00200  | 0.000530 | mg/L |   | 07/18/23 08:45 | 08/01/23 22:15 | 1       |
| Barium    | 0.0109    |           | 0.00200  | 0.000640 | mg/L |   | 07/18/23 08:45 | 08/01/23 22:15 | 1       |
| Beryllium | <0.00100  |           | 0.00100  | 0.000330 | mg/L |   | 07/18/23 08:45 | 08/01/23 22:15 | 1       |
| Cadmium   | <0.000200 |           | 0.000200 | 0.000100 | mg/L |   | 07/18/23 08:45 | 08/01/23 22:15 | 1       |
| Cobalt    | 0.000264  | J         | 0.000500 | 0.000170 | mg/L |   | 07/18/23 08:45 | 08/01/23 22:15 | 1       |
| Copper    | <0.00500  |           | 0.00500  | 0.00180  | mg/L |   | 07/18/23 08:45 | 08/01/23 22:15 | 1       |
| Nickel    | <0.00500  |           | 0.00500  | 0.00190  | mg/L |   | 07/18/23 08:45 | 08/01/23 22:15 | 1       |

### General Chemistry

| Analyte                                 | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Total Suspended Solids (USGS I-3765-85) | 1.88   |           | 1.88 | 0.638 | mg/L |   |          | 07/19/23 20:36 | 1       |

# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: Trip Blank

Lab Sample ID: 310-260435-8

Date Collected: 07/13/23 00:00

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS

| Analyte                     | Result | Qualifier | RL    | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|-------|-------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane   | <1.00  |           | 1.00  | 0.380 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,1,1-Trichloroethane       | <1.00  |           | 1.00  | 0.190 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,1,2,2-Tetrachloroethane   | <1.00  |           | 1.00  | 0.470 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,1,2-Trichloroethane       | <1.00  |           | 1.00  | 0.450 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,1-Dichloroethane          | <1.00  |           | 1.00  | 0.220 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,1-Dichloroethene          | <2.00  |           | 2.00  | 0.560 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,1-Dichloropropene         | <1.00  |           | 1.00  | 0.430 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,2,3-Trichloropropane      | <1.00  |           | 1.00  | 0.590 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,2,4-Trichlorobenzene      | <5.00  |           | 5.00  | 0.750 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,2-Dibromo-3-chloropropane | <5.00  |           | 5.00  | 1.20  | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,2-Dibromoethane (EDB)     | <1.00  |           | 1.00  | 0.340 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,2-Dichlorobenzene         | <1.00  |           | 1.00  | 0.370 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,2-Dichloroethane          | <1.00  |           | 1.00  | 0.390 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,2-Dichloropropane         | <1.00  |           | 1.00  | 0.270 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,3-Dichlorobenzene         | <1.00  |           | 1.00  | 0.300 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,3-Dichloropropane         | <1.00  |           | 1.00  | 0.400 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 1,4-Dichlorobenzene         | <1.00  |           | 1.00  | 0.230 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 2,2-Dichloropropane         | <4.00  |           | 4.00  | 0.690 | ug/L |   |          | 07/17/23 12:41 | 1       |
| 2-Butanone (MEK)            | <10.0  |           | 10.0  | 2.10  | ug/L |   |          | 07/17/23 12:41 | 1       |
| 2-Hexanone                  | <10.0  |           | 10.0  | 2.00  | ug/L |   |          | 07/17/23 12:41 | 1       |
| 4-Methyl-2-pentanone (MIBK) | <10.0  |           | 10.0  | 2.10  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Acetone                     | <10.0  |           | 10.0  | 3.10  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Acrolein                    | <10.0  |           | 10.0  | 3.60  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Acrylonitrile               | <5.00  |           | 5.00  | 2.20  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Allyl chloride              | <2.00  |           | 2.00  | 0.700 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Benzene                     | <0.500 |           | 0.500 | 0.220 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Bromochloromethane          | <5.00  |           | 5.00  | 0.540 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Bromodichloromethane        | <1.00  |           | 1.00  | 0.390 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Bromoform                   | <5.00  |           | 5.00  | 0.780 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Bromomethane                | <4.00  |           | 4.00  | 1.10  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Carbon disulfide            | <1.00  |           | 1.00  | 0.450 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Carbon tetrachloride        | <2.00  |           | 2.00  | 0.650 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Chlorobenzene               | <1.00  |           | 1.00  | 0.400 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Chlorodibromomethane        | <5.00  |           | 5.00  | 0.750 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Chloroethane                | <4.00  |           | 4.00  | 0.790 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Chloroform                  | <3.00  |           | 3.00  | 1.30  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Chloromethane               | <3.00  |           | 3.00  | 0.610 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Chloroprene                 | <1.00  |           | 1.00  | 0.230 | ug/L |   |          | 07/17/23 12:41 | 1       |
| cis-1,2-Dichloroethene      | <1.00  |           | 1.00  | 0.210 | ug/L |   |          | 07/17/23 12:41 | 1       |
| cis-1,3-Dichloropropene     | <5.00  |           | 5.00  | 0.250 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Dibromomethane              | <1.00  |           | 1.00  | 0.330 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Dichlorodifluoromethane     | <3.00  |           | 3.00  | 0.250 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Ethyl methacrylate          | <2.00  |           | 2.00  | 0.680 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Ethylbenzene                | <1.00  |           | 1.00  | 0.310 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Iodomethane                 | <10.0  |           | 10.0  | 7.00  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Methacrylonitrile           | <10.0  |           | 10.0  | 3.30  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Methyl methacrylate         | <2.00  |           | 2.00  | 0.760 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Methylene chloride          | <5.00  |           | 5.00  | 1.70  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Naphthalene                 | <5.00  |           | 5.00  | 3.00  | ug/L |   |          | 07/17/23 12:41 | 1       |

Eurofins Cedar Falls

# Client Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: Trip Blank

Lab Sample ID: 310-260435-8

Date Collected: 07/13/23 00:00

Matrix: Water

Date Received: 07/14/23 16:40

## Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

| Analyte                     | Result | Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
| Propionitrile               | <10.0  |           | 10.0 | 3.40  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Styrene                     | <1.00  |           | 1.00 | 0.370 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Tetrachloroethene           | <1.00  |           | 1.00 | 0.480 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Toluene                     | <1.00  |           | 1.00 | 0.430 | ug/L |   |          | 07/17/23 12:41 | 1       |
| trans-1,2-Dichloroethene    | <1.00  |           | 1.00 | 0.270 | ug/L |   |          | 07/17/23 12:41 | 1       |
| trans-1,3-Dichloropropene   | <5.00  |           | 5.00 | 0.560 | ug/L |   |          | 07/17/23 12:41 | 1       |
| trans-1,4-Dichloro-2-butene | <10.0  |           | 10.0 | 1.10  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Trichloroethene             | <1.00  |           | 1.00 | 0.430 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Trichlorofluoromethane      | <4.00  |           | 4.00 | 0.380 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Vinyl acetate               | <10.0  |           | 10.0 | 2.50  | ug/L |   |          | 07/17/23 12:41 | 1       |
| Vinyl chloride              | <1.00  |           | 1.00 | 0.180 | ug/L |   |          | 07/17/23 12:41 | 1       |
| Xylenes, Total              | <3.00  |           | 3.00 | 0.400 | ug/L |   |          | 07/17/23 12:41 | 1       |

| Surrogate                   | %Recovery | Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|-----------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr) | 103       |           | 80 - 128 |          | 07/17/23 12:41 | 1       |
| Toluene-d8 (Surr)           | 96        |           | 80 - 120 |          | 07/17/23 12:41 | 1       |
| 4-Bromofluorobenzene (Surr) | 100       |           | 80 - 120 |          | 07/17/23 12:41 | 1       |

## Definitions/Glossary

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

### Qualifiers

#### GC/MS VOA

| Qualifier | Qualifier Description                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------|
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

#### GC/MS Semi VOA

| Qualifier | Qualifier Description                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------|
| *-        | LCS and/or LCSD is outside acceptance limits, low biased.                                                      |
| *+        | LCS and/or LCSD is outside acceptance limits, high biased.                                                     |
| *1        | LCS/LCSD RPD exceeds control limits.                                                                           |
| E         | Result exceeded calibration range.                                                                             |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

#### Metals

| Qualifier | Qualifier Description                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------|
| *+        | LCS and/or LCSD is outside acceptance limits, high biased.                                                     |
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

#### General Chemistry

| Qualifier | Qualifier Description                                                                                          |
|-----------|----------------------------------------------------------------------------------------------------------------|
| J         | Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value. |

### Glossary

| Abbreviation   | These commonly used abbreviations may or may not be present in this report.                                 |
|----------------|-------------------------------------------------------------------------------------------------------------|
| □              | Listed under the "D" column to designate that the result is reported on a dry weight basis                  |
| %R             | Percent Recovery                                                                                            |
| CFL            | Contains Free Liquid                                                                                        |
| CFU            | Colony Forming Unit                                                                                         |
| CNF            | Contains No Free Liquid                                                                                     |
| DER            | Duplicate Error Ratio (normalized absolute difference)                                                      |
| Dil Fac        | Dilution Factor                                                                                             |
| DL             | Detection Limit (DoD/DOE)                                                                                   |
| DL, RA, RE, IN | Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample |
| DLC            | Decision Level Concentration (Radiochemistry)                                                               |
| EDL            | Estimated Detection Limit (Dioxin)                                                                          |
| LOD            | Limit of Detection (DoD/DOE)                                                                                |
| LOQ            | Limit of Quantitation (DoD/DOE)                                                                             |
| MCL            | EPA recommended "Maximum Contaminant Level"                                                                 |
| MDA            | Minimum Detectable Activity (Radiochemistry)                                                                |
| MDC            | Minimum Detectable Concentration (Radiochemistry)                                                           |
| MDL            | Method Detection Limit                                                                                      |
| ML             | Minimum Level (Dioxin)                                                                                      |
| MPN            | Most Probable Number                                                                                        |
| MQL            | Method Quantitation Limit                                                                                   |
| NC             | Not Calculated                                                                                              |
| ND             | Not Detected at the reporting limit (or MDL or EDL if shown)                                                |
| NEG            | Negative / Absent                                                                                           |
| POS            | Positive / Present                                                                                          |
| PQL            | Practical Quantitation Limit                                                                                |
| PRES           | Presumptive                                                                                                 |
| QC             | Quality Control                                                                                             |
| RER            | Relative Error Ratio (Radiochemistry)                                                                       |
| RL             | Reporting Limit or Requested Limit (Radiochemistry)                                                         |
| RPD            | Relative Percent Difference, a measure of the relative difference between two points                        |
| TEF            | Toxicity Equivalent Factor (Dioxin)                                                                         |
| TEQ            | Toxicity Equivalent Quotient (Dioxin)                                                                       |
| TNTC           | Too Numerous To Count                                                                                       |

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## Surrogate Summary

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

### Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID    | Client Sample ID   | Percent Surrogate Recovery (Acceptance Limits) |                 |                 |
|------------------|--------------------|------------------------------------------------|-----------------|-----------------|
|                  |                    | DBFM<br>(80-128)                               | TOL<br>(80-120) | BFB<br>(80-120) |
| 310-260435-3     | MW-89-7            | 101                                            | 98              | 101             |
| 310-260435-4     | MW-89-9R           | 105                                            | 96              | 100             |
| 310-260435-8     | Trip Blank         | 103                                            | 96              | 100             |
| LCS 310-393777/6 | Lab Control Sample | 99                                             | 98              | 99              |
| LCS 310-393777/7 | Lab Control Sample | 104                                            | 96              | 102             |
| MB 310-393777/5  | Method Blank       | 103                                            | 97              | 100             |

#### Surrogate Legend

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

### Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                 |                 |                 |                 |                  |
|---------------------|------------------------|------------------------------------------------|-----------------|-----------------|-----------------|-----------------|------------------|
|                     |                        | 2FP<br>(25-110)                                | PHL<br>(21-110) | NBZ<br>(45-129) | FBP<br>(39-118) | TBP<br>(27-136) | TPHL<br>(12-144) |
| 310-260435-3        | MW-89-7                | 71                                             | 61              | 105             | 75              | 83              | 97               |
| 310-260435-4        | MW-89-9R               | 64                                             | 56              | 97              | 72              | 73              | 93               |
| LCS 310-393841/2-A  | Lab Control Sample     | 66                                             | 57              | 95              | 70              | 76              | 97               |
| LCSD 310-393841/3-A | Lab Control Sample Dup | 63                                             | 54              | 92              | 70              | 75              | 99               |
| MB 310-393841/1-A   | Method Blank           | 78                                             | 69              | 116             | 72              | 93              | 117              |

#### Surrogate Legend

2FP = 2-Fluorophenol (Surr)

PHL = Phenol-d5 (Surr)

NBZ = Nitrobenzene-d5 (Surr)

FBP = 2-Fluorobiphenyl (Surr)

TBP = 2,4,6-Tribromophenol (Surr)

TPHL = Terphenyl-d14 (Surr)

### Method: 8081B - Organochlorine Pesticides (GC)

Matrix: Water

Prep Type: Total/NA

| Lab Sample ID       | Client Sample ID       | Percent Surrogate Recovery (Acceptance Limits) |                  |
|---------------------|------------------------|------------------------------------------------|------------------|
|                     |                        | DCB1<br>(10-136)                               | TCX1<br>(10-130) |
| 310-260435-2        | MW-89-6R               | 68                                             | 69               |
| 310-260435-3        | MW-89-7                | 65                                             | 64               |
| 310-260435-4        | MW-89-9R               | 75                                             | 75               |
| LCS 310-393849/4-A  | Lab Control Sample     | 71                                             | 61               |
| LCSD 310-393849/5-A | Lab Control Sample Dup | 68                                             | 73               |
| MB 310-393849/1-A   | Method Blank           | 71                                             | 55               |

#### Surrogate Legend

DCB = DCB Decachlorobiphenyl (Surr)

TCX = Tetrachloro-m-xylene

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## Surrogate Summary

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

### Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Matrix: Water

Prep Type: Total/NA

|                                     |                        | Percent Surrogate Recovery (Acceptance Limits) |                  |
|-------------------------------------|------------------------|------------------------------------------------|------------------|
| Lab Sample ID                       | Client Sample ID       | DCB1<br>(10-136)                               | TCX1<br>(10-130) |
| 310-260435-3                        | MW-89-7                | 65                                             | 64               |
| 310-260435-4                        | MW-89-9R               | 75                                             | 75               |
| LCS 310-393849/2-A                  | Lab Control Sample     | 63                                             | 54               |
| LCSD 310-393849/3-A                 | Lab Control Sample Dup | 64                                             | 55               |
| MB 310-393849/1-A                   | Method Blank           | 80                                             | 49               |
| <b>Surrogate Legend</b>             |                        |                                                |                  |
| DCB = DCB Decachlorobiphenyl (Surr) |                        |                                                |                  |
| TCX = Tetrachloro-m-xylene (Surr)   |                        |                                                |                  |

### Method: 8151A - Herbicides (GC)

Matrix: Water

Prep Type: Total/NA

|                         |                        | Percent Surrogate Recovery (Acceptance Limits) |  |
|-------------------------|------------------------|------------------------------------------------|--|
| Lab Sample ID           | Client Sample ID       | DCPAA1<br>(25-130)                             |  |
| 310-260435-3            | MW-89-7                | 70                                             |  |
| 310-260435-4            | MW-89-9R               | 68                                             |  |
| LCS 500-723827/2-A      | Lab Control Sample     | 77                                             |  |
| LCSD 500-723827/3-A     | Lab Control Sample Dup | 81                                             |  |
| MB 500-723827/1-A       | Method Blank           | 72                                             |  |
| <b>Surrogate Legend</b> |                        |                                                |  |
| DCPAA = DCAA            |                        |                                                |  |

# QC Sample Results

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

## Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 310-393777/5

Matrix: Water

Analysis Batch: 393777

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                     | MB Result | MB Qualifier | RL    | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|--------------|-------|-------|------|---|----------|----------------|---------|
| 1,1,1,2-Tetrachloroethane   | <1.00     |              | 1.00  | 0.380 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,1,1-Trichloroethane       | <1.00     |              | 1.00  | 0.190 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,1,2,2-Tetrachloroethane   | <1.00     |              | 1.00  | 0.470 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,1,2-Trichloroethane       | <1.00     |              | 1.00  | 0.450 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,1-Dichloroethane          | <1.00     |              | 1.00  | 0.220 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,1-Dichloroethene          | <2.00     |              | 2.00  | 0.560 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,1-Dichloropropene         | <1.00     |              | 1.00  | 0.430 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,2,3-Trichloropropane      | <1.00     |              | 1.00  | 0.590 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,2,4-Trichlorobenzene      | <5.00     |              | 5.00  | 0.750 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,2-Dibromo-3-chloropropane | <5.00     |              | 5.00  | 1.20  | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,2-Dibromoethane (EDB)     | <1.00     |              | 1.00  | 0.340 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,2-Dichlorobenzene         | <1.00     |              | 1.00  | 0.370 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,2-Dichloroethane          | <1.00     |              | 1.00  | 0.390 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,2-Dichloropropane         | <1.00     |              | 1.00  | 0.270 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,3-Dichlorobenzene         | <1.00     |              | 1.00  | 0.300 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,3-Dichloropropane         | <1.00     |              | 1.00  | 0.400 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 1,4-Dichlorobenzene         | <1.00     |              | 1.00  | 0.230 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 2,2-Dichloropropane         | <4.00     |              | 4.00  | 0.690 | ug/L |   |          | 07/17/23 09:56 | 1       |
| 2-Butanone (MEK)            | <10.0     |              | 10.0  | 2.10  | ug/L |   |          | 07/17/23 09:56 | 1       |
| 2-Hexanone                  | <10.0     |              | 10.0  | 2.00  | ug/L |   |          | 07/17/23 09:56 | 1       |
| 4-Methyl-2-pentanone (MIBK) | <10.0     |              | 10.0  | 2.10  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Acetone                     | <10.0     |              | 10.0  | 3.10  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Acrolein                    | <10.0     |              | 10.0  | 3.60  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Acrylonitrile               | <5.00     |              | 5.00  | 2.20  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Allyl chloride              | <2.00     |              | 2.00  | 0.700 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Benzene                     | <0.500    |              | 0.500 | 0.220 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Bromochloromethane          | <5.00     |              | 5.00  | 0.540 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Bromodichloromethane        | <1.00     |              | 1.00  | 0.390 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Bromoform                   | <5.00     |              | 5.00  | 0.780 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Bromomethane                | <4.00     |              | 4.00  | 1.10  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Carbon disulfide            | <1.00     |              | 1.00  | 0.450 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Carbon tetrachloride        | <2.00     |              | 2.00  | 0.650 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Chlorobenzene               | <1.00     |              | 1.00  | 0.400 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Chlorodibromomethane        | <5.00     |              | 5.00  | 0.750 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Chloroethane                | <4.00     |              | 4.00  | 0.790 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Chloroform                  | <3.00     |              | 3.00  | 1.30  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Chloromethane               | <3.00     |              | 3.00  | 0.610 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Chloroprene                 | <1.00     |              | 1.00  | 0.230 | ug/L |   |          | 07/17/23 09:56 | 1       |
| cis-1,2-Dichloroethene      | <1.00     |              | 1.00  | 0.210 | ug/L |   |          | 07/17/23 09:56 | 1       |
| cis-1,3-Dichloropropene     | <5.00     |              | 5.00  | 0.250 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Dibromomethane              | <1.00     |              | 1.00  | 0.330 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Dichlorodifluoromethane     | <3.00     |              | 3.00  | 0.250 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Ethyl methacrylate          | <2.00     |              | 2.00  | 0.680 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Ethylbenzene                | <1.00     |              | 1.00  | 0.310 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Iodomethane                 | <10.0     |              | 10.0  | 7.00  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Methacrylonitrile           | <10.0     |              | 10.0  | 3.30  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Methyl methacrylate         | <2.00     |              | 2.00  | 0.760 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Methylene chloride          | <5.00     |              | 5.00  | 1.70  | ug/L |   |          | 07/17/23 09:56 | 1       |

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# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 310-393777/5

Matrix: Water

Analysis Batch: 393777

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                     | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|-----------------------------|-----------|--------------|------|-------|------|---|----------|----------------|---------|
| Naphthalene                 | <5.00     |              | 5.00 | 3.00  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Propionitrile               | <10.0     |              | 10.0 | 3.40  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Styrene                     | <1.00     |              | 1.00 | 0.370 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Tetrachloroethene           | <1.00     |              | 1.00 | 0.480 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Toluene                     | <1.00     |              | 1.00 | 0.430 | ug/L |   |          | 07/17/23 09:56 | 1       |
| trans-1,2-Dichloroethene    | <1.00     |              | 1.00 | 0.270 | ug/L |   |          | 07/17/23 09:56 | 1       |
| trans-1,3-Dichloropropene   | <5.00     |              | 5.00 | 0.560 | ug/L |   |          | 07/17/23 09:56 | 1       |
| trans-1,4-Dichloro-2-butene | <10.0     |              | 10.0 | 1.10  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Trichloroethene             | <1.00     |              | 1.00 | 0.430 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Trichlorofluoromethane      | <4.00     |              | 4.00 | 0.380 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Vinyl acetate               | <10.0     |              | 10.0 | 2.50  | ug/L |   |          | 07/17/23 09:56 | 1       |
| Vinyl chloride              | <1.00     |              | 1.00 | 0.180 | ug/L |   |          | 07/17/23 09:56 | 1       |
| Xylenes, Total              | <3.00     |              | 3.00 | 0.400 | ug/L |   |          | 07/17/23 09:56 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------|----------------|---------|
| Dibromofluoromethane (Surr) | 103          |              | 80 - 128 |          | 07/17/23 09:56 | 1       |
| Toluene-d8 (Surr)           | 97           |              | 80 - 120 |          | 07/17/23 09:56 | 1       |
| 4-Bromofluorobenzene (Surr) | 100          |              | 80 - 120 |          | 07/17/23 09:56 | 1       |

Lab Sample ID: LCS 310-393777/6

Matrix: Water

Analysis Batch: 393777

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                     | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|-----------------------------|-------------|------------|---------------|------|---|------|-------------|
| 1,1,1,2-Tetrachloroethane   | 20.0        | 19.63      |               | ug/L |   | 98   | 68 - 123    |
| 1,1,1-Trichloroethane       | 20.0        | 19.38      |               | ug/L |   | 97   | 71 - 128    |
| 1,1,2,2-Tetrachloroethane   | 20.0        | 19.40      |               | ug/L |   | 97   | 64 - 124    |
| 1,1,2-Trichloroethane       | 20.0        | 19.64      |               | ug/L |   | 98   | 70 - 124    |
| 1,1-Dichloroethane          | 20.0        | 18.28      |               | ug/L |   | 91   | 71 - 123    |
| 1,1-Dichloroethene          | 20.0        | 19.59      |               | ug/L |   | 98   | 61 - 129    |
| 1,1-Dichloropropene         | 20.0        | 19.42      |               | ug/L |   | 97   | 70 - 131    |
| 1,2,3-Trichloropropane      | 20.0        | 19.16      |               | ug/L |   | 96   | 64 - 125    |
| 1,2,4-Trichlorobenzene      | 20.0        | 21.09      |               | ug/L |   | 105  | 61 - 124    |
| 1,2-Dibromo-3-chloropropane | 20.0        | 18.22      |               | ug/L |   | 91   | 50 - 150    |
| 1,2-Dibromoethane (EDB)     | 20.0        | 20.66      |               | ug/L |   | 103  | 73 - 125    |
| 1,2-Dichlorobenzene         | 20.0        | 19.31      |               | ug/L |   | 97   | 68 - 120    |
| 1,2-Dichloroethane          | 20.0        | 18.32      |               | ug/L |   | 92   | 70 - 124    |
| 1,2-Dichloropropane         | 20.0        | 18.56      |               | ug/L |   | 93   | 73 - 121    |
| 1,3-Dichlorobenzene         | 20.0        | 19.23      |               | ug/L |   | 96   | 67 - 123    |
| 1,3-Dichloropropane         | 20.0        | 19.07      |               | ug/L |   | 95   | 72 - 124    |
| 1,4-Dichlorobenzene         | 20.0        | 19.12      |               | ug/L |   | 96   | 67 - 120    |
| 2,2-Dichloropropane         | 20.0        | 20.25      |               | ug/L |   | 101  | 50 - 150    |
| 2-Butanone (MEK)            | 40.0        | 36.98      |               | ug/L |   | 92   | 50 - 150    |
| 2-Hexanone                  | 40.0        | 39.77      |               | ug/L |   | 99   | 60 - 132    |
| 4-Methyl-2-pentanone (MIBK) | 40.0        | 37.99      |               | ug/L |   | 95   | 62 - 130    |
| Acetone                     | 40.0        | 37.86      |               | ug/L |   | 95   | 50 - 150    |
| Acrolein                    | 95.6        | 105.4      |               | ug/L |   | 110  | 12 - 150    |
| Acrylonitrile               | 200         | 193.2      |               | ug/L |   | 97   | 50 - 150    |

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# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-393777/6

Matrix: Water

Analysis Batch: 393777

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                     | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|-----------------------------|-------------|------------|---------------|------|---|------|-------------|
| Allyl chloride              | 20.0        | 19.91      |               | ug/L |   | 100  | 50 - 150    |
| Benzene                     | 20.0        | 18.33      |               | ug/L |   | 92   | 73 - 122    |
| Bromochloromethane          | 20.0        | 20.15      |               | ug/L |   | 101  | 68 - 132    |
| Bromodichloromethane        | 20.0        | 18.78      |               | ug/L |   | 94   | 72 - 121    |
| Bromoform                   | 20.0        | 17.69      |               | ug/L |   | 88   | 55 - 129    |
| Carbon disulfide            | 20.0        | 18.72      |               | ug/L |   | 94   | 58 - 131    |
| Carbon tetrachloride        | 20.0        | 20.28      |               | ug/L |   | 101  | 67 - 132    |
| Chlorobenzene               | 20.0        | 18.94      |               | ug/L |   | 95   | 69 - 121    |
| Chlorodibromomethane        | 20.0        | 19.60      |               | ug/L |   | 98   | 69 - 122    |
| Chloroform                  | 20.0        | 17.56      |               | ug/L |   | 88   | 72 - 120    |
| Chloroprene                 | 20.0        | 19.54      |               | ug/L |   | 98   | 67 - 131    |
| cis-1,2-Dichloroethene      | 20.0        | 18.80      |               | ug/L |   | 94   | 74 - 120    |
| cis-1,3-Dichloropropene     | 20.0        | 19.39      |               | ug/L |   | 97   | 71 - 126    |
| Dibromomethane              | 20.0        | 19.16      |               | ug/L |   | 96   | 72 - 123    |
| Ethyl methacrylate          | 20.0        | 18.58      |               | ug/L |   | 93   | 64 - 131    |
| Ethylbenzene                | 20.0        | 19.01      |               | ug/L |   | 95   | 69 - 122    |
| Iodomethane                 | 20.0        | 14.51      |               | ug/L |   | 73   | 10 - 150    |
| Methacrylonitrile           | 200         | 197.4      |               | ug/L |   | 99   | 70 - 126    |
| Methyl methacrylate         | 40.0        | 38.74      |               | ug/L |   | 97   | 68 - 127    |
| Methylene chloride          | 20.0        | 18.82      |               | ug/L |   | 94   | 50 - 150    |
| Naphthalene                 | 20.0        | 23.01      |               | ug/L |   | 115  | 50 - 150    |
| Propionitrile               | 200         | 187.9      |               | ug/L |   | 94   | 66 - 125    |
| Styrene                     | 20.0        | 19.45      |               | ug/L |   | 97   | 67 - 125    |
| Tetrachloroethene           | 20.0        | 20.86      |               | ug/L |   | 104  | 69 - 131    |
| Toluene                     | 20.0        | 18.94      |               | ug/L |   | 95   | 72 - 121    |
| trans-1,2-Dichloroethene    | 20.0        | 19.10      |               | ug/L |   | 96   | 68 - 125    |
| trans-1,3-Dichloropropene   | 20.0        | 19.33      |               | ug/L |   | 97   | 68 - 124    |
| trans-1,4-Dichloro-2-butene | 20.0        | 19.26      |               | ug/L |   | 96   | 48 - 150    |
| Trichloroethene             | 20.0        | 18.75      |               | ug/L |   | 94   | 73 - 126    |
| Vinyl acetate               | 40.0        | 40.39      |               | ug/L |   | 101  | 50 - 150    |
| Xylenes, Total              | 40.0        | 38.42      |               | ug/L |   | 96   | 68 - 124    |

| Surrogate                   | LCS %Recovery | LCS Qualifier | Limits   |
|-----------------------------|---------------|---------------|----------|
| Dibromofluoromethane (Surr) | 99            |               | 80 - 128 |
| Toluene-d8 (Surr)           | 98            |               | 80 - 120 |
| 4-Bromofluorobenzene (Surr) | 99            |               | 80 - 120 |

Lab Sample ID: LCS 310-393777/7

Matrix: Water

Analysis Batch: 393777

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                 | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|-------------------------|-------------|------------|---------------|------|---|------|-------------|
| Bromomethane            | 20.0        | 17.89      |               | ug/L |   | 89   | 24 - 150    |
| Chloroethane            | 20.0        | 19.45      |               | ug/L |   | 97   | 51 - 137    |
| Chloromethane           | 20.0        | 19.19      |               | ug/L |   | 96   | 37 - 150    |
| Dichlorodifluoromethane | 20.0        | 21.84      |               | ug/L |   | 109  | 37 - 150    |
| Trichlorofluoromethane  | 20.0        | 22.55      |               | ug/L |   | 113  | 56 - 144    |
| Vinyl chloride          | 20.0        | 20.14      |               | ug/L |   | 101  | 57 - 136    |

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# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 310-393777/7

Matrix: Water

Analysis Batch: 393777

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Surrogate                   | LCS LCS   |           | Limits   |
|-----------------------------|-----------|-----------|----------|
|                             | %Recovery | Qualifier |          |
| Dibromofluoromethane (Surr) | 104       |           | 80 - 128 |
| Toluene-d8 (Surr)           | 96        |           | 80 - 120 |
| 4-Bromofluorobenzene (Surr) | 102       |           | 80 - 120 |

## Method: 8270E - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 310-393841/1-A

Matrix: Water

Analysis Batch: 393887

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 393841

| Analyte                                | MB MB  |           | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------------------|--------|-----------|------|-------|------|---|----------------|----------------|---------|
|                                        | Result | Qualifier |      |       |      |   |                |                |         |
| 1,2,4,5-Tetrachlorobenzene             | <10.0  |           | 10.0 | 0.540 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 1,3-Dinitrobenzene                     | <10.0  |           | 10.0 | 3.20  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2,3,4,6-Tetrachlorophenol              | <10.0  |           | 10.0 | 5.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2,4,5-Trichlorophenol                  | <10.0  |           | 10.0 | 5.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2,4,6-Trichlorophenol                  | <10.0  |           | 10.0 | 5.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2,4-Dichlorophenol                     | <10.0  |           | 10.0 | 0.850 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2,4-Dimethylphenol                     | <10.0  |           | 10.0 | 0.580 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2,4-Dinitrophenol                      | <20.0  |           | 20.0 | 13.0  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2,4-Dinitrotoluene                     | <10.0  |           | 10.0 | 6.40  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2,6-Dichlorophenol                     | <10.0  |           | 10.0 | 0.690 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2,6-Dinitrotoluene                     | <10.0  |           | 10.0 | 0.520 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2-Chloronaphthalene                    | <10.0  |           | 10.0 | 0.640 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2-Chlorophenol                         | <10.0  |           | 10.0 | 0.540 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2-Methylnaphthalene                    | <10.0  |           | 10.0 | 0.590 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2-Methylphenol                         | <10.0  |           | 10.0 | 0.650 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2-Nitroaniline                         | <10.0  |           | 10.0 | 5.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2-Nitrophenol                          | <10.0  |           | 10.0 | 6.80  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 3,3'-Dichlorobenzidine                 | <10.0  |           | 10.0 | 1.40  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 3-Nitroaniline                         | <10.0  |           | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 4,6-Dinitro-2-methylphenol             | <10.0  |           | 10.0 | 6.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 4-Bromophenyl phenyl ether             | <10.0  |           | 10.0 | 0.700 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 4-Chloro-3-methylphenol                | <10.0  |           | 10.0 | 0.840 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 4-Chloroaniline                        | <10.0  |           | 10.0 | 0.620 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 4-Chlorophenyl phenyl ether            | <10.0  |           | 10.0 | 0.690 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 4-Methylphenol (and/or 3-Methylphenol) | <10.0  |           | 10.0 | 0.700 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 4-Nitroaniline                         | <10.0  |           | 10.0 | 1.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 4-Nitrophenol                          | <10.0  |           | 10.0 | 7.60  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Acenaphthene                           | <10.0  |           | 10.0 | 0.640 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Acenaphthylene                         | <10.0  |           | 10.0 | 0.720 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Acetophenone                           | <10.0  |           | 10.0 | 0.690 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Anthracene                             | <10.0  |           | 10.0 | 0.870 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Benzo[a]anthracene                     | <10.0  |           | 10.0 | 0.850 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Benzo[a]pyrene                         | <10.0  |           | 10.0 | 8.10  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Benzo[b]fluoranthene                   | <10.0  |           | 10.0 | 4.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Benzo[g,h,i]perylene                   | <10.0  |           | 10.0 | 6.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Benzo[k]fluoranthene                   | <10.0  |           | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Benzyl alcohol                         | <10.0  |           | 10.0 | 1.30  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |

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# QC Sample Results

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-393841/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 393887

Prep Batch: 393841

| Analyte                       | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|--------------|------|-------|------|---|----------------|----------------|---------|
| Bis(2-chloroethoxy)methane    | <10.0     |              | 10.0 | 0.760 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Bis(2-chloroethyl)ether       | <10.0     |              | 10.0 | 0.820 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| bis (2-chloroisopropyl) ether | <10.0     |              | 10.0 | 0.540 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Bis(2-ethylhexyl) phthalate   | <10.0     |              | 10.0 | 5.50  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Butyl benzyl phthalate        | <10.0     |              | 10.0 | 5.40  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Chrysene                      | <10.0     |              | 10.0 | 0.870 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Dibenz(a,h)anthracene         | <10.0     |              | 10.0 | 3.90  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Dibenzofuran                  | <10.0     |              | 10.0 | 0.740 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Diethyl phthalate             | <10.0     |              | 10.0 | 1.70  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Dimethyl phthalate            | <10.0     |              | 10.0 | 1.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Di-n-butyl phthalate          | <10.0     |              | 10.0 | 5.60  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Di-n-octyl phthalate          | <20.0     |              | 20.0 | 7.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Diphenylamine                 | <10.0     |              | 10.0 | 6.00  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Fluoranthene                  | <10.0     |              | 10.0 | 1.70  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Fluorene                      | <10.0     |              | 10.0 | 0.790 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Hexachlorobenzene             | <10.0     |              | 10.0 | 0.700 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Hexachlorobutadiene           | <10.0     |              | 10.0 | 0.860 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Hexachlorocyclopentadiene     | <10.0     |              | 10.0 | 5.10  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Hexachloroethane              | <10.0     |              | 10.0 | 0.970 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Indeno(1,2,3-cd)pyrene        | <10.0     |              | 10.0 | 4.20  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Isophorone                    | <10.0     |              | 10.0 | 0.930 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Nitrobenzene                  | <10.0     |              | 10.0 | 0.800 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| N-Nitrosodimethylamine        | <10.0     |              | 10.0 | 0.720 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| N-Nitrosodi-n-propylamine     | <10.0     |              | 10.0 | 0.920 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| N-Nitrosodiphenylamine        | <10.0     |              | 10.0 | 0.750 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Pentachlorophenol             | <10.0     |              | 10.0 | 9.60  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Phenanthrene                  | <10.0     |              | 10.0 | 0.790 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Phenol                        | <10.0     |              | 10.0 | 1.10  | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Pyrene                        | <10.0     |              | 10.0 | 0.790 | ug/L |   | 07/18/23 06:45 | 07/18/23 13:28 | 1       |

| Surrogate                   | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------------------------|--------------|--------------|----------|----------------|----------------|---------|
| 2-Fluorophenol (Surr)       | 78           |              | 25 - 110 | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Phenol-d5 (Surr)            | 69           |              | 21 - 110 | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Nitrobenzene-d5 (Surr)      | 116          |              | 45 - 129 | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2-Fluorobiphenyl (Surr)     | 72           |              | 39 - 118 | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| 2,4,6-Tribromophenol (Surr) | 93           |              | 27 - 136 | 07/18/23 06:45 | 07/18/23 13:28 | 1       |
| Terphenyl-d14 (Surr)        | 117          |              | 12 - 144 | 07/18/23 06:45 | 07/18/23 13:28 | 1       |

Lab Sample ID: MB 310-393841/1-A

Client Sample ID: Method Blank

Matrix: Water

Prep Type: Total/NA

Analysis Batch: 394008

Prep Batch: 393841

| Analyte               | MB Result | MB Qualifier | RL   | MDL  | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------------|-----------|--------------|------|------|------|---|----------------|----------------|---------|
| 1,3,5-Trinitrobenzene | <10.0     |              | 10.0 | 2.30 | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| 1,4-Naphthoquinone    | <10.0     |              | 10.0 | 3.60 | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| 1,4-Phenylenediamine  | <10.0     |              | 10.0 | 1.90 | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| 1-Naphthylamine       | <10.0     |              | 10.0 | 2.50 | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| 2-Acetylaminofluorene | <10.0     |              | 10.0 | 2.70 | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |

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# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 310-393841/1-A

Matrix: Water

Analysis Batch: 394008

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 393841

| Analyte                          | MB Result | MB Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------------------------|-----------|--------------|------|-------|------|---|----------------|----------------|---------|
| 2-Naphthylamine                  | <10.0     |              | 10.0 | 2.10  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| 3,3'-Dimethylbenzidine           | <10.0     |              | 10.0 | 1.50  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| 3-Methylcholanthrene             | <10.0     |              | 10.0 | 0.320 | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| 4-Aminobiphenyl                  | <10.0     |              | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| 5-Nitro-o-toluidine              | <10.0     |              | 10.0 | 2.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| 7,12-Dimethylbenz(a)anthracene   | <10.0     |              | 10.0 | 1.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Chlorobenzilate                  | <10.0     |              | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Diallate                         | <10.0     |              | 10.0 | 4.00  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Dimethoate                       | <10.0     |              | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Dinoseb                          | <10.0     |              | 10.0 | 2.40  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Disulfoton                       | <10.0     |              | 10.0 | 2.40  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Ethyl methanesulfonate           | <10.0     |              | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Ethyl parathion                  | <10.0     |              | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Famphur                          | <10.0     |              | 10.0 | 3.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Hexachloropropene                | <10.0     |              | 10.0 | 2.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Isodrin                          | <10.0     |              | 10.0 | 4.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Kepone                           | <10.0     |              | 10.0 | 1.00  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Methapyrilene                    | <10.0     |              | 10.0 | 0.760 | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Methyl methanesulfonate          | <10.0     |              | 10.0 | 3.30  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Methyl parathion                 | <10.0     |              | 10.0 | 2.30  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| N-Nitrosodiethylamine            | <10.0     |              | 10.0 | 3.40  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| N-Nitrosodi-n-butylamine         | <10.0     |              | 10.0 | 3.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| N-Nitrosomethylethylamine        | <10.0     |              | 10.0 | 4.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| N-Nitrosopiperidine              | <10.0     |              | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| N-Nitrosopyrrolidine             | <10.0     |              | 10.0 | 3.60  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| o,o',o"-Triethylphosphorothioate | <10.0     |              | 10.0 | 3.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| o-Toluidine                      | <10.0     |              | 10.0 | 2.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| p-Dimethylamino azobenzene       | <10.0     |              | 10.0 | 2.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Pentachlorobenzene               | <10.0     |              | 10.0 | 2.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Pentachloronitrobenzene          | <10.0     |              | 10.0 | 5.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Phenacetin                       | <10.0     |              | 10.0 | 1.90  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Phorate                          | <10.0     |              | 10.0 | 3.20  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Pronamide                        | <10.0     |              | 10.0 | 2.70  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Safrole                          | <10.0     |              | 10.0 | 2.80  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |
| Thionazin                        | <10.0     |              | 10.0 | 3.50  | ug/L |   | 07/18/23 06:45 | 07/19/23 12:56 | 1       |

Lab Sample ID: LCS 310-393841/2-A

Matrix: Water

Analysis Batch: 393887

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 393841

| Analyte                    | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------------------------|-------------|------------|---------------|------|---|------|-------------|
| 1,2,4,5-Tetrachlorobenzene | 100         | 50.86      |               | ug/L |   | 51   | 36 - 110    |
| 1,3-Dinitrobenzene         | 100         | 74.13      |               | ug/L |   | 74   | 45 - 138    |
| 2,3,4,6-Tetrachlorophenol  | 100         | 71.08      |               | ug/L |   | 71   | 33 - 134    |
| 2,4,5-Trichlorophenol      | 100         | 77.72      |               | ug/L |   | 78   | 35 - 133    |
| 2,4,6-Trichlorophenol      | 100         | 75.38      |               | ug/L |   | 75   | 28 - 139    |
| 2,4-Dichlorophenol         | 100         | 80.86      |               | ug/L |   | 81   | 41 - 124    |
| 2,4-Dimethylphenol         | 100         | 77.41      |               | ug/L |   | 77   | 31 - 142    |
| 2,4-Dinitrophenol          | 200         | 145.1      |               | ug/L |   | 73   | 10 - 138    |

Eurofins Cedar Falls

# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-393841/2-A

Matrix: Water

Analysis Batch: 393887

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 393841

| Analyte                                | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------------------------------------|-------------|------------|---------------|------|---|------|-------------|
| 2,4-Dinitrotoluene                     | 100         | 75.88      |               | ug/L |   | 76   | 47 - 137    |
| 2,6-Dichlorophenol                     | 100         | 79.75      |               | ug/L |   | 80   | 30 - 130    |
| 2,6-Dinitrotoluene                     | 100         | 76.54      |               | ug/L |   | 77   | 51 - 130    |
| 2-Chloronaphthalene                    | 100         | 61.42      |               | ug/L |   | 61   | 37 - 110    |
| 2-Chlorophenol                         | 100         | 75.12      |               | ug/L |   | 75   | 44 - 117    |
| 2-Methylnaphthalene                    | 100         | 57.80      |               | ug/L |   | 58   | 33 - 110    |
| 2-Methylphenol                         | 100         | 75.80      |               | ug/L |   | 76   | 47 - 118    |
| 2-Nitroaniline                         | 100         | 86.47      |               | ug/L |   | 86   | 50 - 135    |
| 2-Nitrophenol                          | 100         | 83.26      |               | ug/L |   | 83   | 41 - 129    |
| 3-Nitroaniline                         | 100         | 73.74      |               | ug/L |   | 74   | 42 - 139    |
| 4,6-Dinitro-2-methylphenol             | 200         | 151.6      |               | ug/L |   | 76   | 22 - 143    |
| 4-Bromophenyl phenyl ether             | 100         | 72.73      |               | ug/L |   | 73   | 45 - 119    |
| 4-Chloro-3-methylphenol                | 100         | 89.84      |               | ug/L |   | 90   | 49 - 130    |
| 4-Chloroaniline                        | 100         | 80.72      |               | ug/L |   | 81   | 21 - 139    |
| 4-Chlorophenyl phenyl ether            | 100         | 65.50      |               | ug/L |   | 66   | 44 - 116    |
| 4-Methylphenol (and/or 3-Methylphenol) | 100         | 78.46      |               | ug/L |   | 78   | 46 - 117    |
| 4-Nitroaniline                         | 100         | 91.99      |               | ug/L |   | 92   | 31 - 145    |
| 4-Nitrophenol                          | 200         | 108.0      |               | ug/L |   | 54   | 18 - 110    |
| Acenaphthene                           | 100         | 63.23      |               | ug/L |   | 63   | 43 - 110    |
| Acenaphthylene                         | 100         | 62.51      |               | ug/L |   | 63   | 40 - 110    |
| Acetophenone                           | 100         | 82.21      |               | ug/L |   | 82   | 48 - 119    |
| Anthracene                             | 100         | 74.69      |               | ug/L |   | 75   | 51 - 120    |
| Benzo[a]anthracene                     | 100         | 81.03      |               | ug/L |   | 81   | 51 - 123    |
| Benzo[a]pyrene                         | 100         | 79.13      |               | ug/L |   | 79   | 48 - 125    |
| Benzo[b]fluoranthene                   | 100         | 83.37      |               | ug/L |   | 83   | 49 - 129    |
| Benzo[g,h,i]perylene                   | 100         | 75.17      |               | ug/L |   | 75   | 43 - 139    |
| Benzo[k]fluoranthene                   | 100         | 78.83      |               | ug/L |   | 79   | 47 - 130    |
| Benzyl alcohol                         | 100         | 79.71      |               | ug/L |   | 80   | 39 - 128    |
| Bis(2-chloroethoxy)methane             | 100         | 91.99      |               | ug/L |   | 92   | 48 - 121    |
| Bis(2-chloroethyl)ether                | 100         | 86.32      |               | ug/L |   | 86   | 43 - 123    |
| bis (2-chloroisopropyl) ether          | 100         | 92.06      |               | ug/L |   | 92   | 34 - 123    |
| Bis(2-ethylhexyl) phthalate            | 100         | 83.76      |               | ug/L |   | 84   | 43 - 143    |
| Butyl benzyl phthalate                 | 100         | 87.95      |               | ug/L |   | 88   | 46 - 135    |
| Chrysene                               | 100         | 76.23      |               | ug/L |   | 76   | 51 - 125    |
| Dibenz(a,h)anthracene                  | 100         | 78.08      |               | ug/L |   | 78   | 38 - 149    |
| Dibenzofuran                           | 100         | 62.90      |               | ug/L |   | 63   | 45 - 112    |
| Diethyl phthalate                      | 100         | 74.26      |               | ug/L |   | 74   | 43 - 135    |
| Dimethyl phthalate                     | 100         | 73.07      |               | ug/L |   | 73   | 43 - 129    |
| Di-n-butyl phthalate                   | 100         | 76.28      |               | ug/L |   | 76   | 50 - 133    |
| Di-n-octyl phthalate                   | 100         | 88.85      |               | ug/L |   | 89   | 34 - 150    |
| Diphenylamine                          | 85.0        | 65.50      |               | ug/L |   | 77   | 48 - 122    |
| Fluoranthene                           | 100         | 71.46      |               | ug/L |   | 71   | 47 - 128    |
| Fluorene                               | 100         | 69.43      |               | ug/L |   | 69   | 45 - 119    |
| Hexachlorobenzene                      | 100         | 74.81      |               | ug/L |   | 75   | 48 - 119    |
| Hexachlorobutadiene                    | 100         | 40.13      |               | ug/L |   | 40   | 32 - 110    |
| Hexachlorocyclopentadiene              | 100         | 26.88      |               | ug/L |   | 27   | 10 - 110    |
| Hexachloroethane                       | 100         | 35.97      |               | ug/L |   | 36   | 31 - 110    |
| Indeno(1,2,3-cd)pyrene                 | 100         | 74.96      |               | ug/L |   | 75   | 37 - 150    |

Eurofins Cedar Falls

# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-393841/2-A

Matrix: Water

Analysis Batch: 393887

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 393841

| Analyte                   | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|---------------------------|----------------|---------------|------------------|------|---|------|----------------|
|                           |                |               |                  |      |   |      |                |
| Isophorone                | 100            | 86.68         |                  | ug/L |   | 87   | 50 - 125       |
| Nitrobenzene              | 100            | 84.82         |                  | ug/L |   | 85   | 47 - 116       |
| N-Nitrosodimethylamine    | 100            | 82.15         |                  | ug/L |   | 82   | 37 - 110       |
| N-Nitrosodi-n-propylamine | 100            | 89.79         |                  | ug/L |   | 90   | 45 - 130       |
| N-Nitrosodiphenylamine    | 100            | 77.05         |                  | ug/L |   | 77   | 49 - 121       |
| Pentachlorophenol         | 200            | 143.7         |                  | ug/L |   | 72   | 26 - 133       |
| Phenanthrene              | 100            | 77.51         |                  | ug/L |   | 78   | 51 - 117       |
| Phenol                    | 100            | 60.92         |                  | ug/L |   | 61   | 29 - 110       |
| Pyrene                    | 100            | 85.61         |                  | ug/L |   | 86   | 48 - 127       |

| Surrogate                   | LCS       |           | Limits   |
|-----------------------------|-----------|-----------|----------|
|                             | %Recovery | Qualifier |          |
| 2-Fluorophenol (Surr)       | 66        |           | 25 - 110 |
| Phenol-d5 (Surr)            | 57        |           | 21 - 110 |
| Nitrobenzene-d5 (Surr)      | 95        |           | 45 - 129 |
| 2-Fluorobiphenyl (Surr)     | 70        |           | 39 - 118 |
| 2,4,6-Tribromophenol (Surr) | 76        |           | 27 - 136 |
| Terphenyl-d14 (Surr)        | 97        |           | 12 - 144 |

Lab Sample ID: LCS 310-393841/2-A

Matrix: Water

Analysis Batch: 394008

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 393841

| Analyte                        | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|--------------------------------|----------------|---------------|------------------|------|---|------|----------------|
|                                |                |               |                  |      |   |      |                |
| 1,3,5-Trinitrobenzene          | 64.0           | 56.22         |                  | ug/L |   | 88   | 39 - 144       |
| 1,4-Naphthoquinone             | 64.0           | 41.35         |                  | ug/L |   | 65   | 37 - 149       |
| 1,4-Phenylenediamine           | 64.0           | <10.0         | *-               | ug/L |   | 1    | 20 - 120       |
| 1-Naphthylamine                | 64.0           | 28.21         |                  | ug/L |   | 44   | 19 - 110       |
| 2-Acetylaminofluorene          | 64.0           | 84.52         |                  | ug/L |   | 132  | 35 - 150       |
| 2-Naphthylamine                | 64.0           | 40.32         |                  | ug/L |   | 63   | 18 - 127       |
| 3,3'-Dimethylbenzidine         | 64.0           | 61.35         |                  | ug/L |   | 96   | 10 - 150       |
| 3-Methylcholanthrene           | 64.0           | 61.65         |                  | ug/L |   | 96   | 43 - 150       |
| 4-Aminobiphenyl                | 64.0           | 53.61         |                  | ug/L |   | 84   | 24 - 138       |
| 5-Nitro-o-toluidine            | 64.0           | 62.75         |                  | ug/L |   | 98   | 47 - 145       |
| 7,12-Dimethylbenz(a)anthracene | 64.0           | 51.81         |                  | ug/L |   | 81   | 51 - 129       |
| Chlorobenzilate                | 64.0           | 59.56         |                  | ug/L |   | 93   | 52 - 138       |
| Diallate                       | 64.0           | 55.05         |                  | ug/L |   | 86   | 42 - 141       |
| Dimethoate                     | 64.0           | 94.77         |                  | ug/L |   | 148  | 51 - 150       |
| Dinoseb                        | 64.0           | 62.43         |                  | ug/L |   | 98   | 25 - 146       |
| Disulfoton                     | 64.0           | 60.48         |                  | ug/L |   | 95   | 54 - 131       |
| Ethyl methanesulfonate         | 64.0           | 44.26         |                  | ug/L |   | 69   | 48 - 120       |
| Ethyl parathion                | 64.0           | 70.03         |                  | ug/L |   | 109  | 52 - 149       |
| Famphur                        | 64.0           | 250.8         | E *+             | ug/L |   | 392  | 44 - 150       |
| Hexachloropropene              | 64.0           | 12.94         |                  | ug/L |   | 20   | 10 - 110       |
| Isodrin                        | 64.0           | 50.95         |                  | ug/L |   | 80   | 52 - 125       |
| Kepone                         | 64.0           | 7.289         | J                | ug/L |   | 11   | 10 - 150       |
| Methapyrilene                  | 64.0           | 67.47         |                  | ug/L |   | 105  | 10 - 110       |
| Methyl methanesulfonate        | 64.0           | 27.83         |                  | ug/L |   | 43   | 36 - 110       |
| Methyl parathion               | 64.0           | 85.73         |                  | ug/L |   | 134  | 50 - 150       |

Eurofins Cedar Falls

# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 310-393841/2-A

Matrix: Water

Analysis Batch: 394008

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 393841

| Analyte                          | Spike | LCS    | LCS       | Unit | D | %Rec | %Rec     |  |
|----------------------------------|-------|--------|-----------|------|---|------|----------|--|
|                                  | Added | Result | Qualifier |      |   |      | Limits   |  |
| N-Nitrosodiethylamine            | 64.0  | 59.76  |           | ug/L |   | 93   | 47 - 138 |  |
| N-Nitrosodi-n-butylamine         | 64.0  | 63.71  |           | ug/L |   | 100  | 52 - 142 |  |
| N-Nitrosomethylethylamine        | 64.0  | 46.79  |           | ug/L |   | 73   | 54 - 123 |  |
| N-Nitrosopiperidine              | 64.0  | 51.11  |           | ug/L |   | 80   | 60 - 127 |  |
| N-Nitrosopyrrolidine             | 64.0  | 67.70  |           | ug/L |   | 106  | 56 - 143 |  |
| o,o',o"-Triethylphosphorothioate | 64.0  | 50.75  |           | ug/L |   | 79   | 45 - 113 |  |
| o-Toluidine                      | 64.0  | 51.36  |           | ug/L |   | 80   | 24 - 142 |  |
| p-Dimethylamino azobenzene       | 64.0  | 48.67  |           | ug/L |   | 76   | 42 - 138 |  |
| Pentachlorobenzene               | 64.0  | 34.37  |           | ug/L |   | 54   | 33 - 110 |  |
| Pentachloronitrobenzene          | 64.0  | 53.93  |           | ug/L |   | 84   | 65 - 127 |  |
| Phenacetin                       | 64.0  | 66.65  |           | ug/L |   | 104  | 56 - 146 |  |
| Phorate                          | 64.0  | 56.19  |           | ug/L |   | 88   | 57 - 135 |  |
| Pronamide                        | 64.0  | 71.67  |           | ug/L |   | 112  | 61 - 144 |  |
| Safrole                          | 64.0  | 40.16  |           | ug/L |   | 63   | 34 - 110 |  |
| Thionazin                        | 64.0  | 65.47  |           | ug/L |   | 102  | 52 - 147 |  |

Lab Sample ID: LCSD 310-393841/3-A

Matrix: Water

Analysis Batch: 393887

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 393841

| Analyte                                | Spike | LCSD   | LCSD      | Unit | D | %Rec | %Rec     |    | RPD |       |
|----------------------------------------|-------|--------|-----------|------|---|------|----------|----|-----|-------|
|                                        | Added | Result | Qualifier |      |   |      | Limits   |    | RPD | Limit |
| 1,2,4,5-Tetrachlorobenzene             | 100   | 48.15  |           | ug/L |   | 48   | 36 - 110 | 5  | 35  |       |
| 1,3-Dinitrobenzene                     | 100   | 68.70  |           | ug/L |   | 69   | 45 - 138 | 8  | 35  |       |
| 2,3,4,6-Tetrachlorophenol              | 100   | 64.68  |           | ug/L |   | 65   | 33 - 134 | 9  | 35  |       |
| 2,4,5-Trichlorophenol                  | 100   | 72.66  |           | ug/L |   | 73   | 35 - 133 | 7  | 35  |       |
| 2,4,6-Trichlorophenol                  | 100   | 71.30  |           | ug/L |   | 71   | 28 - 139 | 6  | 35  |       |
| 2,4-Dichlorophenol                     | 100   | 73.32  |           | ug/L |   | 73   | 41 - 124 | 10 | 35  |       |
| 2,4-Dimethylphenol                     | 100   | 69.38  |           | ug/L |   | 69   | 31 - 142 | 11 | 35  |       |
| 2,4-Dinitrophenol                      | 200   | 146.6  |           | ug/L |   | 73   | 10 - 138 | 1  | 35  |       |
| 2,4-Dinitrotoluene                     | 100   | 70.82  |           | ug/L |   | 71   | 47 - 137 | 7  | 35  |       |
| 2,6-Dichlorophenol                     | 100   | 71.15  |           | ug/L |   | 71   | 30 - 130 | 11 | 35  |       |
| 2,6-Dinitrotoluene                     | 100   | 69.36  |           | ug/L |   | 69   | 51 - 130 | 10 | 35  |       |
| 2-Chloronaphthalene                    | 100   | 57.85  |           | ug/L |   | 58   | 37 - 110 | 6  | 35  |       |
| 2-Chlorophenol                         | 100   | 66.69  |           | ug/L |   | 67   | 44 - 117 | 12 | 35  |       |
| 2-Methylnaphthalene                    | 100   | 55.04  |           | ug/L |   | 55   | 33 - 110 | 5  | 35  |       |
| 2-Methylphenol                         | 100   | 67.02  |           | ug/L |   | 67   | 47 - 118 | 12 | 35  |       |
| 2-Nitroaniline                         | 100   | 80.27  |           | ug/L |   | 80   | 50 - 135 | 7  | 35  |       |
| 2-Nitrophenol                          | 100   | 75.39  |           | ug/L |   | 75   | 41 - 129 | 10 | 35  |       |
| 3-Nitroaniline                         | 100   | 67.78  |           | ug/L |   | 68   | 42 - 139 | 8  | 35  |       |
| 4,6-Dinitro-2-methylphenol             | 200   | 149.3  |           | ug/L |   | 75   | 22 - 143 | 2  | 35  |       |
| 4-Bromophenyl phenyl ether             | 100   | 70.24  |           | ug/L |   | 70   | 45 - 119 | 3  | 35  |       |
| 4-Chloro-3-methylphenol                | 100   | 82.06  |           | ug/L |   | 82   | 49 - 130 | 9  | 35  |       |
| 4-Chloroaniline                        | 100   | 73.62  |           | ug/L |   | 74   | 21 - 139 | 9  | 35  |       |
| 4-Chlorophenyl phenyl ether            | 100   | 61.03  |           | ug/L |   | 61   | 44 - 116 | 7  | 35  |       |
| 4-Methylphenol (and/or 3-Methylphenol) | 100   | 70.68  |           | ug/L |   | 71   | 46 - 117 | 10 | 35  |       |
| 4-Nitroaniline                         | 100   | 81.78  |           | ug/L |   | 82   | 31 - 145 | 12 | 35  |       |
| 4-Nitrophenol                          | 200   | 101.5  |           | ug/L |   | 51   | 18 - 110 | 6  | 35  |       |
| Acenaphthene                           | 100   | 60.40  |           | ug/L |   | 60   | 43 - 110 | 5  | 35  |       |

Eurofins Cedar Falls

# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-393841/3-A

Matrix: Water

Analysis Batch: 393887

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 393841

| Analyte                       | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits |  | RPD | RPD Limit |
|-------------------------------|-------------|-------------|----------------|------|---|------|-------------|--|-----|-----------|
|                               |             |             |                |      |   |      |             |  |     |           |
| Acenaphthylene                | 100         | 58.56       |                | ug/L |   | 59   | 40 - 110    |  | 7   | 35        |
| Acetophenone                  | 100         | 72.79       |                | ug/L |   | 73   | 48 - 119    |  | 12  | 35        |
| Anthracene                    | 100         | 71.70       |                | ug/L |   | 72   | 51 - 120    |  | 4   | 35        |
| Benzo[a]anthracene            | 100         | 76.22       |                | ug/L |   | 76   | 51 - 123    |  | 6   | 35        |
| Benzo[a]pyrene                | 100         | 76.28       |                | ug/L |   | 76   | 48 - 125    |  | 4   | 35        |
| Benzo[b]fluoranthene          | 100         | 79.03       |                | ug/L |   | 79   | 49 - 129    |  | 5   | 35        |
| Benzo[g,h,i]perylene          | 100         | 72.68       |                | ug/L |   | 73   | 43 - 139    |  | 3   | 35        |
| Benzo[k]fluoranthene          | 100         | 78.05       |                | ug/L |   | 78   | 47 - 130    |  | 1   | 35        |
| Benzyl alcohol                | 100         | 70.92       |                | ug/L |   | 71   | 39 - 128    |  | 12  | 35        |
| Bis(2-chloroethoxy)methane    | 100         | 81.06       |                | ug/L |   | 81   | 48 - 121    |  | 13  | 35        |
| Bis(2-chloroethyl)ether       | 100         | 72.87       |                | ug/L |   | 73   | 43 - 123    |  | 17  | 35        |
| bis (2-chloroisopropyl) ether | 100         | 82.42       |                | ug/L |   | 82   | 34 - 123    |  | 11  | 35        |
| Bis(2-ethylhexyl) phthalate   | 100         | 82.07       |                | ug/L |   | 82   | 43 - 143    |  | 2   | 35        |
| Butyl benzyl phthalate        | 100         | 85.16       |                | ug/L |   | 85   | 46 - 135    |  | 3   | 35        |
| Chrysene                      | 100         | 73.83       |                | ug/L |   | 74   | 51 - 125    |  | 3   | 35        |
| Dibenz(a,h)anthracene         | 100         | 76.68       |                | ug/L |   | 77   | 38 - 149    |  | 2   | 35        |
| Dibenzofuran                  | 100         | 59.61       |                | ug/L |   | 60   | 45 - 112    |  | 5   | 35        |
| Diethyl phthalate             | 100         | 66.48       |                | ug/L |   | 66   | 43 - 135    |  | 11  | 35        |
| Dimethyl phthalate            | 100         | 67.34       |                | ug/L |   | 67   | 43 - 129    |  | 8   | 35        |
| Di-n-butyl phthalate          | 100         | 73.37       |                | ug/L |   | 73   | 50 - 133    |  | 4   | 35        |
| Di-n-octyl phthalate          | 100         | 88.14       |                | ug/L |   | 88   | 34 - 150    |  | 1   | 35        |
| Diphenylamine                 | 85.0        | 63.33       |                | ug/L |   | 75   | 48 - 122    |  | 3   | 35        |
| Fluoranthene                  | 100         | 69.08       |                | ug/L |   | 69   | 47 - 128    |  | 3   | 35        |
| Fluorene                      | 100         | 64.26       |                | ug/L |   | 64   | 45 - 119    |  | 8   | 35        |
| Hexachlorobenzene             | 100         | 72.60       |                | ug/L |   | 73   | 48 - 119    |  | 3   | 35        |
| Hexachlorobutadiene           | 100         | 39.59       |                | ug/L |   | 40   | 32 - 110    |  | 1   | 35        |
| Hexachlorocyclopentadiene     | 100         | 26.70       |                | ug/L |   | 27   | 10 - 110    |  | 1   | 35        |
| Hexachloroethane              | 100         | 35.35       |                | ug/L |   | 35   | 31 - 110    |  | 2   | 35        |
| Indeno(1,2,3-cd)pyrene        | 100         | 73.32       |                | ug/L |   | 73   | 37 - 150    |  | 2   | 35        |
| Isophorone                    | 100         | 78.66       |                | ug/L |   | 79   | 50 - 125    |  | 10  | 35        |
| Nitrobenzene                  | 100         | 77.22       |                | ug/L |   | 77   | 47 - 116    |  | 9   | 35        |
| N-Nitrosodimethylamine        | 100         | 73.71       |                | ug/L |   | 74   | 37 - 110    |  | 11  | 35        |
| N-Nitrosodi-n-propylamine     | 100         | 80.87       |                | ug/L |   | 81   | 45 - 130    |  | 10  | 35        |
| N-Nitrosodiphenylamine        | 100         | 74.50       |                | ug/L |   | 75   | 49 - 121    |  | 3   | 35        |
| Pentachlorophenol             | 200         | 145.8       |                | ug/L |   | 73   | 26 - 133    |  | 1   | 35        |
| Phenanthrene                  | 100         | 74.79       |                | ug/L |   | 75   | 51 - 117    |  | 4   | 35        |
| Phenol                        | 100         | 53.52       |                | ug/L |   | 54   | 29 - 110    |  | 13  | 35        |
| Pyrene                        | 100         | 81.96       |                | ug/L |   | 82   | 48 - 127    |  | 4   | 35        |

| Surrogate                   | LCSD      |           | Limits   |
|-----------------------------|-----------|-----------|----------|
|                             | %Recovery | Qualifier |          |
| 2-Fluorophenol (Surr)       | 63        |           | 25 - 110 |
| Phenol-d5 (Surr)            | 54        |           | 21 - 110 |
| Nitrobenzene-d5 (Surr)      | 92        |           | 45 - 129 |
| 2-Fluorobiphenyl (Surr)     | 70        |           | 39 - 118 |
| 2,4,6-Tribromophenol (Surr) | 75        |           | 27 - 136 |
| Terphenyl-d14 (Surr)        | 99        |           | 12 - 144 |

Eurofins Cedar Falls

# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8270E - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 310-393841/3-A

Matrix: Water

Analysis Batch: 394008

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 393841

| Analyte                          | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec     |  | RPD | Limit |
|----------------------------------|-------------|-------------|----------------|------|---|------|----------|--|-----|-------|
|                                  |             |             |                |      |   |      | Limits   |  |     |       |
| 1,3,5-Trinitrobenzene            | 64.0        | 57.01       |                | ug/L |   | 89   | 39 - 144 |  | 1   | 35    |
| 1,4-Naphthoquinone               | 64.0        | 39.48       |                | ug/L |   | 62   | 37 - 149 |  | 5   | 29    |
| 1,4-Phenylenediamine             | 64.0        | <10.0       | *- *1          | ug/L |   | 0.8  | 20 - 120 |  | 42  | 35    |
| 1-Naphthylamine                  | 64.0        | 26.65       |                | ug/L |   | 42   | 19 - 110 |  | 6   | 35    |
| 2-Acetylaminofluorene            | 64.0        | 83.30       |                | ug/L |   | 130  | 35 - 150 |  | 1   | 28    |
| 2-Naphthylamine                  | 64.0        | 39.57       |                | ug/L |   | 62   | 18 - 127 |  | 2   | 35    |
| 3,3'-Dimethylbenzidine           | 64.0        | 40.14       | *1             | ug/L |   | 63   | 10 - 150 |  | 42  | 35    |
| 3-Methylcholanthrene             | 64.0        | 61.33       |                | ug/L |   | 96   | 43 - 150 |  | 1   | 32    |
| 4-Aminobiphenyl                  | 64.0        | 51.53       |                | ug/L |   | 81   | 24 - 138 |  | 4   | 35    |
| 5-Nitro-o-toluidine              | 64.0        | 64.21       |                | ug/L |   | 100  | 47 - 145 |  | 2   | 31    |
| 7,12-Dimethylbenz(a)anthracene   | 64.0        | 50.46       |                | ug/L |   | 79   | 51 - 129 |  | 3   | 28    |
| Chlorobenzilate                  | 64.0        | 59.67       |                | ug/L |   | 93   | 52 - 138 |  | 0   | 28    |
| Diallate                         | 64.0        | 54.44       |                | ug/L |   | 85   | 42 - 141 |  | 1   | 35    |
| Dimethoate                       | 64.0        | 93.12       |                | ug/L |   | 145  | 51 - 150 |  | 2   | 26    |
| Dinoseb                          | 64.0        | 62.96       |                | ug/L |   | 98   | 25 - 146 |  | 1   | 35    |
| Disulfoton                       | 64.0        | 59.37       |                | ug/L |   | 93   | 54 - 131 |  | 2   | 24    |
| Ethyl methanesulfonate           | 64.0        | 41.10       |                | ug/L |   | 64   | 48 - 120 |  | 7   | 27    |
| Ethyl parathion                  | 64.0        | 72.18       |                | ug/L |   | 113  | 52 - 149 |  | 3   | 26    |
| Famphur                          | 64.0        | 262.0       | E *+           | ug/L |   | 409  | 44 - 150 |  | 4   | 35    |
| Hexachloropropene                | 64.0        | 12.54       |                | ug/L |   | 20   | 10 - 110 |  | 3   | 35    |
| Isodrin                          | 64.0        | 51.54       |                | ug/L |   | 81   | 52 - 125 |  | 1   | 26    |
| Kepone                           | 64.0        | 6.633       | J              | ug/L |   | 10   | 10 - 150 |  | 9   | 35    |
| Methapyrilene                    | 64.0        | 21.45       | *1             | ug/L |   | 34   | 10 - 110 |  | 103 | 35    |
| Methyl methanesulfonate          | 64.0        | 25.29       |                | ug/L |   | 40   | 36 - 110 |  | 10  | 26    |
| Methyl parathion                 | 64.0        | 80.78       |                | ug/L |   | 126  | 50 - 150 |  | 6   | 25    |
| N-Nitrosodiethylamine            | 64.0        | 55.72       |                | ug/L |   | 87   | 47 - 138 |  | 7   | 26    |
| N-Nitrosodi-n-butylamine         | 64.0        | 63.43       |                | ug/L |   | 99   | 52 - 142 |  | 0   | 27    |
| N-Nitrosomethylethylamine        | 64.0        | 43.96       |                | ug/L |   | 69   | 54 - 123 |  | 6   | 26    |
| N-Nitrosopiperidine              | 64.0        | 49.69       |                | ug/L |   | 78   | 60 - 127 |  | 3   | 26    |
| N-Nitrosopyrrolidine             | 64.0        | 65.78       |                | ug/L |   | 103  | 56 - 143 |  | 3   | 25    |
| o,o',o"-Triethylphosphorothioate | 64.0        | 48.00       |                | ug/L |   | 75   | 45 - 113 |  | 6   | 33    |
| o-Toluidine                      | 64.0        | 48.40       |                | ug/L |   | 76   | 24 - 142 |  | 6   | 35    |
| p-Dimethylamino azobenzene       | 64.0        | 49.14       |                | ug/L |   | 77   | 42 - 138 |  | 1   | 29    |
| Pentachlorobenzene               | 64.0        | 35.04       |                | ug/L |   | 55   | 33 - 110 |  | 2   | 35    |
| Pentachloronitrobenzene          | 64.0        | 53.12       |                | ug/L |   | 83   | 65 - 127 |  | 2   | 29    |
| Phenacetin                       | 64.0        | 65.87       |                | ug/L |   | 103  | 56 - 146 |  | 1   | 25    |
| Phorate                          | 64.0        | 55.59       |                | ug/L |   | 87   | 57 - 135 |  | 1   | 26    |
| Pronamide                        | 64.0        | 71.44       |                | ug/L |   | 112  | 61 - 144 |  | 0   | 27    |
| Safrole                          | 64.0        | 37.70       |                | ug/L |   | 59   | 34 - 110 |  | 6   | 35    |
| Thionazin                        | 64.0        | 66.59       |                | ug/L |   | 104  | 52 - 147 |  | 2   | 28    |

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection)

Lab Sample ID: MB 310-394639/13

Matrix: Water

Analysis Batch: 394639

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte      | MB MB  |           | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|--------------|--------|-----------|------|-------|------|---|----------|----------------|---------|
|              | Result | Qualifier |      |       |      |   |          |                |         |
| Acetonitrile | <10.0  |           | 10.0 | 0.570 | mg/L |   |          | 07/25/23 18:50 | 1       |

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# QC Sample Results

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

## Method: 8015C - Nonhalogenated Organic using GC/FID (Direct Aqueous Injection) (Continued)

Lab Sample ID: MB 310-394639/13

Matrix: Water

Analysis Batch: 394639

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte    | MB<br>Result | MB<br>Qualifier | RL   | MDL   | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------|--------------|-----------------|------|-------|------|---|----------|----------------|---------|
| Isobutanol | <10.0        |                 | 10.0 | 0.550 | mg/L |   |          | 07/25/23 18:50 | 1       |

Lab Sample ID: LCS 310-394639/14

Matrix: Water

Analysis Batch: 394639

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte      | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|--------------|----------------|---------------|------------------|------|---|------|----------------|
| Acetonitrile | 51.2           | 57.47         |                  | mg/L |   | 112  | 66 - 122       |

## Method: 8081B - Organochlorine Pesticides (GC)

Lab Sample ID: MB 310-393849/1-A

Matrix: Water

Analysis Batch: 393904

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 393849

| Analyte         | MB<br>Result | MB<br>Qualifier | RL     | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------------|--------------|-----------------|--------|--------|------|---|----------------|----------------|---------|
| Endrin aldehyde | <0.0640      |                 | 0.0640 | 0.0290 | ug/L |   | 07/18/23 08:23 | 07/18/23 15:15 | 1       |

| Surrogate                     | %Recovery | MB<br>Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|-----------|-----------------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl (Surr) | 71        |                 | 10 - 136 | 07/18/23 08:23 | 07/18/23 15:15 | 1       |
| Tetrachloro-m-xylene          | 55        |                 | 10 - 130 | 07/18/23 08:23 | 07/18/23 15:15 | 1       |

Lab Sample ID: LCS 310-393849/4-A

Matrix: Water

Analysis Batch: 393904

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 393849

| Analyte         | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|-----------------|----------------|---------------|------------------|------|---|------|----------------|
| Endrin aldehyde | 1.00           | 0.7885        |                  | ug/L |   | 79   | 32 - 137       |

| Surrogate                     | %Recovery | LCS<br>Qualifier | Limits   |
|-------------------------------|-----------|------------------|----------|
| DCB Decachlorobiphenyl (Surr) | 71        |                  | 10 - 136 |
| Tetrachloro-m-xylene          | 61        |                  | 10 - 130 |

Lab Sample ID: LCSD 310-393849/5-A

Matrix: Water

Analysis Batch: 393904

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 393849

| Analyte         | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits | RPD | RPD<br>Limit |
|-----------------|----------------|----------------|-------------------|------|---|------|----------------|-----|--------------|
| Endrin aldehyde | 1.00           | 0.7902         |                   | ug/L |   | 79   | 32 - 137       | 0   | 35           |

| Surrogate                     | %Recovery | LCSD<br>Qualifier | Limits   |
|-------------------------------|-----------|-------------------|----------|
| DCB Decachlorobiphenyl (Surr) | 68        |                   | 10 - 136 |
| Tetrachloro-m-xylene          | 73        |                   | 10 - 130 |

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# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8082A - Polychlorinated Biphenyls (PCBs) by Gas Chromatography

Lab Sample ID: MB 310-393849/1-A

Matrix: Water

Analysis Batch: 393863

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 393849

| Analyte  | MB Result | MB Qualifier | RL    | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------|-----------|--------------|-------|-------|------|---|----------------|----------------|---------|
| PCB-1016 | <0.800    |              | 0.800 | 0.170 | ug/L |   | 07/18/23 08:23 | 07/18/23 14:19 | 1       |
| PCB-1221 | <0.800    |              | 0.800 | 0.170 | ug/L |   | 07/18/23 08:23 | 07/18/23 14:19 | 1       |
| PCB-1232 | <0.800    |              | 0.800 | 0.170 | ug/L |   | 07/18/23 08:23 | 07/18/23 14:19 | 1       |
| PCB-1242 | <0.800    |              | 0.800 | 0.170 | ug/L |   | 07/18/23 08:23 | 07/18/23 14:19 | 1       |
| PCB-1248 | <0.800    |              | 0.800 | 0.110 | ug/L |   | 07/18/23 08:23 | 07/18/23 14:19 | 1       |
| PCB-1254 | <0.800    |              | 0.800 | 0.110 | ug/L |   | 07/18/23 08:23 | 07/18/23 14:19 | 1       |
| PCB-1260 | <0.800    |              | 0.800 | 0.110 | ug/L |   | 07/18/23 08:23 | 07/18/23 14:19 | 1       |

| Surrogate                     | MB %Recovery | MB Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-------------------------------|--------------|--------------|----------|----------------|----------------|---------|
| DCB Decachlorobiphenyl (Surr) | 80           |              | 10 - 136 | 07/18/23 08:23 | 07/18/23 14:19 | 1       |
| Tetrachloro-m-xylene (Surr)   | 49           |              | 10 - 130 | 07/18/23 08:23 | 07/18/23 14:19 | 1       |

Lab Sample ID: LCS 310-393849/2-A

Matrix: Water

Analysis Batch: 393863

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 393849

| Analyte  | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|----------|-------------|------------|---------------|------|---|------|-------------|
| PCB-1016 | 10.0        | 7.523      |               | ug/L |   | 75   | 30 - 133    |
| PCB-1260 | 10.0        | 8.336      |               | ug/L |   | 83   | 31 - 133    |

| Surrogate                     | LCS %Recovery | LCS Qualifier | Limits   |
|-------------------------------|---------------|---------------|----------|
| DCB Decachlorobiphenyl (Surr) | 63            |               | 10 - 136 |
| Tetrachloro-m-xylene (Surr)   | 54            |               | 10 - 130 |

Lab Sample ID: LCSD 310-393849/3-A

Matrix: Water

Analysis Batch: 393863

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 393849

| Analyte  | Spike Added | LCSD Result | LCSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|----------|-------------|-------------|----------------|------|---|------|-------------|-----|-----------|
| PCB-1016 | 10.0        | 7.947       |                | ug/L |   | 79   | 30 - 133    | 5   | 35        |
| PCB-1260 | 10.0        | 8.418       |                | ug/L |   | 84   | 31 - 133    | 1   | 35        |

| Surrogate                     | LCSD %Recovery | LCSD Qualifier | Limits   |
|-------------------------------|----------------|----------------|----------|
| DCB Decachlorobiphenyl (Surr) | 64             |                | 10 - 136 |
| Tetrachloro-m-xylene (Surr)   | 55             |                | 10 - 130 |

## Method: 8151A - Herbicides (GC)

Lab Sample ID: MB 500-723827/1-A

Matrix: Water

Analysis Batch: 723908

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 723827

| Analyte           | MB Result | MB Qualifier | RL   | MDL    | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-------------------|-----------|--------------|------|--------|------|---|----------------|----------------|---------|
| 2,4-D             | <1.00     |              | 1.00 | 0.307  | ug/L |   | 07/19/23 16:28 | 07/20/23 15:20 | 1       |
| Silvex (2,4,5-TP) | <1.00     |              | 1.00 | 0.0834 | ug/L |   | 07/19/23 16:28 | 07/20/23 15:20 | 1       |
| 2,4,5-T           | <1.00     |              | 1.00 | 0.144  | ug/L |   | 07/19/23 16:28 | 07/20/23 15:20 | 1       |

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# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 8151A - Herbicides (GC) (Continued)

Lab Sample ID: MB 500-723827/1-A

Matrix: Water

Analysis Batch: 723908

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 723827

| Surrogate | MB<br>%Recovery | MB<br>Qualifier | Limits   | Prepared       | Analyzed       | Dil Fac |
|-----------|-----------------|-----------------|----------|----------------|----------------|---------|
| DCAA      | 72              |                 | 25 - 130 | 07/19/23 16:28 | 07/20/23 15:20 | 1       |

Lab Sample ID: LCS 500-723827/2-A

Matrix: Water

Analysis Batch: 723908

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 723827

| Analyte           | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|-------------------|----------------|---------------|------------------|------|---|------|----------------|
| 2,4-D             | 10.1           | 7.825         |                  | ug/L |   | 78   | 30 - 115       |
| Silvex (2,4,5-TP) | 2.50           | 1.911         |                  | ug/L |   | 76   | 32 - 115       |
| 2,4,5-T           | 2.53           | 1.994         |                  | ug/L |   | 79   | 30 - 115       |

| Surrogate | LCS<br>%Recovery | LCS<br>Qualifier | Limits   |
|-----------|------------------|------------------|----------|
| DCAA      | 77               |                  | 25 - 130 |

Lab Sample ID: LCSD 500-723827/3-A

Matrix: Water

Analysis Batch: 723908

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 723827

| Analyte           | Spike<br>Added | LCSD<br>Result | LCSD<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits | RPD | RPD<br>Limit |
|-------------------|----------------|----------------|-------------------|------|---|------|----------------|-----|--------------|
| 2,4-D             | 10.1           | 8.686          |                   | ug/L |   | 86   | 30 - 115       | 10  | 20           |
| Silvex (2,4,5-TP) | 2.50           | 2.073          |                   | ug/L |   | 83   | 32 - 115       | 8   | 20           |
| 2,4,5-T           | 2.53           | 2.186          |                   | ug/L |   | 87   | 30 - 115       | 9   | 20           |

| Surrogate | LCSD<br>%Recovery | LCSD<br>Qualifier | Limits   |
|-----------|-------------------|-------------------|----------|
| DCAA      | 81                |                   | 25 - 130 |

## Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 310-393827/1-A

Matrix: Water

Analysis Batch: 395331

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 393827

| Analyte   | MB<br>Result | MB<br>Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|-----------|--------------|-----------------|----------|----------|------|---|----------------|----------------|---------|
| Antimony  | <0.00200     |                 | 0.00200  | 0.00100  | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Arsenic   | <0.00200     |                 | 0.00200  | 0.000530 | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Barium    | <0.00200     |                 | 0.00200  | 0.000640 | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Beryllium | <0.00100     |                 | 0.00100  | 0.000330 | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Cadmium   | <0.000200    |                 | 0.000200 | 0.000100 | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Chromium  | <0.00500     |                 | 0.00500  | 0.00110  | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Cobalt    | <0.000500    |                 | 0.000500 | 0.000170 | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Copper    | <0.00500     |                 | 0.00500  | 0.00180  | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Lead      | <0.000500    |                 | 0.000500 | 0.000240 | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Nickel    | <0.00500     |                 | 0.00500  | 0.00190  | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Selenium  | <0.00500     |                 | 0.00500  | 0.00140  | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Silver    | <0.00100     |                 | 0.00100  | 0.000500 | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Thallium  | <0.00100     |                 | 0.00100  | 0.000260 | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Vanadium  | <0.00500     |                 | 0.00500  | 0.00110  | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |
| Zinc      | <0.0200      |                 | 0.0200   | 0.00640  | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |

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# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 310-393827/1-A  
Matrix: Water  
Analysis Batch: 395331

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 393827

| Analyte | MB Result | MB Qualifier | RL      | MDL     | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|-----------|--------------|---------|---------|------|---|----------------|----------------|---------|
| Tin     | <0.00500  |              | 0.00500 | 0.00230 | mg/L |   | 07/18/23 08:45 | 08/01/23 19:47 | 1       |

Lab Sample ID: LCS 310-393827/2-A  
Matrix: Water  
Analysis Batch: 395331

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 393827

| Analyte   | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|-----------|-------------|------------|---------------|------|---|------|-------------|
| Antimony  | 0.200       | 0.2176     |               | mg/L |   | 109  | 80 - 120    |
| Arsenic   | 0.200       | 0.2085     |               | mg/L |   | 104  | 80 - 120    |
| Barium    | 0.100       | 0.1087     |               | mg/L |   | 109  | 80 - 120    |
| Beryllium | 0.100       | 0.1075     |               | mg/L |   | 107  | 80 - 120    |
| Cadmium   | 0.100       | 0.1002     |               | mg/L |   | 100  | 80 - 120    |
| Chromium  | 0.100       | 0.1056     |               | mg/L |   | 106  | 80 - 120    |
| Cobalt    | 0.100       | 0.1081     |               | mg/L |   | 108  | 80 - 120    |
| Copper    | 0.200       | 0.2190     |               | mg/L |   | 110  | 80 - 120    |
| Lead      | 0.200       | 0.2307     |               | mg/L |   | 115  | 80 - 120    |
| Nickel    | 0.200       | 0.2166     |               | mg/L |   | 108  | 80 - 120    |
| Selenium  | 0.400       | 0.4433     |               | mg/L |   | 111  | 80 - 120    |
| Silver    | 0.100       | 0.1755     | *+            | mg/L |   | 175  | 80 - 120    |
| Thallium  | 0.200       | 0.1937     |               | mg/L |   | 97   | 80 - 120    |
| Vanadium  | 0.100       | 0.1057     |               | mg/L |   | 106  | 80 - 120    |
| Zinc      | 0.200       | 0.2036     |               | mg/L |   | 102  | 80 - 120    |
| Tin       | 0.200       | 0.2854     | *+            | mg/L |   | 143  | 80 - 120    |

Lab Sample ID: 310-260435-7 DU  
Matrix: Water  
Analysis Batch: 395331

Client Sample ID: MW-D  
Prep Type: Total/NA  
Prep Batch: 393827

| Analyte   | Sample Result | Sample Qualifier | DU Result | DU Qualifier | Unit | D | RPD | Limit |
|-----------|---------------|------------------|-----------|--------------|------|---|-----|-------|
| Antimony  | <0.00200      |                  | <0.00200  |              | mg/L |   | NC  | 20    |
| Arsenic   | <0.00200      |                  | <0.00200  |              | mg/L |   | NC  | 20    |
| Barium    | 0.0109        |                  | 0.01060   |              | mg/L |   | 3   | 20    |
| Beryllium | <0.00100      |                  | <0.00100  |              | mg/L |   | NC  | 20    |
| Cadmium   | <0.000200     |                  | <0.000200 |              | mg/L |   | NC  | 20    |
| Chromium  | <0.00500      |                  | <0.00500  |              | mg/L |   | NC  | 20    |
| Cobalt    | 0.000264      | J                | 0.0002640 | J            | mg/L |   | 0   | 20    |
| Copper    | <0.00500      |                  | <0.00500  |              | mg/L |   | NC  | 20    |
| Lead      | <0.000500     |                  | <0.000500 |              | mg/L |   | NC  | 20    |
| Nickel    | <0.00500      |                  | <0.00500  |              | mg/L |   | NC  | 20    |
| Selenium  | <0.00500      |                  | <0.00500  |              | mg/L |   | NC  | 20    |
| Silver    | <0.00100      | *+               | <0.00100  | *+           | mg/L |   | NC  | 20    |
| Thallium  | <0.00100      |                  | <0.00100  |              | mg/L |   | NC  | 20    |
| Vanadium  | <0.00500      |                  | <0.00500  |              | mg/L |   | NC  | 20    |
| Zinc      | <0.0200       |                  | <0.0200   |              | mg/L |   | NC  | 20    |
| Tin       | <0.00500      | *+               | <0.00500  | *+           | mg/L |   | NC  | 20    |

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# QC Sample Results

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 310-393883/1-A  
Matrix: Water  
Analysis Batch: 394063

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 393883

| Analyte | MB<br>Result | MB<br>Qualifier | RL       | MDL      | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------------|-----------------|----------|----------|------|---|----------------|----------------|---------|
| Mercury | <0.000200    |                 | 0.000200 | 0.000140 | mg/L |   | 07/18/23 11:02 | 07/19/23 11:49 | 1       |

Lab Sample ID: LCS 310-393883/2-A  
Matrix: Water  
Analysis Batch: 394063

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 393883

| Analyte | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|---------|----------------|---------------|------------------|------|---|------|----------------|
| Mercury | 0.00167        | 0.001647      |                  | mg/L |   | 99   | 80 - 120       |

## Method: 9012B - Cyanide, Total and/or Amenable

Lab Sample ID: MB 310-393994/1-A  
Matrix: Water  
Analysis Batch: 394233

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 393994

| Analyte        | MB<br>Result | MB<br>Qualifier | RL     | MDL     | Unit | D | Prepared       | Analyzed       | Dil Fac |
|----------------|--------------|-----------------|--------|---------|------|---|----------------|----------------|---------|
| Cyanide, Total | <0.0100      |                 | 0.0100 | 0.00430 | mg/L |   | 07/19/23 09:11 | 07/20/23 21:36 | 1       |

Lab Sample ID: LCS 310-393994/2-A  
Matrix: Water  
Analysis Batch: 394233

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 393994

| Analyte        | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|----------------|----------------|---------------|------------------|------|---|------|----------------|
| Cyanide, Total | 0.200          | 0.1903        |                  | mg/L |   | 95   | 90 - 110       |

## Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric)

Lab Sample ID: MB 500-724585/1-A  
Matrix: Water  
Analysis Batch: 724586

Client Sample ID: Method Blank  
Prep Type: Total/NA  
Prep Batch: 724585

| Analyte | MB<br>Result | MB<br>Qualifier | RL   | MDL   | Unit | D | Prepared       | Analyzed       | Dil Fac |
|---------|--------------|-----------------|------|-------|------|---|----------------|----------------|---------|
| Sulfide | <1.00        |                 | 1.00 | 0.231 | mg/L |   | 07/20/23 18:30 | 07/24/23 21:41 | 1       |

Lab Sample ID: LCS 500-724585/2-A  
Matrix: Water  
Analysis Batch: 724586

Client Sample ID: Lab Control Sample  
Prep Type: Total/NA  
Prep Batch: 724585

| Analyte | Spike<br>Added | LCS<br>Result | LCS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|---------|----------------|---------------|------------------|------|---|------|----------------|
| Sulfide | 3.96           | 3.904         |                  | mg/L |   | 99   | 80 - 120       |

Lab Sample ID: 310-260435-5 MS  
Matrix: Water  
Analysis Batch: 724586

Client Sample ID: PZ-21  
Prep Type: Total/NA  
Prep Batch: 724585

| Analyte | Sample<br>Result | Sample<br>Qualifier | Spike<br>Added | MS<br>Result | MS<br>Qualifier | Unit | D | %Rec | %Rec<br>Limits |
|---------|------------------|---------------------|----------------|--------------|-----------------|------|---|------|----------------|
| Sulfide | <1.00            |                     | 3.96           | 4.272        |                 | mg/L |   | 108  | 75 - 125       |

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## QC Sample Results

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

### Method: 9034 - Sulfide, Acid soluble and Insoluble (Titrimetric) (Continued)

Lab Sample ID: 310-260435-5 MSD

Matrix: Water

Analysis Batch: 724586

Client Sample ID: PZ-21

Prep Type: Total/NA

Prep Batch: 724585

| Analyte | Sample Result | Sample Qualifier | Spike Added | MSD Result | MSD Qualifier | Unit | D | %Rec | %Rec Limits | RPD | RPD Limit |
|---------|---------------|------------------|-------------|------------|---------------|------|---|------|-------------|-----|-----------|
| Sulfide | <1.00         |                  | 3.96        | 4.224      |               | mg/L |   | 107  | 75 - 125    | 1   | 20        |

### Method: I-3765-85 - Residue, Non-filterable (TSS)

Lab Sample ID: MB 310-394084/1

Matrix: Water

Analysis Batch: 394084

Client Sample ID: Method Blank

Prep Type: Total/NA

| Analyte                | MB Result | MB Qualifier | RL   | MDL  | Unit | D | Prepared | Analyzed       | Dil Fac |
|------------------------|-----------|--------------|------|------|------|---|----------|----------------|---------|
| Total Suspended Solids | <5.00     |              | 5.00 | 1.70 | mg/L |   |          | 07/19/23 20:36 | 1       |

Lab Sample ID: LCS 310-394084/2

Matrix: Water

Analysis Batch: 394084

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

| Analyte                | Spike Added | LCS Result | LCS Qualifier | Unit | D | %Rec | %Rec Limits |
|------------------------|-------------|------------|---------------|------|---|------|-------------|
| Total Suspended Solids | 100         | 108.0      |               | mg/L |   | 108  | 75 - 116    |

## QC Association Summary

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

### GC/MS VOA

#### Analysis Batch: 393777

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|------------------|--------------------|-----------|--------|--------|------------|
| 310-260435-3     | MW-89-7            | Total/NA  | Water  | 8260D  |            |
| 310-260435-4     | MW-89-9R           | Total/NA  | Water  | 8260D  |            |
| 310-260435-8     | Trip Blank         | Total/NA  | Water  | 8260D  |            |
| MB 310-393777/5  | Method Blank       | Total/NA  | Water  | 8260D  |            |
| LCS 310-393777/6 | Lab Control Sample | Total/NA  | Water  | 8260D  |            |
| LCS 310-393777/7 | Lab Control Sample | Total/NA  | Water  | 8260D  |            |

### GC/MS Semi VOA

#### Prep Batch: 393841

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 310-260435-3        | MW-89-7                | Total/NA  | Water  | 3510C  |            |
| 310-260435-4        | MW-89-9R               | Total/NA  | Water  | 3510C  |            |
| MB 310-393841/1-A   | Method Blank           | Total/NA  | Water  | 3510C  |            |
| LCS 310-393841/2-A  | Lab Control Sample     | Total/NA  | Water  | 3510C  |            |
| LCSD 310-393841/3-A | Lab Control Sample Dup | Total/NA  | Water  | 3510C  |            |

#### Analysis Batch: 393887

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 310-260435-3        | MW-89-7                | Total/NA  | Water  | 8270E  | 393841     |
| 310-260435-4        | MW-89-9R               | Total/NA  | Water  | 8270E  | 393841     |
| MB 310-393841/1-A   | Method Blank           | Total/NA  | Water  | 8270E  | 393841     |
| LCS 310-393841/2-A  | Lab Control Sample     | Total/NA  | Water  | 8270E  | 393841     |
| LCSD 310-393841/3-A | Lab Control Sample Dup | Total/NA  | Water  | 8270E  | 393841     |

#### Analysis Batch: 394008

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 310-260435-3        | MW-89-7                | Total/NA  | Water  | 8270E  | 393841     |
| 310-260435-4        | MW-89-9R               | Total/NA  | Water  | 8270E  | 393841     |
| MB 310-393841/1-A   | Method Blank           | Total/NA  | Water  | 8270E  | 393841     |
| LCS 310-393841/2-A  | Lab Control Sample     | Total/NA  | Water  | 8270E  | 393841     |
| LCSD 310-393841/3-A | Lab Control Sample Dup | Total/NA  | Water  | 8270E  | 393841     |

### GC Semi VOA

#### Prep Batch: 393849

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 310-260435-2        | MW-89-6R               | Total/NA  | Water  | 3510C  |            |
| 310-260435-3        | MW-89-7                | Total/NA  | Water  | 3510C  |            |
| 310-260435-4        | MW-89-9R               | Total/NA  | Water  | 3510C  |            |
| MB 310-393849/1-A   | Method Blank           | Total/NA  | Water  | 3510C  |            |
| LCS 310-393849/2-A  | Lab Control Sample     | Total/NA  | Water  | 3510C  |            |
| LCS 310-393849/4-A  | Lab Control Sample     | Total/NA  | Water  | 3510C  |            |
| LCSD 310-393849/3-A | Lab Control Sample Dup | Total/NA  | Water  | 3510C  |            |
| LCSD 310-393849/5-A | Lab Control Sample Dup | Total/NA  | Water  | 3510C  |            |

#### Analysis Batch: 393862

| Lab Sample ID | Client Sample ID | Prep Type | Matrix | Method | Prep Batch |
|---------------|------------------|-----------|--------|--------|------------|
| 310-260435-3  | MW-89-7          | Total/NA  | Water  | 8081B  | 393849     |
| 310-260435-4  | MW-89-9R         | Total/NA  | Water  | 8081B  | 393849     |

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## QC Association Summary

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

### GC Semi VOA

#### Analysis Batch: 393863

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 310-260435-3        | MW-89-7                | Total/NA  | Water  | 8082A  | 393849     |
| 310-260435-4        | MW-89-9R               | Total/NA  | Water  | 8082A  | 393849     |
| MB 310-393849/1-A   | Method Blank           | Total/NA  | Water  | 8082A  | 393849     |
| LCS 310-393849/2-A  | Lab Control Sample     | Total/NA  | Water  | 8082A  | 393849     |
| LCSD 310-393849/3-A | Lab Control Sample Dup | Total/NA  | Water  | 8082A  | 393849     |

#### Analysis Batch: 393904

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 310-260435-2        | MW-89-6R               | Total/NA  | Water  | 8081B  | 393849     |
| MB 310-393849/1-A   | Method Blank           | Total/NA  | Water  | 8081B  | 393849     |
| LCS 310-393849/4-A  | Lab Control Sample     | Total/NA  | Water  | 8081B  | 393849     |
| LCSD 310-393849/5-A | Lab Control Sample Dup | Total/NA  | Water  | 8081B  | 393849     |

#### Analysis Batch: 394639

| Lab Sample ID     | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|-------------------|--------------------|-----------|--------|--------|------------|
| 310-260435-3      | MW-89-7            | Total/NA  | Water  | 8015C  |            |
| 310-260435-4      | MW-89-9R           | Total/NA  | Water  | 8015C  |            |
| MB 310-394639/13  | Method Blank       | Total/NA  | Water  | 8015C  |            |
| LCS 310-394639/14 | Lab Control Sample | Total/NA  | Water  | 8015C  |            |

#### Prep Batch: 723827

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 310-260435-3        | MW-89-7                | Total/NA  | Water  | 8151A  |            |
| 310-260435-4        | MW-89-9R               | Total/NA  | Water  | 8151A  |            |
| MB 500-723827/1-A   | Method Blank           | Total/NA  | Water  | 8151A  |            |
| LCS 500-723827/2-A  | Lab Control Sample     | Total/NA  | Water  | 8151A  |            |
| LCSD 500-723827/3-A | Lab Control Sample Dup | Total/NA  | Water  | 8151A  |            |

#### Analysis Batch: 723908

| Lab Sample ID       | Client Sample ID       | Prep Type | Matrix | Method | Prep Batch |
|---------------------|------------------------|-----------|--------|--------|------------|
| 310-260435-3        | MW-89-7                | Total/NA  | Water  | 8151A  | 723827     |
| 310-260435-4        | MW-89-9R               | Total/NA  | Water  | 8151A  | 723827     |
| MB 500-723827/1-A   | Method Blank           | Total/NA  | Water  | 8151A  | 723827     |
| LCS 500-723827/2-A  | Lab Control Sample     | Total/NA  | Water  | 8151A  | 723827     |
| LCSD 500-723827/3-A | Lab Control Sample Dup | Total/NA  | Water  | 8151A  | 723827     |

### Metals

#### Prep Batch: 393827

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-260435-1       | PZ-22              | Total/NA  | Water  | 3005A  |            |
| 310-260435-2       | MW-89-6R           | Total/NA  | Water  | 3005A  |            |
| 310-260435-3       | MW-89-7            | Total/NA  | Water  | 3005A  |            |
| 310-260435-4       | MW-89-9R           | Total/NA  | Water  | 3005A  |            |
| 310-260435-5       | PZ-21              | Total/NA  | Water  | 3005A  |            |
| 310-260435-6       | MW-21              | Total/NA  | Water  | 3005A  |            |
| 310-260435-7       | MW-D               | Total/NA  | Water  | 3005A  |            |
| MB 310-393827/1-A  | Method Blank       | Total/NA  | Water  | 3005A  |            |
| LCS 310-393827/2-A | Lab Control Sample | Total/NA  | Water  | 3005A  |            |
| 310-260435-7 DU    | MW-D               | Total/NA  | Water  | 3005A  |            |

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# QC Association Summary

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

## Metals

### Prep Batch: 393883

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-260435-3       | MW-89-7            | Total/NA  | Water  | 7470A  |            |
| 310-260435-4       | MW-89-9R           | Total/NA  | Water  | 7470A  |            |
| MB 310-393883/1-A  | Method Blank       | Total/NA  | Water  | 7470A  |            |
| LCS 310-393883/2-A | Lab Control Sample | Total/NA  | Water  | 7470A  |            |

### Analysis Batch: 394063

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-260435-3       | MW-89-7            | Total/NA  | Water  | 7470A  | 393883     |
| 310-260435-4       | MW-89-9R           | Total/NA  | Water  | 7470A  | 393883     |
| MB 310-393883/1-A  | Method Blank       | Total/NA  | Water  | 7470A  | 393883     |
| LCS 310-393883/2-A | Lab Control Sample | Total/NA  | Water  | 7470A  | 393883     |

### Analysis Batch: 395331

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-260435-1       | PZ-22              | Total/NA  | Water  | 6020B  | 393827     |
| 310-260435-2       | MW-89-6R           | Total/NA  | Water  | 6020B  | 393827     |
| 310-260435-3       | MW-89-7            | Total/NA  | Water  | 6020B  | 393827     |
| 310-260435-4       | MW-89-9R           | Total/NA  | Water  | 6020B  | 393827     |
| 310-260435-5       | PZ-21              | Total/NA  | Water  | 6020B  | 393827     |
| 310-260435-6       | MW-21              | Total/NA  | Water  | 6020B  | 393827     |
| 310-260435-7       | MW-D               | Total/NA  | Water  | 6020B  | 393827     |
| MB 310-393827/1-A  | Method Blank       | Total/NA  | Water  | 6020B  | 393827     |
| LCS 310-393827/2-A | Lab Control Sample | Total/NA  | Water  | 6020B  | 393827     |
| 310-260435-7 DU    | MW-D               | Total/NA  | Water  | 6020B  | 393827     |

## General Chemistry

### Prep Batch: 393994

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-260435-3       | MW-89-7            | Total/NA  | Water  | 9012B  |            |
| 310-260435-4       | MW-89-9R           | Total/NA  | Water  | 9012B  |            |
| MB 310-393994/1-A  | Method Blank       | Total/NA  | Water  | 9012B  |            |
| LCS 310-393994/2-A | Lab Control Sample | Total/NA  | Water  | 9012B  |            |

### Analysis Batch: 394084

| Lab Sample ID    | Client Sample ID   | Prep Type | Matrix | Method    | Prep Batch |
|------------------|--------------------|-----------|--------|-----------|------------|
| 310-260435-1     | PZ-22              | Total/NA  | Water  | I-3765-85 |            |
| 310-260435-2     | MW-89-6R           | Total/NA  | Water  | I-3765-85 |            |
| 310-260435-3     | MW-89-7            | Total/NA  | Water  | I-3765-85 |            |
| 310-260435-4     | MW-89-9R           | Total/NA  | Water  | I-3765-85 |            |
| 310-260435-6     | MW-21              | Total/NA  | Water  | I-3765-85 |            |
| 310-260435-7     | MW-D               | Total/NA  | Water  | I-3765-85 |            |
| MB 310-394084/1  | Method Blank       | Total/NA  | Water  | I-3765-85 |            |
| LCS 310-394084/2 | Lab Control Sample | Total/NA  | Water  | I-3765-85 |            |

### Analysis Batch: 394233

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-260435-3       | MW-89-7            | Total/NA  | Water  | 9012B  | 393994     |
| 310-260435-4       | MW-89-9R           | Total/NA  | Water  | 9012B  | 393994     |
| MB 310-393994/1-A  | Method Blank       | Total/NA  | Water  | 9012B  | 393994     |
| LCS 310-393994/2-A | Lab Control Sample | Total/NA  | Water  | 9012B  | 393994     |

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## QC Association Summary

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

### General Chemistry

#### Prep Batch: 724585

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-260435-1       | PZ-22              | Total/NA  | Water  | 9030B  |            |
| 310-260435-3       | MW-89-7            | Total/NA  | Water  | 9030B  |            |
| 310-260435-4       | MW-89-9R           | Total/NA  | Water  | 9030B  |            |
| 310-260435-5       | PZ-21              | Total/NA  | Water  | 9030B  |            |
| MB 500-724585/1-A  | Method Blank       | Total/NA  | Water  | 9030B  |            |
| LCS 500-724585/2-A | Lab Control Sample | Total/NA  | Water  | 9030B  |            |
| 310-260435-5 MS    | PZ-21              | Total/NA  | Water  | 9030B  |            |
| 310-260435-5 MSD   | PZ-21              | Total/NA  | Water  | 9030B  |            |

#### Analysis Batch: 724586

| Lab Sample ID      | Client Sample ID   | Prep Type | Matrix | Method | Prep Batch |
|--------------------|--------------------|-----------|--------|--------|------------|
| 310-260435-1       | PZ-22              | Total/NA  | Water  | 9034   | 724585     |
| 310-260435-3       | MW-89-7            | Total/NA  | Water  | 9034   | 724585     |
| 310-260435-4       | MW-89-9R           | Total/NA  | Water  | 9034   | 724585     |
| 310-260435-5       | PZ-21              | Total/NA  | Water  | 9034   | 724585     |
| MB 500-724585/1-A  | Method Blank       | Total/NA  | Water  | 9034   | 724585     |
| LCS 500-724585/2-A | Lab Control Sample | Total/NA  | Water  | 9034   | 724585     |
| 310-260435-5 MS    | PZ-21              | Total/NA  | Water  | 9034   | 724585     |
| 310-260435-5 MSD   | PZ-21              | Total/NA  | Water  | 9034   | 724585     |

## Lab Chronicle

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

**Client Sample ID: PZ-22**

**Lab Sample ID: 310-260435-1**

**Date Collected: 07/13/23 12:08**

**Matrix: Water**

**Date Received: 07/14/23 16:40**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed                         |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------------------------------|
| Total/NA  | Prep       | 3005A        |     |                 | 393827       | KCK5    | EET CF  | 07/18/23 08:45                               |
| Total/NA  | Analysis   | 6020B        |     | 1               | 395331       | A6US    | EET CF  | 08/01/23 21:13                               |
| Total/NA  | Prep       | 9030B        |     |                 | 724585       | PFK     | EET CHI | 07/20/23 18:30 - 07/20/23 18:45 <sup>1</sup> |
| Total/NA  | Analysis   | 9034         |     | 1               | 724586       | PFK     | EET CHI | 07/24/23 21:41                               |
| Total/NA  | Analysis   | I-3765-85    |     | 1               | 394084       | D7CP    | EET CF  | 07/19/23 20:36                               |

**Client Sample ID: MW-89-6R**

**Lab Sample ID: 310-260435-2**

**Date Collected: 07/13/23 14:07**

**Matrix: Water**

**Date Received: 07/14/23 16:40**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Prep       | 3510C        |     |                 | 393849       | C3AA    | EET CF | 07/18/23 08:23       |
| Total/NA  | Analysis   | 8081B        |     | 1               | 393904       | BW2O    | EET CF | 07/18/23 16:04       |
| Total/NA  | Prep       | 3005A        |     |                 | 393827       | KCK5    | EET CF | 07/18/23 08:45       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 395331       | A6US    | EET CF | 08/01/23 21:48       |
| Total/NA  | Analysis   | I-3765-85    |     | 1               | 394084       | D7CP    | EET CF | 07/19/23 20:36       |

**Client Sample ID: MW-89-7**

**Lab Sample ID: 310-260435-3**

**Date Collected: 07/13/23 14:39**

**Matrix: Water**

**Date Received: 07/14/23 16:40**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed                         |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------------------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 393777       | WSE8    | EET CF  | 07/17/23 15:13                               |
| Total/NA  | Prep       | 3510C        |     |                 | 393841       | C3AA    | EET CF  | 07/18/23 06:45                               |
| Total/NA  | Analysis   | 8270E        |     | 1               | 394008       | L0FS    | EET CF  | 07/19/23 14:39                               |
| Total/NA  | Prep       | 3510C        |     |                 | 393841       | C3AA    | EET CF  | 07/18/23 06:45                               |
| Total/NA  | Analysis   | 8270E        |     | 1               | 393887       | L0FS    | EET CF  | 07/18/23 21:53                               |
| Total/NA  | Analysis   | 8015C        |     | 1               | 394639       | V7YZ    | EET CF  | 07/26/23 15:13                               |
| Total/NA  | Prep       | 3510C        |     |                 | 393849       | C3AA    | EET CF  | 07/18/23 08:23                               |
| Total/NA  | Analysis   | 8081B        |     | 1               | 393862       | BW2O    | EET CF  | 07/18/23 17:17                               |
| Total/NA  | Prep       | 3510C        |     |                 | 393849       | C3AA    | EET CF  | 07/18/23 08:23                               |
| Total/NA  | Analysis   | 8082A        |     | 1               | 393863       | BW2O    | EET CF  | 07/18/23 17:17                               |
| Total/NA  | Prep       | 8151A        |     |                 | 723827       | EC      | EET CHI | 07/19/23 16:28                               |
| Total/NA  | Analysis   | 8151A        |     | 1               | 723908       | SB      | EET CHI | 07/20/23 17:04                               |
| Total/NA  | Prep       | 3005A        |     |                 | 393827       | KCK5    | EET CF  | 07/18/23 08:45                               |
| Total/NA  | Analysis   | 6020B        |     | 1               | 395331       | A6US    | EET CF  | 08/01/23 21:50                               |
| Total/NA  | Prep       | 7470A        |     |                 | 393883       | XXW3    | EET CF  | 07/18/23 11:02                               |
| Total/NA  | Analysis   | 7470A        |     | 1               | 394063       | XXW3    | EET CF  | 07/19/23 12:42                               |
| Total/NA  | Prep       | 9012B        |     |                 | 393994       | ENB7    | EET CF  | 07/19/23 09:11                               |
| Total/NA  | Analysis   | 9012B        |     | 1               | 394233       | ZJX4    | EET CF  | 07/20/23 20:24                               |
| Total/NA  | Prep       | 9030B        |     |                 | 724585       | PFK     | EET CHI | 07/20/23 18:30 - 07/20/23 18:45 <sup>1</sup> |
| Total/NA  | Analysis   | 9034         |     | 1               | 724586       | PFK     | EET CHI | 07/24/23 21:41                               |
| Total/NA  | Analysis   | I-3765-85    |     | 1               | 394084       | D7CP    | EET CF  | 07/19/23 20:36                               |

Eurofins Cedar Falls

# Lab Chronicle

Client: SCS Engineers  
Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

**Client Sample ID: MW-89-9R**

**Lab Sample ID: 310-260435-4**

**Date Collected: 07/13/23 15:39**

**Matrix: Water**

**Date Received: 07/14/23 16:40**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed                         |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------------------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 393777       | WSE8    | EET CF  | 07/17/23 15:35                               |
| Total/NA  | Prep       | 3510C        |     |                 | 393841       | C3AA    | EET CF  | 07/18/23 06:45                               |
| Total/NA  | Analysis   | 8270E        |     | 1               | 394008       | L0FS    | EET CF  | 07/19/23 15:04                               |
| Total/NA  | Prep       | 3510C        |     |                 | 393841       | C3AA    | EET CF  | 07/18/23 06:45                               |
| Total/NA  | Analysis   | 8270E        |     | 1               | 393887       | L0FS    | EET CF  | 07/18/23 22:20                               |
| Total/NA  | Analysis   | 8015C        |     | 1               | 394639       | V7YZ    | EET CF  | 07/26/23 15:36                               |
| Total/NA  | Prep       | 3510C        |     |                 | 393849       | C3AA    | EET CF  | 07/18/23 08:23                               |
| Total/NA  | Analysis   | 8081B        |     | 1               | 393862       | BW2O    | EET CF  | 07/18/23 17:31                               |
| Total/NA  | Prep       | 3510C        |     |                 | 393849       | C3AA    | EET CF  | 07/18/23 08:23                               |
| Total/NA  | Analysis   | 8082A        |     | 1               | 393863       | BW2O    | EET CF  | 07/18/23 17:31                               |
| Total/NA  | Prep       | 8151A        |     |                 | 723827       | EC      | EET CHI | 07/19/23 16:28                               |
| Total/NA  | Analysis   | 8151A        |     | 1               | 723908       | SB      | EET CHI | 07/20/23 17:22                               |
| Total/NA  | Prep       | 3005A        |     |                 | 393827       | KCK5    | EET CF  | 07/18/23 08:45                               |
| Total/NA  | Analysis   | 6020B        |     | 1               | 395331       | A6US    | EET CF  | 08/01/23 21:53                               |
| Total/NA  | Prep       | 7470A        |     |                 | 393883       | XXW3    | EET CF  | 07/18/23 11:02                               |
| Total/NA  | Analysis   | 7470A        |     | 1               | 394063       | XXW3    | EET CF  | 07/19/23 12:44                               |
| Total/NA  | Prep       | 9012B        |     |                 | 393994       | ENB7    | EET CF  | 07/19/23 09:11                               |
| Total/NA  | Analysis   | 9012B        |     | 1               | 394233       | ZJX4    | EET CF  | 07/20/23 20:23                               |
| Total/NA  | Prep       | 9030B        |     |                 | 724585       | PFK     | EET CHI | 07/20/23 18:30 - 07/20/23 18:45 <sup>1</sup> |
| Total/NA  | Analysis   | 9034         |     | 1               | 724586       | PFK     | EET CHI | 07/24/23 21:41                               |
| Total/NA  | Analysis   | I-3765-85    |     | 1               | 394084       | D7CP    | EET CF  | 07/19/23 20:36                               |

**Client Sample ID: PZ-21**

**Lab Sample ID: 310-260435-5**

**Date Collected: 07/13/23 12:40**

**Matrix: Water**

**Date Received: 07/14/23 16:40**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab     | Prepared or Analyzed                         |
|-----------|------------|--------------|-----|-----------------|--------------|---------|---------|----------------------------------------------|
| Total/NA  | Prep       | 3005A        |     |                 | 393827       | KCK5    | EET CF  | 07/18/23 08:45                               |
| Total/NA  | Analysis   | 6020B        |     | 1               | 395331       | A6US    | EET CF  | 08/01/23 21:55                               |
| Total/NA  | Prep       | 9030B        |     |                 | 724585       | PFK     | EET CHI | 07/20/23 18:30 - 07/20/23 18:45 <sup>1</sup> |
| Total/NA  | Analysis   | 9034         |     | 1               | 724586       | PFK     | EET CHI | 07/24/23 21:41                               |

**Client Sample ID: MW-21**

**Lab Sample ID: 310-260435-6**

**Date Collected: 07/13/23 13:28**

**Matrix: Water**

**Date Received: 07/14/23 16:40**

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Prep       | 3005A        |     |                 | 393827       | KCK5    | EET CF | 07/18/23 08:45       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 395331       | A6US    | EET CF | 08/01/23 22:02       |
| Total/NA  | Analysis   | I-3765-85    |     | 1               | 394084       | D7CP    | EET CF | 07/19/23 20:36       |

Eurofins Cedar Falls

Lab Chronicle

Client: SCS Engineers

Project/Site: Union County Sanitary Landfill (2023 Annual)

Job ID: 310-260435-1

Client Sample ID: MW-D

Date Collected: 07/13/23 13:28

Date Received: 07/14/23 16:40

Lab Sample ID: 310-260435-7

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Prep       | 3005A        |     |                 | 393827       | KCK5    | EET CF | 07/18/23 08:45       |
| Total/NA  | Analysis   | 6020B        |     | 1               | 395331       | A6US    | EET CF | 08/01/23 22:15       |
| Total/NA  | Analysis   | I-3765-85    |     | 1               | 394084       | D7CP    | EET CF | 07/19/23 20:36       |

Client Sample ID: Trip Blank

Date Collected: 07/13/23 00:00

Date Received: 07/14/23 16:40

Lab Sample ID: 310-260435-8

Matrix: Water

| Prep Type | Batch Type | Batch Method | Run | Dilution Factor | Batch Number | Analyst | Lab    | Prepared or Analyzed |
|-----------|------------|--------------|-----|-----------------|--------------|---------|--------|----------------------|
| Total/NA  | Analysis   | 8260D        |     | 1               | 393777       | WSE8    | EET CF | 07/17/23 12:41       |

<sup>1</sup> This procedure uses a method stipulated length of time for the process. Both start and end times are displayed.

Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200

## Accreditation/Certification Summary

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

### Laboratory: Eurofins Cedar Falls

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| Iowa      | State   | 007                   | 12-01-23        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte                |
|-----------------|-------------|--------|------------------------|
| 8260D           |             | Water  | 1,2,4-Trichlorobenzene |
| 8260D           |             | Water  | Allyl chloride         |
| 8260D           |             | Water  | Ethyl methacrylate     |

### Laboratory: Eurofins Chicago

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

| Authority | Program | Identification Number | Expiration Date |
|-----------|---------|-----------------------|-----------------|
| Iowa      | State   | 082                   | 05-01-24        |

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

| Analysis Method | Prep Method | Matrix | Analyte |
|-----------------|-------------|--------|---------|
| 8151A           | 8151A       | Water  | 2,4,5-T |

## Method Summary

Client: SCS Engineers

Job ID: 310-260435-1

Project/Site: Union County Sanitary Landfill (2023 Annual)

| Method    | Method Description                                             | Protocol | Laboratory |
|-----------|----------------------------------------------------------------|----------|------------|
| 8260D     | Volatile Organic Compounds by GC/MS                            | SW846    | EET CF     |
| 8270E     | Semivolatile Organic Compounds (GC/MS)                         | SW846    | EET CF     |
| 8015C     | Nonhalogenated Organic using GC/FID (Direct Aqueous Injection) | SW846    | EET CF     |
| 8081B     | Organochlorine Pesticides (GC)                                 | SW846    | EET CF     |
| 8082A     | Polychlorinated Biphenyls (PCBs) by Gas Chromatography         | SW846    | EET CF     |
| 8151A     | Herbicides (GC)                                                | SW846    | EET CHI    |
| 6020B     | Metals (ICP/MS)                                                | SW846    | EET CF     |
| 7470A     | Mercury (CVAA)                                                 | SW846    | EET CF     |
| 9012B     | Cyanide, Total and/or Amenable                                 | SW846    | EET CF     |
| 9034      | Sulfide, Acid soluble and Insoluble (Titrimetric)              | SW846    | EET CHI    |
| I-3765-85 | Residue, Non-filterable (TSS)                                  | USGS     | EET CF     |
| 3005A     | Preparation, Total Metals                                      | SW846    | EET CF     |
| 3510C     | Liquid-Liquid Extraction (Separatory Funnel)                   | SW846    | EET CF     |
| 5030B     | Purge and Trap                                                 | SW846    | EET CF     |
| 7470A     | Preparation, Mercury                                           | SW846    | EET CF     |
| 8151A     | Extraction (Herbicides)                                        | SW846    | EET CHI    |
| 9012B     | Cyanide, Total and/or Amenable, Distillation                   | SW846    | EET CF     |
| 9030B     | Sulfide, Distillation (Acid Soluble and Insoluble)             | SW846    | EET CHI    |

### Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

USGS = "Methods For Analysis Of Water And Fluvial Sediments", USGS, 1989

### Laboratory References:

EET CF = Eurofins Cedar Falls, 3019 Venture Way, Cedar Falls, IA 50613, TEL (319)277-2401

EET CHI = Eurofins Chicago, 2417 Bond Street, University Park, IL 60484, TEL (708)534-5200



Environment Testing  
America



310-260435 Chain of Custody

### Cooler/Sample Receipt and Temperature Log Form

|                                                                                                                                                                                                                                  |                |                                  |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------|--------------|
| <b>Client Information</b>                                                                                                                                                                                                        |                |                                  |              |
| Client: <u>SCS Engineers</u>                                                                                                                                                                                                     |                |                                  |              |
| City/State:                                                                                                                                                                                                                      | CITY           | STATE                            | Project:     |
|                                                                                                                                                                                                                                  |                | <u>IA</u>                        |              |
| <b>Receipt Information</b>                                                                                                                                                                                                       |                |                                  |              |
| Date/Time Received:                                                                                                                                                                                                              | DATE           | TIME                             | Received By: |
|                                                                                                                                                                                                                                  | <u>7-14-23</u> | <u>1640</u>                      | <u>mc</u>    |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee                                              |                |                                  |              |
| <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____                                                       |                |                                  |              |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                            |                |                                  |              |
| Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID: _____                                                                                                       |                |                                  |              |
| Multiple Coolers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>1</u> of <u>2</u>                                                                                                      |                |                                  |              |
| Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No                                  |                |                                  |              |
| Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No                                  |                |                                  |              |
| Trip Blank Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓                                                                                               |                |                                  |              |
| <u>No vials in this cooler</u>                                                                                                                                                                                                   |                |                                  |              |
| <b>Temperature Record</b>                                                                                                                                                                                                        |                |                                  |              |
| Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE                                      |                |                                  |              |
| Thermometer ID: <u>P</u>                                                                                                                                                                                                         |                | Correction Factor (°C): <u>0</u> |              |
| <b>Temp Blank Temperature</b> – If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                              |                |                                  |              |
| Uncorrected Temp (°C): <u>1.9</u>                                                                                                                                                                                                |                | Corrected Temp (°C): <u>1.9</u>  |              |
| <b>Sample Container Temperature</b>                                                                                                                                                                                              |                |                                  |              |
| Container(s) used:                                                                                                                                                                                                               | CONTAINER 1    |                                  | CONTAINER 2  |
| Uncorrected Temp (°C):                                                                                                                                                                                                           |                |                                  |              |
| Corrected Temp (°C):                                                                                                                                                                                                             |                |                                  |              |
| <b>Exceptions Noted</b>                                                                                                                                                                                                          |                |                                  |              |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                        |                |                                  |              |
| a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                           |                |                                  |              |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No |                |                                  |              |
| NOTE: If yes, contact PM before proceeding. If no, proceed with login                                                                                                                                                            |                |                                  |              |
| <b>Additional Comments</b>                                                                                                                                                                                                       |                |                                  |              |
|                                                                                                                                                                                                                                  |                |                                  |              |
|                                                                                                                                                                                                                                  |                |                                  |              |
|                                                                                                                                                                                                                                  |                |                                  |              |



Environment Testing  
America

Place COC scanning label  
here

### Cooler/Sample Receipt and Temperature Log Form

|                                                                                                                                                                                                                                  |                |                                  |              |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------------------------------|--------------|
| <b>Client Information</b>                                                                                                                                                                                                        |                |                                  |              |
| Client: <u>SCS Engineers</u>                                                                                                                                                                                                     |                |                                  |              |
| City/State:                                                                                                                                                                                                                      | CITY           | STATE                            | Project:     |
|                                                                                                                                                                                                                                  |                | <u>IA</u>                        |              |
| <b>Receipt Information</b>                                                                                                                                                                                                       |                |                                  |              |
| Date/Time Received:                                                                                                                                                                                                              | DATE           | TIME                             | Received By: |
|                                                                                                                                                                                                                                  | <u>7-14-23</u> | <u>1640</u>                      | <u>MC</u>    |
| Delivery Type: <input type="checkbox"/> UPS <input type="checkbox"/> FedEx <input type="checkbox"/> FedEx Ground <input type="checkbox"/> US Mail <input type="checkbox"/> Spee-Dee                                              |                |                                  |              |
| <input checked="" type="checkbox"/> Lab Courier <input type="checkbox"/> Lab Field Services <input type="checkbox"/> Client Drop-off <input type="checkbox"/> Other: _____                                                       |                |                                  |              |
| <b>Condition of Cooler/Containers</b>                                                                                                                                                                                            |                |                                  |              |
| Sample(s) received in Cooler? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler ID: _____                                                                                                       |                |                                  |              |
| Multiple Coolers? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No If yes: Cooler # <u>2</u> of <u>2</u>                                                                                                      |                |                                  |              |
| Cooler Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Cooler custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No                                  |                |                                  |              |
| Sample Custody Seals Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Sample custody seals intact? <input type="checkbox"/> Yes <input type="checkbox"/> No                                  |                |                                  |              |
| Trip Blank Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes: Which VOA samples are in cooler? ↓                                                                                               |                |                                  |              |
|                                                                                                                                                                                                                                  |                |                                  |              |
| <b>Temperature Record</b>                                                                                                                                                                                                        |                |                                  |              |
| Coolant: <input checked="" type="checkbox"/> Wet ice <input type="checkbox"/> Blue ice <input type="checkbox"/> Dry ice <input type="checkbox"/> Other: _____ <input type="checkbox"/> NONE                                      |                |                                  |              |
| Thermometer ID: <u>P</u>                                                                                                                                                                                                         |                | Correction Factor (°C): <u>0</u> |              |
| <b>Temp Blank Temperature</b> If no temp blank, or temp blank temperature above criteria, proceed to Sample Container Temperature                                                                                                |                |                                  |              |
| Uncorrected Temp (°C): <u>1.8</u>                                                                                                                                                                                                |                | Corrected Temp (°C): <u>1.8</u>  |              |
| <b>Sample Container Temperature</b>                                                                                                                                                                                              |                |                                  |              |
| Container(s) used:                                                                                                                                                                                                               | CONTAINER 1    | CONTAINER 2                      |              |
| Uncorrected Temp (°C):                                                                                                                                                                                                           |                |                                  |              |
| Corrected Temp (°C):                                                                                                                                                                                                             |                |                                  |              |
| <b>Exceptions Noted</b>                                                                                                                                                                                                          |                |                                  |              |
| 1) If temperature exceeds criteria, was sample(s) received same day of sampling? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                        |                |                                  |              |
| a) If yes: Is there evidence that the chilling process began? <input type="checkbox"/> Yes <input type="checkbox"/> No                                                                                                           |                |                                  |              |
| 2) If temperature is <0°C, are there obvious signs that the integrity of sample containers is compromised? (e.g., bulging septa, broken/cracked bottles, frozen solid?) <input type="checkbox"/> Yes <input type="checkbox"/> No |                |                                  |              |
| NOTE: If yes, contact PM before proceeding. If no, proceed with login                                                                                                                                                            |                |                                  |              |
| <b>Additional Comments</b>                                                                                                                                                                                                       |                |                                  |              |
|                                                                                                                                                                                                                                  |                |                                  |              |
|                                                                                                                                                                                                                                  |                |                                  |              |
|                                                                                                                                                                                                                                  |                |                                  |              |

319 277 2401 (phone)  
515 792 7989 (fax)

3019 Venture Way  
Cedar Falls, Iowa 50613

SAMPLER. SCS Engineers

SITE NAME Union County Sanitary Landfill

ADDRESS.

CITY/STATE/ZIP-

TELEPHONE NUMBER:

SAMPLED BY: (PRINT NAME) JCO47 J461191

SIGNATURE. 

REPORT TO:

NAME.

COMPANY NAME:

PROJECT NAME.

PROJECT NUMBER:

ADDRESS.

CITY/STATE/ZIP:

Nathan Ohrt

NAME.

SCS Engineers

Union County Sanitary Landfill (2023 Annual Sampling)

27223188.00

1690 All State Court, Suite 100

West Des Moines, IA 50265

[illegible]

3019 Venture Way  
Cedar Falls IA 50613  
Phone 319-277-2401 Fax 319-277-2425

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## Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-260435-1

Login Number: 260435

List Source: Eurofins Cedar Falls

List Number: 1

Creator: Tucker, Sarah L

| Question                                                                                 | Answer | Comment |
|------------------------------------------------------------------------------------------|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | N/A    |         |
| The cooler's custody seal, if present, is intact.                                        | N/A    |         |
| Sample custody seals, if present, are intact.                                            | N/A    |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.                                                            | True   |         |
| Cooler Temperature is acceptable.                                                        | True   |         |
| Cooler Temperature is recorded.                                                          | True   |         |
| COC is present.                                                                          | True   |         |
| COC is filled out in ink and legible.                                                    | True   |         |
| COC is filled out with all pertinent information.                                        | True   |         |
| Is the Field Sampler's name present on COC?                                              | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.                                                   | True   |         |
| Containers are not broken or leaking.                                                    | True   |         |
| Sample collection date/times are provided.                                               | True   |         |
| Appropriate sample containers are used.                                                  | True   |         |
| Sample bottles are completely filled.                                                    | True   |         |
| Sample Preservation Verified.                                                            | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | True   |         |
| Multiphasic samples are not present.                                                     | True   |         |
| Samples do not require splitting or compositing.                                         | True   |         |
| Residual Chlorine Checked.                                                               | N/A    |         |

## Login Sample Receipt Checklist

Client: SCS Engineers

Job Number: 310-260435-1

**Login Number: 260435**

**List Number: 2**

**Creator: Hernandez, Stephanie**

**List Source: Eurofins Chicago**

**List Creation: 07/18/23 03:00 PM**

| Question                                                                                 | Answer | Comment |
|------------------------------------------------------------------------------------------|--------|---------|
| Radioactivity wasn't checked or is $\leq$ background as measured by a survey meter.      | True   |         |
| The cooler's custody seal, if present, is intact.                                        | True   |         |
| Sample custody seals, if present, are intact.                                            | True   |         |
| The cooler or samples do not appear to have been compromised or tampered with.           | True   |         |
| Samples were received on ice.                                                            | True   |         |
| Cooler Temperature is acceptable.                                                        | True   |         |
| Cooler Temperature is recorded.                                                          | True   | 2.2     |
| COC is present.                                                                          | True   |         |
| COC is filled out in ink and legible.                                                    | True   |         |
| COC is filled out with all pertinent information.                                        | True   |         |
| Is the Field Sampler's name present on COC?                                              | True   |         |
| There are no discrepancies between the containers received and the COC.                  | True   |         |
| Samples are received within Holding Time (excluding tests with immediate HTs)            | True   |         |
| Sample containers have legible labels.                                                   | True   |         |
| Containers are not broken or leaking.                                                    | True   |         |
| Sample collection date/times are provided.                                               | True   |         |
| Appropriate sample containers are used.                                                  | True   |         |
| Sample bottles are completely filled.                                                    | True   |         |
| Sample Preservation Verified.                                                            | True   |         |
| There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs         | True   |         |
| Containers requiring zero headspace have no headspace or bubble is $<6\text{mm}$ (1/4"). | N/A    |         |
| Multiphasic samples are not present.                                                     | True   |         |
| Samples do not require splitting or compositing.                                         | True   |         |
| Residual Chlorine Checked.                                                               | N/A    |         |

**Appendix B-2**  
**Data Validation**



Completed by: Nathan Ohrt  
Date of Sampling: 7/13/2023  
Lab Report Date: 8/2/2023  
Site Name: Union County Sanitary Landfill  
Project Type: HMSP - Annual  
Lab Report Number: 310-260435

OK NO N/A NOTES

#### Sample Collection and Sample Handling

Chain of Custody  
Temperature  
Preservation  
Condition  
Case Narrative  
Holding Times

|   |  |  |  |
|---|--|--|--|
| X |  |  |  |
| X |  |  |  |
| X |  |  |  |
| X |  |  |  |
| X |  |  |  |
| X |  |  |  |

#### Analytical Sensitivity and Blanks

Method Blank Detections  
Trip Blank Detections

|   |  |  |       |
|---|--|--|-------|
| X |  |  | None. |
| X |  |  | None. |

#### Accuracy

ICV/CCV

LCS/LCSD

MS/MSD

Surrogates (organics only)

|   |   |  |                                                                                                                                                                                                                                                                                                                                              |
|---|---|--|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | X |  | The ICV for a batch was above the upper control limit for acrolein; sample results were non-detected and reported as qualified data.<br>The CCV recovered above the upper control limit for multiple analytes; the samples associated with this CCV were non-detects for the affected analytes and the data was reported.                    |
|   | X |  | The LCS recovered outside control limit for multiple analytes. The samples associated with this LCS were either biased high in the LCS and were not detected in the associated samples and the data was reported; or identified as a poor performing analyte when analyzed using this method so re-extraction/re-analysis was not performed. |
|   | X |  | Insufficient sample was available to perform a MS/MSD for multiple batches; no corrective action was reported.                                                                                                                                                                                                                               |
| X |   |  |                                                                                                                                                                                                                                                                                                                                              |

#### Precision

QA/QC Sample RPDs

Field Duplicates

|   |  |  |                                                                                 |
|---|--|--|---------------------------------------------------------------------------------|
| X |  |  |                                                                                 |
| X |  |  | Sample MW-21 and duplicate sample MW-D had <50% RPD for the analyzed parameters |



**Appendix C**  
**Summary of Groundwater Chemistry**



# SCS ENGINEERS

## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents           | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Antimony, mg/L (CAS NO - 7440-36-0) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.006     | < 0.006      | N/A       |
|                                     | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 0.006     | < 0.006      | N/A       |
|                                     | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.006     | < 0.006      | N/A       |
|                                     | 7/21/2009   | N/A       | N/A       | < 0.006     | < 0.006      | N/A         | < 0.006      | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | < 0.006     | < 0.006      | < 0.006     | < 0.006      | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.006      | N/A       |
|                                     | 3/3/2010    | N/A       | N/A       | < 0.012     | < 0.006      | < 0.006     | < 0.024      | N/A       |
|                                     | 9/29/2010   | N/A       | N/A       | < 0.006     | < 0.006      | < 0.006     | < 0.006      | N/A       |
|                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.006   |
|                                     | 3/25/2011   | N/A       | N/A       | < 0.006     | < 0.006      | < 0.006     | < 0.006      | < 0.006   |
|                                     | 8/30/2011   | N/A       | N/A       | 0.00805     | < 0.006      | < 0.006     | < 0.006      | 0.00829   |
|                                     | 2/27/2012   | N/A       | N/A       | < 0.006     | < 0.006      | < 0.006     | < 0.006      | < 0.006   |
|                                     | 10/18/2012  | N/A       | N/A       | < 0.036     | < 0.012      | < 0.012     | < 0.018      | < 0.018   |
|                                     | 10/18/2012  | N/A       | N/A       | < 0.036     | N/A          | N/A         | N/A          | N/A       |
|                                     | 4/24/2013   | N/A       | N/A       | < 0.006     | < 0.006      | < 0.006     | < 0.006      | < 0.006   |
|                                     | 4/24/2013   | N/A       | N/A       | N/A         | < 0.006      | N/A         | N/A          | N/A       |
|                                     | 10/2/2013   | N/A       | N/A       | < 0.006     | 0.00254*     | 0.0043*     | 0.00183*     | 0.00172*  |
|                                     | 10/2/2013   | N/A       | N/A       | 0.00277*    | N/A          | N/A         | N/A          | N/A       |
|                                     | 2/26/2014   | N/A       | N/A       | < 0.006     | < 0.006      | < 0.006     | < 0.006      | < 0.006   |
|                                     | 2/26/2014   | N/A       | N/A       | N/A         | < 0.006      | N/A         | N/A          | N/A       |
|                                     | 9/22/2014   | N/A       | N/A       | < 0.006     | < 0.006      | < 0.006     | < 0.006      | < 0.006   |
|                                     | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.006   |
|                                     | 4/6/2015    | N/A       | N/A       | 0.00151     | 0.00287      | 0.000224*   | 0.000958*    | 0.000197* |
|                                     | 4/6/2015    | N/A       | N/A       | 0.00156     | N/A          | N/A         | N/A          | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | 0.000737*   | < 0.001      | < 0.001     | < 0.001      | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.000881* |
|                                     | 2/18/2016   | N/A       | N/A       | 0.000218*   | 0.000401*    | 0.000186*   | 0.000208*    | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.001      | N/A       |
|                                     | 3/1/2017    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | 0.00025*  |
|                                     | 3/1/2017    | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                     | 7/13/2017   | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | 0.000201* |
|                                     | 7/13/2017   | N/A       | N/A       | < 0.001     | N/A          | N/A         | N/A          | N/A       |
|                                     | 3/28/2018   | < 0.001   | 0.0018    | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                     | 7/12/2018   | 0.000502* | 0.00104   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | 0.0011    |
|                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.000723* |
|                                     | 2/25/2019   | < 0.001   | < 0.004   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                     | 6/4/2019    | < 0.003   | < 0.003   | < 0.003     | < 0.003      | < 0.003     | < 0.003      | 0.00152*  |
|                                     | 6/4/2019    | N/A       | N/A       | N/A         | < 0.003      | N/A         | N/A          | N/A       |
|                                     | 3/25/2020   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | 0.00132   |
|                                     | 3/25/2020   | N/A       | < 0.001   | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                     | 7/16/2020   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | 0.000768* |
|                                     | 7/16/2020   | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                     | 5/26/2021   | < 0.002   | < 0.002   | < 0.002     | < 0.002      | < 0.002     | < 0.002      | < 0.002   |
|                                     | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 0.002     | N/A          | N/A       |
|                                     | 3/9/2022    | < 0.008   | < 0.008   | 0.0028*     | < 0.002      | < 0.002     | < 0.002      | < 0.008   |
|                                     | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.002      | N/A       |
|                                     | 7/13/2023   | < 0.002   | < 0.002   | N/A         | < 0.002      | < 0.002     | < 0.002      | 0.00223   |
|                                     | 7/13/2023   | N/A       | < 0.002   | N/A         | N/A          | N/A         | N/A          | N/A       |

# SCS ENGINEERS

## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents          | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Arsenic, mg/L (CAS NO - 7440-38-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 0.0246      | 0.0354       | N/A       |
|                                    | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | 0.0336      | 0.124        | N/A       |
|                                    | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | 0.01        | 0.0165       | N/A       |
|                                    | 7/21/2009   | N/A       | N/A       | < 0.001     | 0.0076       | 0.0039      | 0.0276       | N/A       |
|                                    | 9/9/2009    | N/A       | N/A       | 0.00464     | 0.0156       | 0.015       | 0.0251       | N/A       |
|                                    | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0282       | N/A       |
|                                    | 3/3/2010    | N/A       | N/A       | < 0.004     | 0.0184       | 0.00703     | 0.045        | N/A       |
|                                    | 6/17/2010   | N/A       | N/A       | N/A         | 0.0193       | N/A         | N/A          | N/A       |
|                                    | 9/29/2010   | N/A       | N/A       | < 0.001     | 0.0251       | 0.00621     | 0.0252       | N/A       |
|                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.001   |
|                                    | 3/25/2011   | N/A       | N/A       | < 0.027     | 0.0286       | 0.017       | 0.029        | < 0.03    |
|                                    | 8/30/2011   | N/A       | N/A       | < 0.015     | 0.00953      | 0.0101      | 0.0458       | < 0.015   |
|                                    | 2/27/2012   | N/A       | N/A       | 0.0052      | < 0.004      | 0.0148      | 0.0245       | < 0.004   |
|                                    | 10/18/2012  | N/A       | N/A       | < 0.001     | 0.0133       | 0.00753     | 0.0471       | < 0.001   |
|                                    | 10/18/2012  | N/A       | N/A       | < 0.001     | N/A          | N/A         | N/A          | N/A       |
|                                    | 4/24/2013   | N/A       | N/A       | < 0.001     | 0.0122       | 0.00713     | 0.0264       | < 0.001   |
|                                    | 4/24/2013   | N/A       | N/A       | N/A         | 0.0147       | N/A         | N/A          | N/A       |
|                                    | 10/2/2013   | N/A       | N/A       | 0.000307*   | 0.0411       | 0.0121      | 0.039        | < 0.001   |
|                                    | 10/2/2013   | N/A       | N/A       | 0.000211*   | N/A          | N/A         | N/A          | N/A       |
|                                    | 2/26/2014   | N/A       | N/A       | < 0.002     | 0.00772      | 0.0118      | 0.0771       | < 0.002   |
|                                    | 2/26/2014   | N/A       | N/A       | N/A         | 0.00633      | N/A         | N/A          | N/A       |
|                                    | 9/22/2014   | N/A       | N/A       | < 0.002     | 0.00248      | 0.02        | 0.0181       | < 0.002   |
|                                    | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.002   |
|                                    | 4/6/2015    | N/A       | N/A       | 0.00135*    | 0.00218      | 0.00633     | 0.0192       | 0.00215   |
|                                    | 4/6/2015    | N/A       | N/A       | 0.00136*    | N/A          | N/A         | N/A          | N/A       |
|                                    | 9/3/2015    | N/A       | N/A       | 0.00173*    | 0.00311      | 0.0108      | 0.0169       | N/A       |
|                                    | 9/3/2015    | N/A       | N/A       | N/A         | 0.00433      | N/A         | N/A          | N/A       |
|                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.01      |
|                                    | 2/18/2016   | N/A       | N/A       | 0.00484     | 0.00282      | 0.00818     | 0.00225      | N/A       |
|                                    | 8/3/2016    | N/A       | N/A       | 0.00331     | 0.00265      | 0.00928     | 0.0304       | N/A       |
|                                    | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0278       | N/A       |
|                                    | 3/1/2017    | N/A       | N/A       | 0.0015*     | 0.00327      | 0.0121      | 0.0138       | 0.00109*  |
|                                    | 3/1/2017    | N/A       | N/A       | N/A         | 0.00349      | N/A         | N/A          | N/A       |
|                                    | 7/13/2017   | N/A       | N/A       | 0.00114*    | 0.00128*     | 0.00823     | 0.0248       | 0.000708* |
|                                    | 7/13/2017   | N/A       | N/A       | 0.00107*    | N/A          | N/A         | N/A          | N/A       |
|                                    | 3/28/2018   | 0.00205   | 0.000724* | 0.00135*    | 0.0195       | 0.0117      | 0.00205      | 0.000836* |
|                                    | 7/12/2018   | 0.00519   | 0.000631* | 0.00172*    | < 0.002      | 0.0132      | 0.00698      | 0.0014*   |
|                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00103*  |
|                                    | 2/25/2019   | 0.00262   | < 0.008   | 0.00113*    | < 0.002      | 0.0132      | 0.00161*     | 0.000894* |
|                                    | 6/4/2019    | 0.00302   | 0.00147   | 0.00192     | 0.00094*     | 0.00591     | 0.0013       | 0.00211   |
|                                    | 6/4/2019    | N/A       | N/A       | N/A         | 0.000941*    | N/A         | N/A          | N/A       |
|                                    | 3/25/2020   | 0.00221   | < 0.002   | 0.00111*    | 0.000902*    | 0.00964     | < 0.002      | < 0.002   |
|                                    | 3/25/2020   | N/A       | < 0.002   | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                    | 7/16/2020   | 0.00309   | < 0.002   | 0.00111*    | < 0.002      | 0.00441     | 0.00315      | 0.00114*  |
|                                    | 7/16/2020   | N/A       | N/A       | N/A         | < 0.002      | N/A         | N/A          | N/A       |
|                                    | 5/26/2021   | 0.00216   | < 0.002   | 0.000767*   | 0.0118       | 0.00781     | 0.00819      | 0.00086*  |
|                                    | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.00799     | N/A          | N/A       |
|                                    | 3/9/2022    | < 0.008   | < 0.008   | < 0.008     | 0.0212       | 0.00893     | 0.00475      | < 0.008   |
|                                    | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.00494      | N/A       |
|                                    | 7/13/2023   | 0.00264   | < 0.002   | N/A         | 0.0102       | 0.0049      | 0.00519      | 0.00116*  |
|                                    | 7/13/2023   | N/A       | < 0.002   | N/A         | N/A          | N/A         | N/A          | N/A       |

# SCS ENGINEERS

## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents         | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Barium, mg/L (CAS NO - 7440-39-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 0.885       | 0.688        | N/A       |
|                                   | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | 4.48        | 4.69         | N/A       |
|                                   | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | 0.628       | 0.777        | N/A       |
|                                   | 7/21/2009   | N/A       | N/A       | 0.0267      | 0.233        | 0.127       | 0.516        | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | 0.0297      | 0.907        | 0.691       | 0.502        | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.567        | N/A       |
|                                   | 3/3/2010    | N/A       | N/A       | 0.0339      | 0.992        | 0.481       | 0.644        | N/A       |
|                                   | 6/17/2010   | N/A       | N/A       | N/A         | 1.6          | N/A         | N/A          | N/A       |
|                                   | 6/18/2010   | N/A       | N/A       | 0.0249      | N/A          | N/A         | N/A          | N/A       |
|                                   | 9/29/2010   | N/A       | N/A       | 0.0249      | 1.04         | 0.495       | 0.446        | N/A       |
|                                   | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.0201    |
|                                   | 3/25/2011   | N/A       | N/A       | 0.0136      | 2.26         | 0.719       | 0.667        | < 0.01    |
|                                   | 6/23/2011   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.012     |
|                                   | 8/30/2011   | N/A       | N/A       | 0.0152      | 0.296        | 0.626       | 0.446        | 0.0126    |
|                                   | 2/27/2012   | N/A       | N/A       | 0.0678      | 0.0234       | 0.64        | 0.892        | 0.041     |
|                                   | 10/18/2012  | N/A       | N/A       | 0.0237      | 0.817        | 0.524       | 0.751        | 0.0144    |
|                                   | 10/18/2012  | N/A       | N/A       | 0.0258      | N/A          | N/A         | N/A          | N/A       |
|                                   | 4/24/2013   | N/A       | N/A       | 0.026       | 0.604        | 0.544       | 0.706        | 0.016     |
|                                   | 4/24/2013   | N/A       | N/A       | N/A         | 0.566        | N/A         | N/A          | N/A       |
|                                   | 10/2/2013   | N/A       | N/A       | 0.0165      | 0.8          | 0.494       | 0.433        | 0.00744*  |
|                                   | 10/2/2013   | N/A       | N/A       | 0.0158      | N/A          | N/A         | N/A          | N/A       |
|                                   | 2/26/2014   | N/A       | N/A       | 0.0136      | 0.836        | 0.625       | 0.873        | 0.0089*   |
|                                   | 2/26/2014   | N/A       | N/A       | N/A         | 0.447        | N/A         | N/A          | N/A       |
|                                   | 9/22/2014   | N/A       | N/A       | 0.024       | 0.37         | 0.793       | 0.55         | 0.00972*  |
|                                   | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00652*  |
|                                   | 4/6/2015    | N/A       | N/A       | 0.0306      | 0.102        | 0.57        | 0.434        | 0.0186    |
|                                   | 4/6/2015    | N/A       | N/A       | 0.0346      | N/A          | N/A         | N/A          | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | 0.0231      | 0.113        | 0.647       | 0.336        | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | N/A         | 0.138        | N/A         | N/A          | N/A       |
|                                   | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.241     |
|                                   | 2/18/2016   | N/A       | N/A       | 0.0251      | 0.115        | 0.502       | 0.269        | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | 0.0264      | 0.119        | 0.509       | 0.349        | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.354        | N/A       |
|                                   | 3/1/2017    | N/A       | N/A       | 0.023       | 0.128        | 0.562       | 0.293        | 0.023     |
|                                   | 3/1/2017    | N/A       | N/A       | N/A         | 0.133        | N/A         | N/A          | N/A       |
|                                   | 7/13/2017   | N/A       | N/A       | 0.0244      | 0.0967       | 0.453       | 0.303        | 0.0159    |
|                                   | 7/13/2017   | N/A       | N/A       | 0.0253      | N/A          | N/A         | N/A          | N/A       |
|                                   | 3/28/2018   | 0.0116    | 0.0379    | 0.0215      | 0.327        | 0.607       | 0.22         | 0.0141    |
|                                   | 7/12/2018   | 0.0141    | 0.0307    | 0.0237      | 0.234        | 0.592       | 0.257        | 0.0184    |
|                                   | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.0187    |
|                                   | 2/25/2019   | 0.0129    | 0.0259    | 0.0197      | 0.248        | 0.752       | 0.121        | 0.0142    |
|                                   | 6/4/2019    | 0.0106    | 0.0219    | 0.0211      | 0.228        | 0.495       | 0.0991       | 0.0159    |
|                                   | 6/4/2019    | N/A       | N/A       | N/A         | 0.231        | N/A         | N/A          | N/A       |
|                                   | 3/25/2020   | 0.0106    | 0.0183    | 0.029       | 0.269        | 0.479       | 0.0977       | 0.0147    |
|                                   | 3/25/2020   | N/A       | 0.0191    | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                   | 7/16/2020   | 0.0106    | 0.0184    | 0.0268      | 0.297        | 0.407       | 0.239        | 0.017     |
|                                   | 7/16/2020   | N/A       | N/A       | N/A         | 0.308        | N/A         | N/A          | N/A       |
|                                   | 5/26/2021   | 0.0106    | 0.0148    | 0.0204      | 0.396        | 0.422       | 0.132        | 0.0131    |
|                                   | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.426       | N/A          | N/A       |
|                                   | 3/9/2022    | 0.0131    | 0.0138    | 0.0226      | 0.471        | 0.407       | 0.166        | 0.0131    |
|                                   | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.165        | N/A       |
|                                   | 7/13/2023   | 0.0108    | 0.0109    | N/A         | 0.176        | 0.347       | 0.253        | 0.0147    |
|                                   | 7/13/2023   | N/A       | 0.0107    | N/A         | N/A          | N/A         | N/A          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents            | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Beryllium, mg/L (CAS NO - 7440-41-7) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 0.00232     | 0.00248      | N/A       |
|                                      | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | 0.0048      | 0.00672      | N/A       |
|                                      | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | 0.00274     | 0.00272      | N/A       |
|                                      | 7/21/2009   | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.002      | N/A       |
|                                      | 9/9/2009    | N/A       | N/A       | 0.00256     | 0.00584      | 0.00246     | 0.00134      | N/A       |
|                                      | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.00202      | N/A       |
|                                      | 3/3/2010    | N/A       | N/A       | < 0.001     | 0.00393      | < 0.001     | 0.0018       | N/A       |
|                                      | 9/29/2010   | N/A       | N/A       | < 0.001     | 0.00756      | < 0.001     | 0.00158      | N/A       |
|                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.001   |
|                                      | 3/25/2011   | N/A       | N/A       | < 0.001     | 0.0147       | 0.00561     | 0.00291      | < 0.001   |
|                                      | 8/30/2011   | N/A       | N/A       | < 0.001     | 0.00146      | < 0.001     | < 0.001      | < 0.001   |
|                                      | 2/27/2012   | N/A       | N/A       | < 0.004     | < 0.004      | < 0.004     | < 0.004      | < 0.004   |
|                                      | 10/18/2012  | N/A       | N/A       | < 0.001     | 0.00328      | < 0.001     | 0.00289      | < 0.001   |
|                                      | 10/18/2012  | N/A       | N/A       | < 0.001     | N/A          | N/A         | N/A          | N/A       |
|                                      | 4/24/2013   | N/A       | N/A       | < 0.001     | 0.00197      | < 0.001     | 0.00197      | < 0.001   |
|                                      | 4/24/2013   | N/A       | N/A       | N/A         | 0.00186      | N/A         | N/A          | N/A       |
|                                      | 10/2/2013   | N/A       | N/A       | 0.00029*    | 0.00388*     | 0.00059*    | 0.00094*     | < 0.001   |
|                                      | 10/2/2013   | N/A       | N/A       | 0.0004*     | N/A          | N/A         | N/A          | N/A       |
|                                      | 2/26/2014   | N/A       | N/A       | 0.000321*   | 0.00198      | 0.00088*    | 0.00385      | < 0.001   |
|                                      | 2/26/2014   | N/A       | N/A       | N/A         | 0.0039       | N/A         | N/A          | N/A       |
|                                      | 9/22/2014   | N/A       | N/A       | < 0.001     | 0.00164      | 0.000454*   | 0.00205      | < 0.001   |
|                                      | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.001   |
|                                      | 4/6/2015    | N/A       | N/A       | < 0.001     | 0.000059*    | < 0.001     | 0.000403*    | 0.000495* |
|                                      | 4/6/2015    | N/A       | N/A       | < 0.001     | N/A          | N/A         | N/A          | N/A       |
|                                      | 9/3/2015    | N/A       | N/A       | < 0.001     | 0.000071*    | < 0.001     | < 0.001      | N/A       |
|                                      | 9/3/2015    | N/A       | N/A       | N/A         | 0.000087*    | N/A         | N/A          | N/A       |
|                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00168   |
|                                      | 2/18/2016   | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | N/A       |
|                                      | 8/3/2016    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | N/A       |
|                                      | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.001      | N/A       |
|                                      | 3/1/2017    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                      | 3/1/2017    | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                      | 7/13/2017   | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                      | 7/13/2017   | N/A       | N/A       | < 0.001     | N/A          | N/A         | N/A          | N/A       |
|                                      | 3/28/2018   | 0.00132   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                      | 7/12/2018   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.001   |
|                                      | 2/25/2019   | 0.00145   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                      | 6/4/2019    | 0.000994* | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                      | 6/4/2019    | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                      | 3/25/2020   | 0.00149   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | 0.00446   |
|                                      | 3/25/2020   | N/A       | < 0.001   | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                      | 7/16/2020   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                      | 7/16/2020   | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                      | 5/26/2021   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                      | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 0.001     | N/A          | N/A       |
|                                      | 3/9/2022    | 0.0035*   | < 0.004   | < 0.004     | < 0.001      | < 0.001     | < 0.001      | 0.00151*  |
|                                      | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.001      | N/A       |
|                                      | 7/13/2023   | 0.000404* | < 0.001   | N/A         | < 0.001      | < 0.001     | < 0.001      | 0.00107   |
|                                      | 7/13/2023   | N/A       | < 0.001   | N/A         | N/A          | N/A         | N/A          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents          | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Cadmium, mg/L (CAS NO - 7440-43-9) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 0.00292     | 0.00312      | N/A       |
|                                    | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | 0.00584     | 0.00696      | N/A       |
|                                    | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | 0.00252     | 0.0019       | N/A       |
|                                    | 7/21/2009   | N/A       | N/A       | 0.000867    | 0.000538     | 0.0034      | 0.00222      | N/A       |
|                                    | 9/9/2009    | N/A       | N/A       | 0.0033      | 0.00428      | 0.00324     | 0.002        | N/A       |
|                                    | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.00161      | N/A       |
|                                    | 3/3/2010    | N/A       | N/A       | 0.000755    | 0.0018       | < 0.0005    | 0.00211      | N/A       |
|                                    | 6/17/2010   | N/A       | N/A       | N/A         | 0.00568      | N/A         | N/A          | N/A       |
|                                    | 6/18/2010   | N/A       | N/A       | < 0.0005    | N/A          | N/A         | N/A          | N/A       |
|                                    | 9/29/2010   | N/A       | N/A       | 0.000944    | 0.00369      | 0.0013      | 0.00392      | N/A       |
|                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.000558  |
|                                    | 3/25/2011   | N/A       | N/A       | 0.000923    | 0.00562      | 0.0058      | 0.00233      | < 0.0005  |
|                                    | 6/23/2011   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0005  |
|                                    | 8/30/2011   | N/A       | N/A       | 0.00082     | 0.00106      | 0.00334     | 0.00412      | < 0.0005  |
|                                    | 2/27/2012   | N/A       | N/A       | 0.0008      | < 0.0008     | 0.0019      | 0.0045       | 0.0008    |
|                                    | 10/18/2012  | N/A       | N/A       | 0.000792    | 0.00116      | 0.000922    | 0.0021       | < 0.0005  |
|                                    | 10/18/2012  | N/A       | N/A       | 0.000659    | N/A          | N/A         | N/A          | N/A       |
|                                    | 4/24/2013   | N/A       | N/A       | < 0.0005    | 0.0016       | 0.000669    | 0.00307      | < 0.0005  |
|                                    | 4/24/2013   | N/A       | N/A       | N/A         | 0.00218      | N/A         | N/A          | N/A       |
|                                    | 10/2/2013   | N/A       | N/A       | 0.00032*    | 0.00396      | 0.00114     | 0.00396      | 0.00025*  |
|                                    | 10/2/2013   | N/A       | N/A       | 0.00057     | N/A          | N/A         | N/A          | N/A       |
|                                    | 2/26/2014   | N/A       | N/A       | 0.000448*   | 0.0021       | 0.00251     | 0.00547      | 0.00132   |
|                                    | 2/26/2014   | N/A       | N/A       | N/A         | 0.000924     | N/A         | N/A          | N/A       |
|                                    | 9/22/2014   | N/A       | N/A       | 0.000894    | 0.00165      | 0.000969    | 0.00152      | 0.000994  |
|                                    | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00306   |
|                                    | 4/6/2015    | N/A       | N/A       | 0.000556    | 0.000926     | 0.000282*   | 0.00211      | 0.000968  |
|                                    | 4/6/2015    | N/A       | N/A       | 0.000616    | N/A          | N/A         | N/A          | N/A       |
|                                    | 9/3/2015    | N/A       | N/A       | < 0.0005    | 0.000949     | 0.000153*   | 0.000188*    | N/A       |
|                                    | 9/3/2015    | N/A       | N/A       | N/A         | 0.000321*    | N/A         | N/A          | N/A       |
|                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.000824  |
|                                    | 2/18/2016   | N/A       | N/A       | < 0.0005    | < 0.0005     | < 0.0005    | 0.000234*    | N/A       |
|                                    | 8/3/2016    | N/A       | N/A       | 0.000121*   | 0.000124*    | 0.000074*   | 0.000065*    | N/A       |
|                                    | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.000062*    | N/A       |
|                                    | 3/1/2017    | N/A       | N/A       | < 0.0005    | 0.000045*    | < 0.0005    | 0.000104*    | < 0.0005  |
|                                    | 3/1/2017    | N/A       | N/A       | N/A         | 0.000086*    | N/A         | N/A          | N/A       |
|                                    | 7/13/2017   | N/A       | N/A       | 0.000061*   | 0.000175*    | 0.000126*   | 0.00012*     | 0.000312* |
|                                    | 7/13/2017   | N/A       | N/A       | 0.000082*   | N/A          | N/A         | N/A          | N/A       |
|                                    | 3/28/2018   | < 0.0005  | 0.00015*  | < 0.0005    | < 0.0005     | < 0.0005    | 0.000231*    | 0.000417* |
|                                    | 7/12/2018   | 0.000121* | 0.000088* | 0.000232*   | 0.000207*    | 0.000115*   | 0.000072*    | 0.000246* |
|                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.000142* |
|                                    | 2/25/2019   | < 0.0005  | < 0.0005  | < 0.0005    | 0.000092*    | < 0.0005    | 0.000242*    | < 0.0005  |
|                                    | 6/4/2019    | < 0.0005  | 0.000203* | < 0.0005    | < 0.0005     | < 0.0005    | < 0.0005     | < 0.0005  |
|                                    | 6/4/2019    | N/A       | N/A       | N/A         | < 0.0005     | N/A         | N/A          | N/A       |
|                                    | 3/25/2020   | < 0.0001  | 0.000114  | < 0.0001    | 0.000118     | < 0.0001    | 0.000085*    | 0.000066* |
|                                    | 3/25/2020   | N/A       | 0.000113  | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                    | 7/16/2020   | 0.000113  | 0.000205  | < 0.0001    | 0.000093*    | 0.000087*   | < 0.0001     | < 0.0001  |
|                                    | 7/16/2020   | N/A       | N/A       | N/A         | 0.000077*    | N/A         | N/A          | N/A       |
|                                    | 5/26/2021   | < 0.0001  | 0.000244  | < 0.0001    | 0.000116     | 0.000078*   | 0.000066*    | < 0.0001  |
|                                    | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.000092*   | N/A          | N/A       |
|                                    | 3/9/2022    | < 0.0004  | < 0.0004  | 0.000264*   | 0.000093*    | < 0.0001    | < 0.0001     | < 0.0004  |
|                                    | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0001     | N/A       |
|                                    | 7/13/2023   | 0.000105* | < 0.0002  | N/A         | 0.000166*    | < 0.0002    | < 0.0002     | < 0.0002  |
|                                    | 7/13/2023   | N/A       | < 0.0002  | N/A         | N/A          | N/A         | N/A          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents           | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Chromium, mg/L (CAS NO - 7440-47-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.02      | < 0.02       | N/A       |
|                                     | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | 0.407       | 0.387        | N/A       |
|                                     | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.02      | < 0.02       | N/A       |
|                                     | 7/21/2009   | N/A       | N/A       | < 0.02      | < 0.02       | N/A         | < 0.02       | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.02       | N/A       |
|                                     | 3/3/2010    | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | N/A       |
|                                     | 9/29/2010   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | N/A       |
|                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.02    |
|                                     | 3/25/2011   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                     | 8/30/2011   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                     | 2/27/2012   | N/A       | N/A       | < 0.02      | < 0.02       | 0.0203      | 0.0338       | < 0.02    |
|                                     | 10/18/2012  | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                     | 10/18/2012  | N/A       | N/A       | < 0.02      | N/A          | N/A         | N/A          | N/A       |
|                                     | 4/24/2013   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                     | 4/24/2013   | N/A       | N/A       | N/A         | < 0.02       | N/A         | N/A          | N/A       |
|                                     | 10/2/2013   | N/A       | N/A       | 0.00535*    | 0.003*       | 0.00353*    | 0.00401*     | 0.00467*  |
|                                     | 10/2/2013   | N/A       | N/A       | 0.00514*    | N/A          | N/A         | N/A          | N/A       |
|                                     | 2/26/2014   | N/A       | N/A       | 0.00327*    | 0.00436*     | 0.004*      | 0.00463*     | 0.00334*  |
|                                     | 2/26/2014   | N/A       | N/A       | N/A         | 0.00254*     | N/A         | N/A          | N/A       |
|                                     | 9/22/2014   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                     | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.02    |
|                                     | 4/6/2015    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | 0.00205*  |
|                                     | 4/6/2015    | N/A       | N/A       | < 0.005     | N/A          | N/A         | N/A          | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.0345    |
|                                     | 2/18/2016   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | < 0.005     | 0.0149       | < 0.005     | < 0.005      | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.005      | N/A       |
|                                     | 3/1/2017    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 3/1/2017    | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 7/13/2017   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 7/13/2017   | N/A       | N/A       | < 0.005     | N/A          | N/A         | N/A          | N/A       |
|                                     | 3/28/2018   | 0.00108*  | < 0.005   | 0.00414*    | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 7/12/2018   | < 0.005   | < 0.005   | 0.00191*    | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.005   |
|                                     | 2/25/2019   | 0.00128*  | < 0.02    | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 6/4/2019    | 0.00231*  | 0.00189*  | 0.00384*    | 0.00178*     | 0.00172*    | 0.0017*      | 0.00232*  |
|                                     | 6/4/2019    | N/A       | N/A       | N/A         | 0.00179*     | N/A         | N/A          | N/A       |
|                                     | 3/25/2020   | < 0.005   | 0.00171*  | 0.00194*    | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 3/25/2020   | N/A       | < 0.005   | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                     | 7/16/2020   | < 0.005   | < 0.005   | 0.00325*    | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 7/16/2020   | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.005     | < 0.005      | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents         | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Cobalt, mg/L (CAS NO - 7440-48-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 0.0234      | 0.0418       | N/A       |
|                                   | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | 0.216       | 0.291        | N/A       |
|                                   | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.02      | 0.054        | N/A       |
|                                   | 7/21/2009   | N/A       | N/A       | 0.00266     | 0.0278       | 0.0291      | 0.0407       | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | 0.024       | 0.113        | 0.0302      | 0.0446       | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0385       | N/A       |
|                                   | 3/3/2010    | N/A       | N/A       | 0.00468     | 0.11         | 0.0041      | 0.0381       | N/A       |
|                                   | 6/17/2010   | N/A       | N/A       | N/A         | 0.148        | N/A         | N/A          | N/A       |
|                                   | 9/29/2010   | N/A       | N/A       | < 0.00155   | 0.113        | 0.00776     | 0.0287       | N/A       |
|                                   | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00278   |
|                                   | 3/25/2011   | N/A       | N/A       | 0.00289     | 0.199        | 0.0277      | 0.0638       | 0.00493   |
|                                   | 6/23/2011   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00399   |
|                                   | 8/30/2011   | N/A       | N/A       | 0.00669     | 0.0384       | 0.0064      | 0.0258       | 0.0025    |
|                                   | 2/27/2012   | N/A       | N/A       | 0.0062      | 0.0039       | 0.0083      | 0.0283       | 0.0016    |
|                                   | 10/18/2012  | N/A       | N/A       | 0.00632     | 0.0854       | 0.00608     | 0.0495       | 0.00185   |
|                                   | 10/18/2012  | N/A       | N/A       | 0.0094      | N/A          | N/A         | N/A          | N/A       |
|                                   | 4/24/2013   | N/A       | N/A       | 0.00861     | 0.0459       | 0.0079      | 0.0509       | 0.00636   |
|                                   | 4/24/2013   | N/A       | N/A       | N/A         | 0.0567       | N/A         | N/A          | N/A       |
|                                   | 10/2/2013   | N/A       | N/A       | 0.00724     | 0.0805       | 0.00889     | 0.0275       | 0.00442   |
|                                   | 10/2/2013   | N/A       | N/A       | 0.00696     | N/A          | N/A         | N/A          | N/A       |
|                                   | 2/26/2014   | N/A       | N/A       | 0.00474     | 0.0751       | 0.0102      | 0.0506       | 0.00399   |
|                                   | 2/26/2014   | N/A       | N/A       | N/A         | 0.0501       | N/A         | N/A          | N/A       |
|                                   | 9/22/2014   | N/A       | N/A       | 0.00713     | 0.0357       | 0.0155      | 0.0389       | 0.00457   |
|                                   | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00257   |
|                                   | 4/6/2015    | N/A       | N/A       | 0.00638     | 0.0144       | 0.00852     | 0.0408       | 0.00499   |
|                                   | 4/6/2015    | N/A       | N/A       | 0.00677     | N/A          | N/A         | N/A          | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | 0.00243     | 0.0245       | 0.00677     | 0.0257       | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | N/A         | 0.0361       | N/A         | N/A          | N/A       |
|                                   | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.0227    |
|                                   | 2/18/2016   | N/A       | N/A       | 0.0024      | 0.0254       | 0.0038      | 0.0196       | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | 0.00458     | 0.033        | 0.0039      | 0.0255       | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0251       | N/A       |
|                                   | 3/1/2017    | N/A       | N/A       | 0.00583     | 0.0267       | 0.00339     | 0.0141       | 0.00467   |
|                                   | 3/1/2017    | N/A       | N/A       | N/A         | 0.0277       | N/A         | N/A          | N/A       |
|                                   | 7/13/2017   | N/A       | N/A       | 0.00424     | 0.0254       | 0.00388     | 0.0242       | 0.00275   |
|                                   | 7/13/2017   | N/A       | N/A       | 0.00412     | N/A          | N/A         | N/A          | N/A       |
|                                   | 3/28/2018   | 0.00151   | 0.00119   | 0.0033      | 0.00707      | 0.00538     | 0.0296       | 0.00242   |
|                                   | 7/12/2018   | 0.00309   | < 0.0005  | 0.00123     | 0.0142       | 0.00639     | 0.0286       | 0.0033    |
|                                   | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00238   |
|                                   | 11/7/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0094       | N/A       |
|                                   | 2/25/2019   | 0.00157   | < 0.0005  | 0.000354*   | 0.00877      | 0.00964     | 0.00617      | 0.00206   |
|                                   | 6/4/2019    | 0.00152   | < 0.001   | 0.00231     | 0.00718      | 0.00631     | 0.00382      | 0.00388   |
|                                   | 6/4/2019    | N/A       | N/A       | N/A         | 0.00738      | N/A         | N/A          | N/A       |
|                                   | 3/25/2020   | 0.00144   | < 0.0005  | 0.00232     | 0.00824      | 0.00722     | 0.00212      | 0.00255   |
|                                   | 3/25/2020   | N/A       | < 0.0005  | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                   | 7/16/2020   | 0.00194   | < 0.0005  | 0.000514    | 0.0101       | 0.00595     | 0.0255       | 0.00337   |
|                                   | 7/16/2020   | N/A       | N/A       | N/A         | 0.0107       | N/A         | N/A          | N/A       |
|                                   | 5/26/2021   | 0.00113   | < 0.0005  | 0.000679    | 0.00937      | 0.0058      | 0.00864      | 0.00243   |
|                                   | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.00622     | N/A          | N/A       |
|                                   | 3/9/2022    | 0.00188*  | < 0.002   | 0.00555     | 0.0142       | 0.00372     | 0.00835      | 0.00268   |
|                                   | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.00834      | N/A       |
|                                   | 7/13/2023   | 0.000973  | 0.000264* | N/A         | 0.0278       | 0.0046      | 0.0213       | 0.00277   |
|                                   | 7/13/2023   | N/A       | 0.000254* | N/A         | N/A          | N/A         | N/A          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents         | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Copper, mg/L (CAS NO - 7440-50-8) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 0.0245      | 0.0326       | N/A       |
|                                   | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | 0.424       | 0.353        | N/A       |
|                                   | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | 0.0419      | 0.0394       | N/A       |
|                                   | 7/21/2009   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | 0.0304       | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | < 0.02      | 0.0831       | 0.0435      | < 0.02       | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0298       | N/A       |
|                                   | 3/3/2010    | N/A       | N/A       | < 0.02      | 0.0558       | < 0.02      | 0.0326       | N/A       |
|                                   | 9/29/2010   | N/A       | N/A       | < 0.02      | 0.0736       | < 0.02      | < 0.02       | N/A       |
|                                   | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.02    |
|                                   | 3/25/2011   | N/A       | N/A       | < 0.02      | 0.151        | 0.0724      | 0.0306       | < 0.02    |
|                                   | 8/30/2011   | N/A       | N/A       | 0.0388      | 0.0235       | 0.0235      | 0.025        | 0.0207    |
|                                   | 2/27/2012   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | 0.0232       | < 0.02    |
|                                   | 10/18/2012  | N/A       | N/A       | < 0.02      | 0.0529       | 0.0227      | 0.0271       | < 0.02    |
|                                   | 10/18/2012  | N/A       | N/A       | < 0.02      | N/A          | N/A         | N/A          | N/A       |
|                                   | 4/24/2013   | N/A       | N/A       | < 0.02      | 0.0462       | < 0.02      | 0.0347       | < 0.02    |
|                                   | 4/24/2013   | N/A       | N/A       | N/A         | 0.041        | N/A         | N/A          | N/A       |
|                                   | 10/2/2013   | N/A       | N/A       | < 0.02      | 0.053        | 0.0177*     | 0.0305       | 0.00237*  |
|                                   | 10/2/2013   | N/A       | N/A       | < 0.02      | N/A          | N/A         | N/A          | N/A       |
|                                   | 2/26/2014   | N/A       | N/A       | < 0.02      | 0.025        | 0.0149*     | 0.0364       | 0.00246*  |
|                                   | 2/26/2014   | N/A       | N/A       | N/A         | 0.0494       | N/A         | N/A          | N/A       |
|                                   | 9/22/2014   | N/A       | N/A       | 0.00851*    | 0.0243       | 0.0112*     | 0.00967*     | 0.00645*  |
|                                   | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00693*  |
|                                   | 4/6/2015    | N/A       | N/A       | 0.00589     | 0.00257      | 0.00125*    | 0.0136       | 0.0105    |
|                                   | 4/6/2015    | N/A       | N/A       | 0.0076      | N/A          | N/A         | N/A          | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | < 0.002     | 0.0015*      | 0.00197*    | 0.00425      | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | N/A         | 0.00204      | N/A         | N/A          | N/A       |
|                                   | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.0356    |
|                                   | 2/18/2016   | N/A       | N/A       | < 0.002     | 0.00106*     | < 0.002     | 0.000643*    | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.005      | N/A       |
|                                   | 3/1/2017    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                   | 3/1/2017    | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                   | 7/13/2017   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | 0.00489*  |
|                                   | 7/13/2017   | N/A       | N/A       | 0.00335*    | N/A          | N/A         | N/A          | N/A       |
|                                   | 3/28/2018   | 0.0447    | 0.00194*  | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                   | 7/12/2018   | < 0.005   | < 0.005   | < 0.005     | < 0.005      | < 0.005     | < 0.005      | 0.00166*  |
|                                   | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.005   |
|                                   | 2/25/2019   | 0.0711    | < 0.02    | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                   | 6/4/2019    | 0.0619    | 0.00267   | 0.00738     | 0.000922*    | 0.00131*    | 0.00145*     | 0.00349   |
|                                   | 6/4/2019    | N/A       | N/A       | N/A         | 0.00092*     | N/A         | N/A          | N/A       |
|                                   | 3/25/2020   | 0.124     | < 0.005   | < 0.005     | < 0.005      | < 0.005     | < 0.005      | 0.114     |
|                                   | 3/25/2020   | N/A       | 0.00442*  | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                   | 7/16/2020   | 0.00899   | < 0.005   | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                   | 7/16/2020   | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                   | 5/26/2021   | < 0.005   | < 0.005   | 0.00158*    | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                   | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 0.005     | N/A          | N/A       |
|                                   | 3/9/2022    | 0.497     | < 0.02    | < 0.02      | < 0.005      | < 0.005     | < 0.005      | 0.0506    |
|                                   | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.005      | N/A       |
|                                   | 7/13/2023   | < 0.005   | < 0.005   | N/A         | 0.0021*      | < 0.005     | < 0.005      | 0.128     |
|                                   | 7/13/2023   | N/A       | < 0.005   | N/A         | N/A          | N/A         | N/A          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

|                                           | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| <b>Total Metals Constituents</b>          |             |           |           |             |              |             |              |           |
| <b>Lead, mg/L (CAS NO - 7439-92-1)</b>    | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 0.0128      | 0.0189       | N/A       |
|                                           | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 0.004     | 0.0133       | N/A       |
|                                           | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | 0.0216      | 0.0285       | N/A       |
|                                           | 7/21/2009   | N/A       | N/A       | < 0.004     | 0.0073       | < 0.004     | 0.021        | N/A       |
|                                           | 9/9/2009    | N/A       | N/A       | 0.0142      | 0.0168       | 0.0224      | 0.0248       | N/A       |
|                                           | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0142       | N/A       |
|                                           | 3/3/2010    | N/A       | N/A       | < 0.004     | 0.0134       | 0.00461     | 0.0233       | N/A       |
|                                           | 6/17/2010   | N/A       | N/A       | N/A         | 0.0252       | N/A         | N/A          | N/A       |
|                                           | 9/29/2010   | N/A       | N/A       | < 0.004     | 0.0229       | 0.00932     | 0.015        | N/A       |
|                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.004   |
|                                           | 3/25/2011   | N/A       | N/A       | < 0.004     | 0.0369       | 0.0428      | 0.0185       | < 0.004   |
|                                           | 8/30/2011   | N/A       | N/A       | < 0.004     | 0.00968      | 0.00445     | 0.00747      | < 0.004   |
|                                           | 2/27/2012   | N/A       | N/A       | 0.0045      | < 0.004      | 0.014       | 0.0373       | < 0.004   |
|                                           | 10/18/2012  | N/A       | N/A       | 0.00566     | 0.00565      | 0.0554      | 0.0295       | < 0.004   |
|                                           | 10/18/2012  | N/A       | N/A       | 0.0078      | N/A          | N/A         | N/A          | N/A       |
|                                           | 4/24/2013   | N/A       | N/A       | 0.00621     | 0.014        | 0.00534     | 0.028        | 0.00439   |
|                                           | 4/24/2013   | N/A       | N/A       | N/A         | 0.0182       | N/A         | N/A          | N/A       |
|                                           | 10/2/2013   | N/A       | N/A       | 0.00538     | 0.0106       | 0.0111      | 0.0189       | 0.00179*  |
|                                           | 10/2/2013   | N/A       | N/A       | 0.00477     | N/A          | N/A         | N/A          | N/A       |
|                                           | 2/26/2014   | N/A       | N/A       | < 0.004     | < 0.004      | < 0.004     | 0.0192       | < 0.004   |
|                                           | 2/26/2014   | N/A       | N/A       | N/A         | < 0.004      | N/A         | N/A          | N/A       |
|                                           | 9/22/2014   | N/A       | N/A       | < 0.004     | 0.00461      | < 0.004     | 0.0227       | < 0.004   |
|                                           | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.004   |
|                                           | 4/6/2015    | N/A       | N/A       | 0.00164     | 0.00066      | 0.000426*   | 0.0106       | 0.0122    |
|                                           | 4/6/2015    | N/A       | N/A       | 0.00156     | N/A          | N/A         | N/A          | N/A       |
|                                           | 9/3/2015    | N/A       | N/A       | 0.000139*   | 0.000799     | 0.000699    | 0.00043*     | N/A       |
|                                           | 9/3/2015    | N/A       | N/A       | N/A         | 0.000475*    | N/A         | N/A          | N/A       |
|                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.0253    |
|                                           | 2/18/2016   | N/A       | N/A       | 0.000126*   | 0.000403*    | < 0.0005    | 0.000151*    | N/A       |
|                                           | 8/3/2016    | N/A       | N/A       | < 0.0005    | 0.000252*    | < 0.0005    | < 0.0005     | N/A       |
|                                           | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | < 0.0005    | < 0.0005     | N/A       |
|                                           | 3/1/2017    | N/A       | N/A       | < 0.0005    | < 0.0005     | < 0.0005    | 0.000528     | < 0.0005  |
|                                           | 3/1/2017    | N/A       | N/A       | N/A         | < 0.0005     | N/A         | N/A          | N/A       |
|                                           | 7/13/2017   | N/A       | N/A       | < 0.0005    | < 0.0005     | < 0.0005    | < 0.0005     | 0.000416* |
|                                           | 7/13/2017   | N/A       | N/A       | < 0.0005    | N/A          | N/A         | N/A          | N/A       |
|                                           | 3/28/2018   | 0.00137   | < 0.0005  | < 0.0005    | < 0.0005     | < 0.0005    | < 0.0005     | < 0.0005  |
|                                           | 7/12/2018   | 0.00115   | < 0.0005  | < 0.0005    | < 0.0005     | < 0.0005    | < 0.0005     | 0.00111   |
|                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.000429* |
|                                           | 2/25/2019   | < 0.0005  | < 0.0005  | < 0.0005    | < 0.0005     | < 0.0005    | < 0.0005     | < 0.0005  |
|                                           | 6/4/2019    | < 0.0005  | < 0.0005  | 0.000484*   | < 0.0005     | < 0.0005    | < 0.0005     | 0.00046*  |
|                                           | 6/4/2019    | N/A       | N/A       | N/A         | < 0.0005     | N/A         | N/A          | N/A       |
|                                           | 3/25/2020   | < 0.0005  | < 0.0005  | < 0.0005    | < 0.0005     | < 0.0005    | < 0.0005     | 0.000329* |
|                                           | 3/25/2020   | N/A       | < 0.0005  | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                           | 7/16/2020   | 0.000404* | < 0.0005  | < 0.0005    | < 0.0005     | < 0.0005    | < 0.0005     | < 0.0005  |
|                                           | 7/16/2020   | N/A       | N/A       | N/A         | < 0.0005     | N/A         | N/A          | N/A       |
|                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.0005    | 0.000312*    | N/A       |
| <b>Mercury, mg/L (CAS NO - 7439-97-6)</b> | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.0002    | < 0.0002     | N/A       |
|                                           | 7/21/2009   | N/A       | N/A       | < 0.0002    | < 0.0002     | N/A         | N/A          | N/A       |
|                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0002  |
|                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.0002    | < 0.0002     | N/A       |
|                                           | 9/22/2014   | N/A       | N/A       | < 0.0002    | < 0.0002     | N/A         | N/A          | N/A       |
|                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0002  |
|                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.0002    | N/A          | N/A       |
|                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0002     | N/A       |
|                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 0.0002     | N/A         | N/A          | N/A       |
|                                           | 6/4/2019    | N/A       | N/A       | < 0.0002    | N/A          | N/A         | N/A          | N/A       |
|                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0002  |
|                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.0002    | < 0.0002     | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents         | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Nickel, mg/L (CAS NO - 7440-02-0) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.05      | 0.0663       | N/A       |
|                                   | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | 0.512       | 0.604        | N/A       |
|                                   | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.05      | 0.0735       | N/A       |
|                                   | 7/21/2009   | N/A       | N/A       | < 0.05      | < 0.05       | N/A         | 0.058        | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | < 0.05      | 0.132        | 0.0537      | 0.0521       | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0634       | N/A       |
|                                   | 3/3/2010    | N/A       | N/A       | < 0.05      | 0.105        | < 0.05      | 0.0505       | N/A       |
|                                   | 9/29/2010   | N/A       | N/A       | < 0.05      | 0.145        | < 0.05      | < 0.05       | N/A       |
|                                   | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.05    |
|                                   | 3/25/2011   | N/A       | N/A       | < 0.05      | 0.255        | < 0.05      | 0.0617       | < 0.05    |
|                                   | 8/30/2011   | N/A       | N/A       | < 0.05      | < 0.05       | < 0.05      | < 0.05       | < 0.05    |
|                                   | 2/27/2012   | N/A       | N/A       | < 0.05      | < 0.05       | < 0.05      | 0.054        | < 0.05    |
|                                   | 10/18/2012  | N/A       | N/A       | < 0.05      | 0.102        | < 0.05      | 0.0749       | < 0.05    |
|                                   | 10/18/2012  | N/A       | N/A       | < 0.05      | N/A          | N/A         | N/A          | N/A       |
|                                   | 4/24/2013   | N/A       | N/A       | < 0.05      | 0.0652       | < 0.05      | 0.063        | < 0.05    |
|                                   | 4/24/2013   | N/A       | N/A       | N/A         | 0.0553       | N/A         | N/A          | N/A       |
|                                   | 10/2/2013   | N/A       | N/A       | 0.0157*     | 0.109        | 0.0191*     | 0.0436*      | 0.0165*   |
|                                   | 10/2/2013   | N/A       | N/A       | 0.0159*     | N/A          | N/A         | N/A          | N/A       |
|                                   | 2/26/2014   | N/A       | N/A       | 0.0154*     | 0.0591       | 0.0174*     | 0.0755       | 0.0169*   |
|                                   | 2/26/2014   | N/A       | N/A       | N/A         | 0.0966       | N/A         | N/A          | N/A       |
|                                   | 9/22/2014   | N/A       | N/A       | 0.0131*     | 0.0523       | 0.0308*     | 0.0618       | 0.00842*  |
|                                   | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00895*  |
|                                   | 4/6/2015    | N/A       | N/A       | 0.0132      | 0.0204       | 0.014       | 0.0378       | 0.017     |
|                                   | 4/6/2015    | N/A       | N/A       | 0.0125      | N/A          | N/A         | N/A          | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | 0.00275*    | 0.0369       | 0.0139      | 0.0272       | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | N/A         | 0.0263       | N/A         | N/A          | N/A       |
|                                   | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.0458    |
|                                   | 2/18/2016   | N/A       | N/A       | 0.00149*    | 0.0294       | 0.00932     | 0.0268       | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | 0.00474*    | 0.0344       | 0.00991     | 0.026        | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0278       | N/A       |
|                                   | 3/1/2017    | N/A       | N/A       | 0.00527     | 0.0328       | 0.0103      | 0.0198       | 0.00909   |
|                                   | 3/1/2017    | N/A       | N/A       | N/A         | 0.0339       | N/A         | N/A          | N/A       |
|                                   | 7/13/2017   | N/A       | N/A       | 0.00407*    | 0.0242       | 0.0105      | 0.0247       | 0.00957   |
|                                   | 7/13/2017   | N/A       | N/A       | 0.00387*    | N/A          | N/A         | N/A          | N/A       |
|                                   | 3/28/2018   | 0.00413*  | 0.00784   | 0.00573     | 0.00487*     | 0.0131      | 0.025        | 0.00844   |
|                                   | 7/12/2018   | 0.00702   | 0.00382*  | 0.00294*    | 0.0133       | 0.0135      | 0.0277       | 0.0125    |
|                                   | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.0116    |
|                                   | 2/25/2019   | 0.00416*  | 0.00409*  | < 0.005     | 0.0103       | 0.0143      | 0.0129       | 0.00802   |
|                                   | 6/4/2019    | 0.0109    | 0.0139    | 0.0147      | 0.0113       | 0.0154      | 0.0115       | 0.0178    |
|                                   | 6/4/2019    | N/A       | N/A       | N/A         | 0.0117       | N/A         | N/A          | N/A       |
|                                   | 3/25/2020   | 0.00393*  | 0.00571   | 0.00483*    | 0.0118       | 0.0126      | 0.0061       | 0.00826   |
|                                   | 3/25/2020   | N/A       | 0.0058    | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                   | 7/16/2020   | 0.00561   | 0.00446*  | < 0.005     | 0.014        | 0.0125      | 0.0243       | 0.00724   |
|                                   | 7/16/2020   | N/A       | N/A       | N/A         | 0.0137       | N/A         | N/A          | N/A       |
|                                   | 5/26/2021   | 0.00298*  | 0.00433*  | 0.00266*    | 0.0136       | 0.0117      | 0.0126       | 0.00559   |
|                                   | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.0122      | N/A          | N/A       |
|                                   | 3/9/2022    | < 0.02    | < 0.02    | 0.0188*     | 0.0105       | 0.00895     | 0.0132       | < 0.02    |
|                                   | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0126       | N/A       |
|                                   | 7/13/2023   | < 0.005   | < 0.005   | N/A         | 0.0292       | 0.0105      | 0.02         | 0.00905   |
|                                   | 7/13/2023   | N/A       | < 0.005   | N/A         | N/A          | N/A         | N/A          | N/A       |

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| Total Metals Constituents           | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Selenium, mg/L (CAS NO - 7782-49-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.005     | < 0.005      | N/A       |
|                                     | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 0.005     | < 0.005      | N/A       |
|                                     | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.005     | < 0.005      | N/A       |
|                                     | 7/21/2009   | N/A       | N/A       | < 0.005     | < 0.005      | N/A         | < 0.005      | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.005      | N/A       |
|                                     | 3/3/2010    | N/A       | N/A       | < 0.02      | < 0.005      | < 0.005     | < 0.005      | N/A       |
|                                     | 9/29/2010   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | N/A       |
|                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.005   |
|                                     | 3/25/2011   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 8/30/2011   | N/A       | N/A       | < 0.02      | < 0.005      | < 0.005     | < 0.005      | < 0.02    |
|                                     | 2/27/2012   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 10/18/2012  | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 10/18/2012  | N/A       | N/A       | < 0.005     | N/A          | N/A         | N/A          | N/A       |
|                                     | 4/24/2013   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 4/24/2013   | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 10/2/2013   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 10/2/2013   | N/A       | N/A       | < 0.005     | N/A          | N/A         | N/A          | N/A       |
|                                     | 2/26/2014   | N/A       | N/A       | 0.000953*   | 0.00137*     | 0.00089*    | 0.00111*     | 0.000882* |
|                                     | 2/26/2014   | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 9/22/2014   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.005   |
|                                     | 4/6/2015    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 4/6/2015    | N/A       | N/A       | < 0.005     | N/A          | N/A         | N/A          | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.005   |
|                                     | 2/18/2016   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.005      | N/A       |
|                                     | 3/1/2017    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 3/1/2017    | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 7/13/2017   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 7/13/2017   | N/A       | N/A       | < 0.005     | N/A          | N/A         | N/A          | N/A       |
|                                     | 3/28/2018   | < 0.005   | 0.00199*  | < 0.005     | < 0.005      | < 0.005     | 0.00108*     | < 0.005   |
|                                     | 7/12/2018   | < 0.005   | 0.00172*  | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.005   |
|                                     | 2/25/2019   | < 0.02    | < 0.02    | < 0.02      | < 0.005      | < 0.005     | < 0.005      | < 0.02    |
|                                     | 6/4/2019    | 0.00154*  | 0.00254   | 0.0035      | < 0.0025     | < 0.0025    | < 0.0025     | 0.00162*  |
|                                     | 6/4/2019    | N/A       | N/A       | N/A         | < 0.0025     | N/A         | N/A          | N/A       |
|                                     | 3/25/2020   | < 0.005   | < 0.005   | < 0.005     | < 0.005      | < 0.005     | 0.00285*     | < 0.005   |
|                                     | 3/25/2020   | N/A       | < 0.005   | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                     | 7/16/2020   | < 0.005   | < 0.005   | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 7/16/2020   | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.005     | < 0.005      | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

|                                   | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Total Metals Constituents         |             |           |           |             |              |             |              |           |
| Silver, mg/L (CAS NO - 7440-22-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.02      | < 0.02       | N/A       |
|                                   | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 0.06      | < 0.02       | N/A       |
|                                   | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.02      | < 0.02       | N/A       |
|                                   | 7/21/2009   | N/A       | N/A       | < 0.02      | < 0.02       | N/A         | < 0.02       | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.02       | N/A       |
|                                   | 3/3/2010    | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | N/A       |
|                                   | 9/29/2010   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | N/A       |
|                                   | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.02    |
|                                   | 3/25/2011   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                   | 8/30/2011   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                   | 2/27/2012   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                   | 10/18/2012  | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                   | 10/18/2012  | N/A       | N/A       | < 0.02      | N/A          | N/A         | N/A          | N/A       |
|                                   | 4/24/2013   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                   | 4/24/2013   | N/A       | N/A       | N/A         | < 0.02       | N/A         | N/A          | N/A       |
|                                   | 10/2/2013   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                   | 10/2/2013   | N/A       | N/A       | < 0.02      | N/A          | N/A         | N/A          | N/A       |
|                                   | 2/26/2014   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                   | 2/26/2014   | N/A       | N/A       | N/A         | < 0.02       | N/A         | N/A          | N/A       |
|                                   | 9/22/2014   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                   | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.02    |
|                                   | 4/6/2015    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | 0.000049*    | < 0.001   |
|                                   | 4/6/2015    | N/A       | N/A       | < 0.001     | N/A          | N/A         | N/A          | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                   | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.000105* |
|                                   | 2/18/2016   | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | 0.000445*    | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.001      | N/A       |
|                                   | 3/1/2017    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                   | 3/1/2017    | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                   | 7/13/2017   | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                   | 7/13/2017   | N/A       | N/A       | < 0.001     | N/A          | N/A         | N/A          | N/A       |
|                                   | 3/28/2018   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                   | 7/12/2018   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | 0.000338* |
|                                   | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.001   |
|                                   | 2/25/2019   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                   | 6/4/2019    | < 0.0005  | < 0.0005  | < 0.0005    | < 0.0005     | < 0.0005    | < 0.0005     | < 0.0005  |
|                                   | 6/4/2019    | N/A       | N/A       | N/A         | < 0.0005     | N/A         | N/A          | N/A       |
|                                   | 3/25/2020   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                   | 3/25/2020   | N/A       | < 0.001   | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                   | 7/16/2020   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                   | 7/16/2020   | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                   | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.001     | < 0.001      | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents           | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Thallium, mg/L (CAS NO - 7440-28-0) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.002     | < 0.002      | N/A       |
|                                     | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 0.002     | < 0.002      | N/A       |
|                                     | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.002     | < 0.002      | N/A       |
|                                     | 7/21/2009   | N/A       | N/A       | < 0.002     | < 0.002      | N/A         | < 0.002      | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | < 0.002     | < 0.002      | < 0.002     | < 0.002      | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.002      | N/A       |
|                                     | 3/3/2010    | N/A       | N/A       | < 0.002     | < 0.002      | < 0.002     | < 0.002      | N/A       |
|                                     | 9/29/2010   | N/A       | N/A       | < 0.002     | < 0.002      | < 0.002     | < 0.002      | N/A       |
|                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.002   |
|                                     | 3/25/2011   | N/A       | N/A       | < 0.002     | < 0.002      | 0.00224     | < 0.002      | < 0.002   |
|                                     | 8/30/2011   | N/A       | N/A       | < 0.002     | < 0.002      | < 0.002     | < 0.002      | < 0.002   |
|                                     | 2/27/2012   | N/A       | N/A       | < 0.002     | < 0.002      | < 0.002     | < 0.002      | < 0.002   |
|                                     | 10/18/2012  | N/A       | N/A       | < 0.002     | < 0.002      | < 0.002     | < 0.002      | < 0.002   |
|                                     | 10/18/2012  | N/A       | N/A       | < 0.002     | N/A          | N/A         | N/A          | N/A       |
|                                     | 4/24/2013   | N/A       | N/A       | < 0.002     | < 0.002      | < 0.002     | < 0.002      | < 0.002   |
|                                     | 4/24/2013   | N/A       | N/A       | N/A         | < 0.002      | N/A         | N/A          | N/A       |
|                                     | 10/2/2013   | N/A       | N/A       | < 0.002     | < 0.002      | < 0.002     | < 0.002      | < 0.002   |
|                                     | 10/2/2013   | N/A       | N/A       | < 0.002     | N/A          | N/A         | N/A          | N/A       |
|                                     | 2/26/2014   | N/A       | N/A       | < 0.002     | < 0.002      | < 0.002     | < 0.002      | < 0.002   |
|                                     | 2/26/2014   | N/A       | N/A       | N/A         | < 0.002      | N/A         | N/A          | N/A       |
|                                     | 9/22/2014   | N/A       | N/A       | < 0.002     | < 0.002      | < 0.002     | < 0.002      | < 0.002   |
|                                     | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.002   |
|                                     | 4/6/2015    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | 0.000061*    | 0.000064* |
|                                     | 4/6/2015    | N/A       | N/A       | < 0.001     | N/A          | N/A         | N/A          | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.000599* |
|                                     | 2/18/2016   | N/A       | N/A       | < 0.001     | 0.000035*    | < 0.001     | < 0.001      | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.001      | N/A       |
|                                     | 3/1/2017    | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                     | 3/1/2017    | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                     | 7/13/2017   | N/A       | N/A       | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                     | 7/13/2017   | N/A       | N/A       | < 0.001     | N/A          | N/A         | N/A          | N/A       |
|                                     | 3/28/2018   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                     | 7/12/2018   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.001   |
|                                     | 2/25/2019   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                     | 6/4/2019    | < 0.002   | < 0.002   | < 0.002     | < 0.002      | < 0.002     | < 0.002      | < 0.002   |
|                                     | 6/4/2019    | N/A       | N/A       | N/A         | < 0.002      | N/A         | N/A          | N/A       |
|                                     | 3/25/2020   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                     | 3/25/2020   | N/A       | < 0.001   | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                     | 7/16/2020   | < 0.001   | < 0.001   | < 0.001     | < 0.001      | < 0.001     | < 0.001      | < 0.001   |
|                                     | 7/16/2020   | N/A       | N/A       | N/A         | < 0.001      | N/A         | N/A          | N/A       |
|                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.001     | < 0.001      | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents      | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Tin, mg/L (CAS NO - 7440-31-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.1       | < 0.1        | N/A       |
|                                | 7/21/2009   | N/A       | N/A       | < 0.1       | < 0.1        | N/A         | N/A          | N/A       |
|                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.1     |
|                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | 0.362       | 0.333        | N/A       |
|                                | 2/26/2014   | N/A       | N/A       | N/A         | N/A          | < 0.1       | < 0.1        | N/A       |
|                                | 7/24/2014   | N/A       | N/A       | N/A         | N/A          | < 0.1       | < 0.1        | N/A       |
|                                | 9/22/2014   | N/A       | N/A       | 0.123       | 0.0711*      | 0.138       | 0.143        | N/A       |
|                                | 4/6/2015    | N/A       | N/A       | 0.043*      | N/A          | < 0.1       | < 0.1        | N/A       |
|                                | 4/6/2015    | N/A       | N/A       | 0.0475*     | N/A          | N/A         | N/A          | N/A       |
|                                | 7/10/2015   | N/A       | N/A       | < 0.3       | N/A          | N/A         | N/A          | N/A       |
|                                | 9/3/2015    | N/A       | N/A       | < 0.005     | N/A          | < 0.005     | < 0.005      | N/A       |
|                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00226*  |
|                                | 2/18/2016   | N/A       | N/A       | < 0.005     | N/A          | < 0.005     | < 0.005      | N/A       |
|                                | 8/3/2016    | N/A       | N/A       | < 0.005     | N/A          | < 0.005     | < 0.005      | N/A       |
|                                | 3/1/2017    | N/A       | N/A       | < 0.005     | N/A          | < 0.005     | < 0.005      | N/A       |
|                                | 7/13/2017   | N/A       | N/A       | < 0.005     | N/A          | < 0.005     | < 0.005      | N/A       |
|                                | 7/13/2017   | N/A       | N/A       | < 0.005     | N/A          | N/A         | N/A          | N/A       |
|                                | 3/28/2018   | N/A       | N/A       | < 0.005     | N/A          | < 0.005     | N/A          | N/A       |
|                                | 7/12/2018   | N/A       | N/A       | < 0.005     | N/A          | < 0.005     | < 0.005      | N/A       |
|                                | 2/25/2019   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | N/A       |
|                                | 6/4/2019    | N/A       | N/A       | < 0.005     | N/A          | N/A         | < 0.005      | N/A       |
|                                | 3/25/2020   | N/A       | N/A       | < 0.005     | N/A          | N/A         | < 0.005      | N/A       |
|                                | 7/16/2020   | N/A       | N/A       | < 0.005     | N/A          | N/A         | < 0.005      | < 0.005   |
|                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.005     | < 0.005      | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents           | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Vanadium, mg/L (CAS NO - 7440-62-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.05      | < 0.05       | N/A       |
|                                     | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | 0.695       | 0.802        | N/A       |
|                                     | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.05      | < 0.05       | N/A       |
|                                     | 7/21/2009   | N/A       | N/A       | < 0.05      | < 0.05       | N/A         | < 0.05       | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | < 0.05      | 0.0721       | < 0.05      | < 0.05       | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.05       | N/A       |
|                                     | 3/3/2010    | N/A       | N/A       | < 0.05      | < 0.05       | < 0.05      | < 0.05       | N/A       |
|                                     | 9/29/2010   | N/A       | N/A       | < 0.05      | 0.0948       | < 0.05      | < 0.05       | N/A       |
|                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.05    |
|                                     | 3/25/2011   | N/A       | N/A       | < 0.05      | 0.133        | < 0.05      | < 0.05       | < 0.05    |
|                                     | 8/30/2011   | N/A       | N/A       | < 0.05      | < 0.05       | < 0.05      | < 0.05       | < 0.05    |
|                                     | 2/27/2012   | N/A       | N/A       | < 0.05      | < 0.05       | < 0.05      | 0.0636       | < 0.05    |
|                                     | 10/18/2012  | N/A       | N/A       | < 0.05      | < 0.05       | < 0.05      | 0.0686       | < 0.05    |
|                                     | 10/18/2012  | N/A       | N/A       | < 0.05      | N/A          | N/A         | N/A          | N/A       |
|                                     | 4/24/2013   | N/A       | N/A       | < 0.05      | < 0.05       | < 0.05      | < 0.05       | < 0.05    |
|                                     | 4/24/2013   | N/A       | N/A       | N/A         | < 0.05       | N/A         | N/A          | N/A       |
|                                     | 10/2/2013   | N/A       | N/A       | 0.00506*    | 0.0428*      | 0.0088*     | 0.0183*      | < 0.05    |
|                                     | 10/2/2013   | N/A       | N/A       | 0.00576*    | N/A          | N/A         | N/A          | N/A       |
|                                     | 2/26/2014   | N/A       | N/A       | < 0.05      | 0.0289*      | 0.00862*    | 0.0511       | < 0.05    |
|                                     | 2/26/2014   | N/A       | N/A       | N/A         | 0.0146*      | N/A         | N/A          | N/A       |
|                                     | 9/22/2014   | N/A       | N/A       | 0.00529*    | 0.022*       | 0.0108*     | 0.0358*      | 0.00443*  |
|                                     | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00286*  |
|                                     | 4/6/2015    | N/A       | N/A       | 0.00132*    | 0.000721*    | < 0.005     | 0.0125       | 0.00791   |
|                                     | 4/6/2015    | N/A       | N/A       | 0.00133*    | N/A          | N/A         | N/A          | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | 0.00101*    | 0.000681*    | < 0.005     | 0.000842*    | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | N/A         | 0.000829*    | N/A         | N/A          | N/A       |
|                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.0423    |
|                                     | 2/18/2016   | N/A       | N/A       | < 0.005     | 0.000888*    | < 0.005     | < 0.005      | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | < 0.005     | 0.000624*    | < 0.005     | 0.00102*     | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0015*      | N/A       |
|                                     | 3/1/2017    | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 3/1/2017    | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 7/13/2017   | N/A       | N/A       | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 7/13/2017   | N/A       | N/A       | < 0.005     | N/A          | N/A         | N/A          | N/A       |
|                                     | 3/28/2018   | < 0.005   | 0.00075*  | 0.00065*    | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 7/12/2018   | 0.001*    | 0.000533* | < 0.005     | < 0.005      | < 0.005     | 0.00139*     | 0.000861* |
|                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.005   |
|                                     | 2/25/2019   | < 0.005   | < 0.005   | < 0.005     | < 0.005      | < 0.005     | 0.00102*     | < 0.005   |
|                                     | 6/4/2019    | < 0.005   | < 0.005   | < 0.005     | < 0.005      | < 0.005     | < 0.005      | < 0.005   |
|                                     | 6/4/2019    | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 3/25/2020   | < 0.005   | < 0.005   | < 0.005     | < 0.005      | < 0.005     | 0.000832*    | < 0.005   |
|                                     | 3/25/2020   | N/A       | < 0.005   | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                     | 7/16/2020   | < 0.005   | < 0.005   | < 0.005     | < 0.005      | < 0.005     | 0.00134*     | < 0.005   |
|                                     | 7/16/2020   | N/A       | N/A       | N/A         | < 0.005      | N/A         | N/A          | N/A       |
|                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.005     | < 0.005      | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Total Metals Constituents       | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|---------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Zinc, mg/L (CAS NO - 7440-66-6) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 0.226       | 0.343        | N/A       |
|                                 | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | 0.982       | 1.54         | N/A       |
|                                 | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | 0.112       | 0.143        | N/A       |
|                                 | 7/21/2009   | N/A       | N/A       | 0.15        | 0.0491       | 0.126       | 0.16         | N/A       |
|                                 | 9/9/2009    | N/A       | N/A       | 0.288       | 0.221        | 0.221       | 0.181        | N/A       |
|                                 | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.141        | N/A       |
|                                 | 3/3/2010    | N/A       | N/A       | 0.179       | 0.125        | 0.0887      | 0.156        | N/A       |
|                                 | 6/17/2010   | N/A       | N/A       | N/A         | 0.27         | N/A         | N/A          | N/A       |
|                                 | 6/18/2010   | N/A       | N/A       | 0.0462      | N/A          | N/A         | N/A          | N/A       |
|                                 | 9/29/2010   | N/A       | N/A       | 0.0819      | 0.174        | 0.038       | 0.0919       | N/A       |
|                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.131     |
|                                 | 3/25/2011   | N/A       | N/A       | < 0.02      | 0.311        | 0.0801      | 0.0675       | < 0.02    |
|                                 | 6/23/2011   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.02    |
|                                 | 8/30/2011   | N/A       | N/A       | < 0.02      | 0.0514       | < 0.02      | 0.052        | < 0.02    |
|                                 | 2/27/2012   | N/A       | N/A       | 0.0455      | 0.0249       | 0.0462      | 0.09         | 0.062     |
|                                 | 10/18/2012  | N/A       | N/A       | < 0.02      | 0.137        | < 0.02      | 0.124        | < 0.02    |
|                                 | 10/18/2012  | N/A       | N/A       | < 0.02      | N/A          | N/A         | N/A          | N/A       |
|                                 | 4/24/2013   | N/A       | N/A       | 0.13        | 0.103        | 0.0841      | 0.182        | 0.104     |
|                                 | 4/24/2013   | N/A       | N/A       | N/A         | 0.121        | N/A         | N/A          | N/A       |
|                                 | 10/2/2013   | N/A       | N/A       | 0.148       | 0.227        | 0.203       | 0.175        | 0.154     |
|                                 | 10/2/2013   | N/A       | N/A       | 0.184       | N/A          | N/A         | N/A          | N/A       |
|                                 | 2/26/2014   | N/A       | N/A       | < 0.02      | 0.0584       | < 0.02      | 0.055        | < 0.02    |
|                                 | 2/26/2014   | N/A       | N/A       | N/A         | 0.0441       | N/A         | N/A          | N/A       |
|                                 | 9/22/2014   | N/A       | N/A       | 0.177       | 0.0548       | < 0.02      | 0.0527       | < 0.02    |
|                                 | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.02    |
|                                 | 4/6/2015    | N/A       | N/A       | 0.013       | 0.0349       | 0.00753*    | 0.0392       | 0.0264    |
|                                 | 4/6/2015    | N/A       | N/A       | 0.0115      | N/A          | N/A         | N/A          | N/A       |
|                                 | 9/3/2015    | N/A       | N/A       | < 0.01      | 0.0308       | 0.0133      | 0.00831*     | N/A       |
|                                 | 9/3/2015    | N/A       | N/A       | N/A         | 0.0224       | N/A         | N/A          | N/A       |
|                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.094     |
|                                 | 2/18/2016   | N/A       | N/A       | < 0.01      | 0.0166       | < 0.01      | 0.0109       | N/A       |
|                                 | 8/3/2016    | N/A       | N/A       | < 0.01      | 0.0181       | < 0.01      | 0.00741*     | N/A       |
|                                 | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.00854*     | N/A       |
|                                 | 3/1/2017    | N/A       | N/A       | < 0.02      | 0.0201       | < 0.02      | 0.016*       | < 0.02    |
|                                 | 3/1/2017    | N/A       | N/A       | N/A         | 0.0188*      | N/A         | N/A          | N/A       |
|                                 | 7/13/2017   | N/A       | N/A       | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                 | 7/13/2017   | N/A       | N/A       | < 0.02      | N/A          | N/A         | N/A          | N/A       |
|                                 | 3/28/2018   | 0.0608    | < 0.02    | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                 | 7/12/2018   | < 0.02    | < 0.02    | < 0.02      | < 0.02       | < 0.02      | < 0.02       | 0.0154*   |
|                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.02    |
|                                 | 2/25/2019   | 0.0757*   | < 0.08    | < 0.08      | < 0.02       | < 0.02      | < 0.02       | < 0.08    |
|                                 | 6/4/2019    | 0.0566    | 0.00735*  | 0.0155*     | 0.00794*     | 0.0149*     | < 0.02       | 0.00913*  |
|                                 | 6/4/2019    | N/A       | N/A       | N/A         | 0.00975*     | N/A         | N/A          | N/A       |
|                                 | 3/25/2020   | 0.063     | < 0.02    | < 0.02      | < 0.02       | < 0.02      | < 0.02       | 0.0394    |
|                                 | 3/25/2020   | N/A       | 0.0146*   | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                 | 7/16/2020   | 0.0141*   | < 0.02    | < 0.02      | < 0.02       | < 0.02      | < 0.02       | < 0.02    |
|                                 | 7/16/2020   | N/A       | N/A       | N/A         | < 0.02       | N/A         | N/A          | N/A       |
|                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.02      | < 0.02       | N/A       |

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## Summary of Groundwater Chemistry

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|                                             | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|---------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Total Metals Constituents                   |             |           |           |             |              |             |              |           |
| Total Suspended Solids, mg/L (CAS NO - TSS) | 2/26/2014   | N/A       | N/A       | 385         | 3550         | 1050        | 3510         | 91.2      |
|                                             | 7/24/2014   | N/A       | N/A       | N/A         | N/A          | 1820        | 2690         | N/A       |
|                                             | 9/22/2014   | N/A       | N/A       | 293         | 1800         | 1700        | 2130         | 3390      |
|                                             | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 187       |
|                                             | 4/6/2015    | N/A       | N/A       | 97.5        | 52           | 51.5        | 2490         | 2250      |
|                                             | 4/6/2015    | N/A       | N/A       | 88.5        | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/10/2015   | N/A       | N/A       | 220         | N/A          | N/A         | N/A          | N/A       |
|                                             | 9/3/2015    | N/A       | N/A       | 17.4        | 74.5         | 102         | 54.5         | N/A       |
|                                             | 9/3/2015    | N/A       | N/A       | N/A         | 54.3         | N/A         | N/A          | N/A       |
|                                             | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 1310      |
|                                             | 2/18/2016   | N/A       | N/A       | 12.4        | 24           | 41.2        | 2.75         | N/A       |
|                                             | 8/3/2016    | N/A       | N/A       | 6.83        | 25.2         | 39.3        | 16.2         | N/A       |
|                                             | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 20.6         | N/A       |
|                                             | 3/1/2017    | N/A       | N/A       | 5.63        | 24.1         | 52.6        | 16.1         | 5.5       |
|                                             | 3/1/2017    | N/A       | N/A       | N/A         | 30.5         | N/A         | N/A          | N/A       |
|                                             | 7/13/2017   | N/A       | N/A       | 5           | 12           | 11          | 23.3         | 6.5       |
|                                             | 7/13/2017   | N/A       | N/A       | 4           | N/A          | N/A         | N/A          | N/A       |
|                                             | 3/28/2018   | 9.87      | 1.75*     | 5.25        | 34.3         | 23.6        | 12.8         | 4.38      |
|                                             | 7/12/2018   | 80.5      | 1.88      | 8.5         | 3.87         | 69.5        | 16.3         | 15.1      |
|                                             | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 21.5      |
|                                             | 11/7/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | 13.9         | N/A       |
|                                             | 2/25/2019   | 9.5       | 1*        | 4.88        | < 1.88       | 28          | 8.37         | 1.5*      |
|                                             | 4/11/2019   | N/A       | N/A       | N/A         | N/A          | N/A         | 1.25*        | N/A       |
|                                             | 6/4/2019    | 6.75      | < 1.88    | 6.63        | 0.75*        | 25.6        | 1.63*        | 26.3      |
|                                             | 6/4/2019    | N/A       | N/A       | N/A         | 0.7*         | N/A         | N/A          | N/A       |
|                                             | 3/25/2020   | 7.25      | 0.75*     | 4.38        | 1.13*        | 27          | 1.25*        | 7         |
|                                             | 3/25/2020   | N/A       | < 1.88    | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/16/2020   | 14.7      | < 1.88    | 7.5         | 0.875*       | 22          | 3            | 6         |
|                                             | 7/16/2020   | N/A       | N/A       | N/A         | 0.75*        | N/A         | N/A          | N/A       |
|                                             | 5/26/2021   | 6.33      | 1.25*     | 2.5*        | 24.3         | 56          | 13.7         | 0.875*    |
|                                             | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 49          | N/A          | N/A       |
|                                             | 3/9/2022    | 14.7      | 2.67*     | 26.5        | 77           | 72          | 12.5         | 18.7      |
|                                             | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | 12           | N/A       |
|                                             | 7/13/2023   | 19.7      | 1.88      | N/A         | 283          | 39          | 18.6         | N/A       |
|                                             | 7/13/2023   | N/A       | 2.75      | N/A         | N/A          | N/A         | N/A          | N/A       |

Note: \* indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.

Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                         | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,1,1,2-Tetrachloroethane, ug/L (CAS NO - 630-20-6) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.33      | < 0.33       | N/A       |
|                                                     | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                     | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                     | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                                     | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                     | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                     | 3/3/2010    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                                     | 9/29/2010   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                     | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                     | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                     | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                     | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                     | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                     | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                     | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                     | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                     | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                     | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                     | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                     | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                    | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,1,1-Trichloroethane, ug/L (CAS NO - 71-55-6) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.19      | < 0.19       | N/A       |
|                                                | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                                | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 9/29/2010   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                        | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,1,2,2-Tetrachloroethane, ug/L (CAS NO - 79-34-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.23      | < 0.23       | N/A       |
|                                                    | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                    | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                                    | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                    | 3/3/2010    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                                    | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 3/25/2011   | N/A       | N/A       | < 4         | < 4          | < 4         | < 1          | < 4       |
|                                                    | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                    | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                    | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                    | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                    | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                    | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,1,2-Trichloroethane, ug/L (CAS NO - 79-00-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.37      | < 0.37       | N/A       |
|                                                | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                                | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 10/18/2012  | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                                | 10/18/2012  | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                                | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                 | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|---------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,1-Dichloroethane, ug/L (CAS NO - 75-34-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 0.67        | < 0.19       | N/A       |
|                                             | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                             | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                             | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                             | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                             | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                             | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                             | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                             | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                             | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                             | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                             | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                             | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | 0.417*      | < 1          | < 1       |
|                                             | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                             | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | 0.56*       | < 1          | N/A       |
|                                             | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                             | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | 0.429*      | < 1          | N/A       |
|                                             | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                             | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                             | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | 0.362*      | < 1          | < 1       |
|                                             | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | 0.216*      | < 1          | < 1       |
|                                             | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                             | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | 0.464*      | < 1          | < 1       |
|                                             | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                             | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | 0.865*      | < 1          | < 1       |
|                                             | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | 0.652*      | < 1          | < 1       |
|                                             | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | 0.808*      | < 1          | < 1       |
|                                             | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | 0.572*      | < 1          | < 1       |
|                                             | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.522*      | < 1          | N/A       |
|                                             | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.54*       | N/A          | N/A       |
|                                             | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | 0.46*       | < 1          | N/A       |
|                                             | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                             | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | 0.361*      | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                 | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|---------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,1-Dichloroethene, ug/L (CAS NO - 75-35-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.37      | < 0.37       | N/A       |
|                                             | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                             | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                             | 7/21/2009   | N/A       | N/A       | < 2         | < 2          | N/A         | < 2          | N/A       |
|                                             | 9/9/2009    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                             | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 2          | N/A       |
|                                             | 3/3/2010    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                             | 9/29/2010   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                             | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                             | 3/25/2011   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 8/30/2011   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 10/18/2012  | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 10/18/2012  | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                             | 4/24/2013   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 4/24/2013   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                             | 10/2/2013   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 10/2/2013   | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                             | 2/26/2014   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 2/26/2014   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                             | 9/22/2014   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                             | 4/6/2015    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 4/6/2015    | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                             | 9/3/2015    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                             | 9/3/2015    | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                             | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                             | 2/18/2016   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                             | 8/3/2016    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                             | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 2          | N/A       |
|                                             | 3/1/2017    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 3/1/2017    | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                             | 7/13/2017   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 7/13/2017   | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                             | 3/28/2018   | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 7/12/2018   | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                             | 2/25/2019   | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 6/4/2019    | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 6/4/2019    | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                             | 3/25/2020   | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 3/25/2020   | N/A       | < 2       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/16/2020   | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                             | 7/16/2020   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                             | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                             | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 2         | N/A          | N/A       |
|                                             | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                             | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 2          | N/A       |
|                                             | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                     | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,2,3-Trichloropropane, ug/L (CAS NO - 96-18-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.7       | < 0.7        | N/A       |
|                                                 | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                 | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                                 | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                 | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                 | 3/3/2010    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                                 | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                 | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                 | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                 | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                 | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                 | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                 | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                 | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                 | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                 | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                 | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                 | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                 | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                 | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                 | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                 | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                 | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                 | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                 | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                 | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                          | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,2-Dibromo-3-Chloropropane, ug/L (CAS NO - 96-12-8) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.86      | < 0.86       | N/A       |
|                                                      | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 0.86      | < 0.86       | N/A       |
|                                                      | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.89      | < 0.86       | N/A       |
|                                                      | 7/21/2009   | N/A       | N/A       | < 0.498     | < 0.498      | N/A         | < 0.498      | N/A       |
|                                                      | 9/9/2009    | N/A       | N/A       | < 0.498     | < 0.498      | < 0.498     | < 0.498      | N/A       |
|                                                      | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.498      | N/A       |
|                                                      | 3/3/2010    | N/A       | N/A       | < 0.498     | < 0.498      | < 0.498     | < 0.498      | N/A       |
|                                                      | 9/29/2010   | N/A       | N/A       | < 0.498     | < 0.498      | < 0.498     | < 0.498      | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.12    |
|                                                      | 3/25/2011   | N/A       | N/A       | < 0.12      | < 0.12       | < 0.12      | < 0.12       | < 0.12    |
|                                                      | 8/30/2011   | N/A       | N/A       | < 0.12      | < 0.12       | < 0.12      | < 0.12       | < 0.12    |
|                                                      | 2/27/2012   | N/A       | N/A       | < 0.2       | < 0.2        | < 0.2       | < 0.2        | < 0.2     |
|                                                      | 10/18/2012  | N/A       | N/A       | < 0.12      | < 0.12       | < 0.12      | < 0.12       | < 0.12    |
|                                                      | 10/18/2012  | N/A       | N/A       | < 0.12      | N/A          | N/A         | N/A          | N/A       |
|                                                      | 4/24/2013   | N/A       | N/A       | < 0.12      | < 0.12       | < 0.12      | < 0.12       | < 0.12    |
|                                                      | 4/24/2013   | N/A       | N/A       | N/A         | < 0.12       | N/A         | N/A          | N/A       |
|                                                      | 10/2/2013   | N/A       | N/A       | < 0.12      | < 0.12       | < 0.12      | < 0.12       | < 0.12    |
|                                                      | 10/2/2013   | N/A       | N/A       | < 0.12      | N/A          | N/A         | N/A          | N/A       |
|                                                      | 2/26/2014   | N/A       | N/A       | < 0.12      | < 0.12       | < 0.12      | < 0.12       | < 0.12    |
|                                                      | 2/26/2014   | N/A       | N/A       | N/A         | < 0.12       | N/A         | N/A          | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 0.12      | < 0.12       | < 0.12      | < 0.12       | < 0.12    |
|                                                      | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.12    |
|                                                      | 4/6/2015    | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                                      | 4/6/2015    | N/A       | N/A       | < 0.5       | N/A          | N/A         | N/A          | N/A       |
|                                                      | 9/3/2015    | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | N/A       |
|                                                      | 9/3/2015    | N/A       | N/A       | N/A         | < 0.5        | N/A         | N/A          | N/A       |
|                                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.5     |
|                                                      | 2/18/2016   | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | N/A       |
|                                                      | 8/3/2016    | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | N/A       |
|                                                      | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.5        | N/A       |
|                                                      | 3/1/2017    | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                                      | 3/1/2017    | N/A       | N/A       | N/A         | < 0.5        | N/A         | N/A          | N/A       |
|                                                      | 7/13/2017   | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                                      | 7/13/2017   | N/A       | N/A       | < 0.5       | N/A          | N/A         | N/A          | N/A       |
|                                                      | 3/28/2018   | < 0.5     | < 0.5     | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                                      | 7/12/2018   | < 0.5     | < 0.5     | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.5     |
|                                                      | 2/25/2019   | < 1.2     | < 1.2     | < 1.2       | < 1.2        | < 1.2       | < 1.2        | < 1.2     |
|                                                      | 6/4/2019    | < 1.2     | < 1.2     | < 1.2       | < 1.2        | < 1.2       | < 1.2        | < 1.2     |
|                                                      | 6/4/2019    | N/A       | N/A       | N/A         | < 1.2        | N/A         | N/A          | N/A       |
|                                                      | 3/25/2020   | < 1.2     | < 1.2     | < 1.2       | < 1.2        | < 1.2       | < 1.2        | < 1.2     |
|                                                      | 3/25/2020   | N/A       | < 1.2     | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | < 1.2     | < 1.2     | < 1.2       | < 1.2        | < 1.2       | < 1.2        | < 1.2     |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | < 1.2        | N/A         | N/A          | N/A       |
|                                                      | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1.2       | < 1.2        | N/A       |
|                                                      | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1.2       | N/A          | N/A       |
|                                                      | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1.2       | < 1.2        | N/A       |
|                                                      | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1.2        | N/A       |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                       | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|---------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,2-Dibromoethane [EDB], ug/L (CAS NO - 106-93-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.25      | < 0.25       | N/A       |
|                                                   | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 0.25      | < 0.25       | N/A       |
|                                                   | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.25      | < 0.25       | N/A       |
|                                                   | 7/21/2009   | N/A       | N/A       | < 0.255     | < 0.255      | N/A         | < 0.255      | N/A       |
|                                                   | 9/9/2009    | N/A       | N/A       | < 0.255     | < 0.255      | < 0.255     | < 0.255      | N/A       |
|                                                   | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.255      | N/A       |
|                                                   | 3/3/2010    | N/A       | N/A       | < 0.255     | < 0.255      | < 0.255     | < 0.255      | N/A       |
|                                                   | 9/29/2010   | N/A       | N/A       | < 0.255     | < 0.255      | < 0.255     | < 0.255      | N/A       |
|                                                   | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.13    |
|                                                   | 3/25/2011   | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 8/30/2011   | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 2/27/2012   | N/A       | N/A       | < 0.05      | < 0.05       | < 0.05      | < 0.05       | < 0.05    |
|                                                   | 10/18/2012  | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 10/18/2012  | N/A       | N/A       | < 0.13      | N/A          | N/A         | N/A          | N/A       |
|                                                   | 4/24/2013   | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 4/24/2013   | N/A       | N/A       | N/A         | < 0.13       | N/A         | N/A          | N/A       |
|                                                   | 10/2/2013   | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 10/2/2013   | N/A       | N/A       | < 0.13      | N/A          | N/A         | N/A          | N/A       |
|                                                   | 2/26/2014   | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 2/26/2014   | N/A       | N/A       | N/A         | < 0.13       | N/A         | N/A          | N/A       |
|                                                   | 9/22/2014   | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.13    |
|                                                   | 4/6/2015    | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 4/6/2015    | N/A       | N/A       | < 0.13      | N/A          | N/A         | N/A          | N/A       |
|                                                   | 9/3/2015    | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | N/A       |
|                                                   | 9/3/2015    | N/A       | N/A       | N/A         | < 0.13       | N/A         | N/A          | N/A       |
|                                                   | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.13    |
|                                                   | 2/18/2016   | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | N/A       |
|                                                   | 8/3/2016    | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | N/A       |
|                                                   | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.13       | N/A       |
|                                                   | 3/1/2017    | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 3/1/2017    | N/A       | N/A       | N/A         | < 0.13       | N/A         | N/A          | N/A       |
|                                                   | 7/13/2017   | N/A       | N/A       | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 7/13/2017   | N/A       | N/A       | < 0.13      | N/A          | N/A         | N/A          | N/A       |
|                                                   | 3/28/2018   | < 0.13    | < 0.13    | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 7/12/2018   | < 0.13    | < 0.13    | < 0.13      | < 0.13       | < 0.13      | < 0.13       | < 0.13    |
|                                                   | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.13    |
|                                                   | 2/25/2019   | < 0.34    | < 0.34    | < 0.34      | < 0.34       | < 0.34      | < 0.34       | < 0.34    |
|                                                   | 6/4/2019    | < 0.34    | < 0.34    | < 0.34      | < 0.34       | < 0.34      | < 0.34       | < 0.34    |
|                                                   | 6/4/2019    | N/A       | N/A       | N/A         | < 0.34       | N/A         | N/A          | N/A       |
|                                                   | 3/25/2020   | < 0.34    | < 0.34    | < 0.34      | < 0.34       | < 0.34      | < 0.34       | < 0.34    |
|                                                   | 3/25/2020   | N/A       | < 0.34    | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                   | 7/16/2020   | < 0.34    | < 0.34    | < 0.34      | < 0.34       | < 0.34      | < 0.34       | < 0.34    |
|                                                   | 7/16/2020   | N/A       | N/A       | N/A         | < 0.34       | N/A         | N/A          | N/A       |
|                                                   | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 0.34      | < 0.34       | N/A       |
|                                                   | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 0.34      | N/A          | N/A       |
|                                                   | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 0.34      | < 0.34       | N/A       |
|                                                   | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.34       | N/A       |
|                                                   | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

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| Appendix I VOC Constituents                  | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,2-Dichlorobenzene, ug/L (CAS NO - 95-50-1) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.21      | < 0.21       | N/A       |
|                                              | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                              | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                              | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                              | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                              | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                              | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                              | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                              | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                  | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,2-Dichloroethane, ug/L (CAS NO - 107-06-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.2       | < 0.2        | N/A       |
|                                              | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                              | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                              | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                              | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                              | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                              | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                              | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

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| Appendix I VOC Constituents                  | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,2-Dichloropropane, ug/L (CAS NO - 78-87-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.4       | < 0.4        | N/A       |
|                                              | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                              | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                              | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                              | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                              | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                              | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                              | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                              | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                              | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                              | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                              | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                              | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                   | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,4-Dichlorobenzene, ug/L (CAS NO - 106-46-7) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.16      | < 0.16       | N/A       |
|                                               | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                               | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                               | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                               | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                               | 3/25/2011   | N/A       | N/A       | < 4         | < 4          | < 4         | < 1          | < 4       |
|                                               | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                               | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                               | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                               | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                               | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                               | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                               | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                               | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                               | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                               | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                               | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                               | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents         | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 2-Butanone, ug/L (CAS NO - 78-93-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.91      | < 0.91       | N/A       |
|                                     | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                     | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                     | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | < 10         | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                     | 3/3/2010    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                     | 9/29/2010   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                     | 3/25/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 8/30/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 2/27/2012   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 10/18/2012  | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 10/18/2012  | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                     | 4/24/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 4/24/2013   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                     | 10/2/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 10/2/2013   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                     | 2/26/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 2/26/2014   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                     | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                     | 4/6/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 4/6/2015    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | 12          | < 10         | < 10        | < 10         | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                     | 2/18/2016   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                     | 3/1/2017    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 3/1/2017    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                     | 7/13/2017   | N/A       | N/A       | 1.37*       | < 10         | < 10        | < 10         | < 10      |
|                                     | 7/13/2017   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                     | 3/28/2018   | < 10      | < 10      | < 10        | < 10         | 1.05*       | < 10         | < 10      |
|                                     | 7/12/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                     | 2/25/2019   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 6/4/2019    | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 6/4/2019    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                     | 3/25/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 3/25/2020   | N/A       | < 10      | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                     | 7/16/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                     | 7/16/2020   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                     | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                     | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                     | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                     | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |

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| Appendix I VOC Constituents          | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 2-Hexanone, ug/L (CAS NO - 591-78-6) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.76      | < 1.76       | N/A       |
|                                      | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                      | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                      | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | < 10         | N/A       |
|                                      | 9/9/2009    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                      | 3/3/2010    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 9/29/2010   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 3/25/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 8/30/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 2/27/2012   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 10/18/2012  | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 10/18/2012  | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                      | 4/24/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 4/24/2013   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 10/2/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 10/2/2013   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                      | 2/26/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 2/26/2014   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 4/6/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 4/6/2015    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                      | 9/3/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 9/3/2015    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 2/18/2016   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 8/3/2016    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                      | 3/1/2017    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 3/1/2017    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 7/13/2017   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 7/13/2017   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                      | 3/28/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 7/12/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 2/25/2019   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 6/4/2019    | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 6/4/2019    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 3/25/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 3/25/2020   | N/A       | < 10      | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                      | 7/16/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 7/16/2020   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                      | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                      | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                      | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                    | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 4-Methyl-2-Pentanone, ug/L (CAS NO - 108-10-1) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.31      | < 0.31       | N/A       |
|                                                | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | < 10         | N/A       |
|                                                | 9/9/2009    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                                | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                                | 3/3/2010    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                                | 9/29/2010   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/25/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 8/30/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 2/27/2012   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 10/18/2012  | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 10/18/2012  | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                                | 4/24/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 4/24/2013   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                | 10/2/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                                | 2/26/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 2/26/2014   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 4/6/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 4/6/2015    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                                | 9/3/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                                | 9/3/2015    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 2/18/2016   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                                | 8/3/2016    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                                | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                                | 3/1/2017    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 3/1/2017    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                | 7/13/2017   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 7/13/2017   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                                | 3/28/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 7/12/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 2/25/2019   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 6/4/2019    | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 6/4/2019    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                | 3/25/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 3/25/2020   | N/A       | < 10      | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                                | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents      | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Acetone, ug/L (CAS NO - 67-64-1) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 4.62      | < 4.62       | N/A       |
|                                  | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                  | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | < 10         | N/A       |
|                                  | 9/9/2009    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                  | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                  | 3/3/2010    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                  | 9/29/2010   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                  | 3/25/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 8/30/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 2/27/2012   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 10/18/2012  | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 10/18/2012  | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                  | 4/24/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 4/24/2013   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                  | 10/2/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 10/2/2013   | N/A       | N/A       | 2.6*        | N/A          | N/A         | N/A          | N/A       |
|                                  | 2/26/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 2/26/2014   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                  | 4/6/2015    | N/A       | N/A       | < 10        | 3.98*        | 4.63*       | < 10         | < 10      |
|                                  | 4/6/2015    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                  | 9/3/2015    | N/A       | N/A       | 96          | < 10         | < 10        | < 10         | N/A       |
|                                  | 9/3/2015    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 2.45*     |
|                                  | 2/18/2016   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                  | 8/3/2016    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                  | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                  | 3/1/2017    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | 3.18*     |
|                                  | 3/1/2017    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                  | 7/13/2017   | N/A       | N/A       | 3.62*       | 2.17*        | 4.75*       | 4.3*         | 2.49*     |
|                                  | 7/13/2017   | N/A       | N/A       | 2.94*       | N/A          | N/A         | N/A          | N/A       |
|                                  | 3/28/2018   | 3.2*      | < 10      | < 10        | < 10         | 2.86*       | 2.2*         | 1.8*      |
|                                  | 7/12/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                  | 2/25/2019   | 5.61*     | 3.2*      | 6.86*       | < 10         | 6.13*       | 4.2*         | < 10      |
|                                  | 6/4/2019    | 4.51*     | < 10      | 4.34*       | < 10         | < 10        | < 10         | 4.42*     |
|                                  | 6/4/2019    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                  | 3/25/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 3/25/2020   | N/A       | < 10      | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                  | 7/16/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                  | 7/16/2020   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                  | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                  | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                  | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                  | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents             | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Acrylonitrile, ug/L (CAS NO - 107-13-1) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.28      | < 1.28       | N/A       |
|                                         | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | < 10         | N/A       |
|                                         | 9/9/2009    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                         | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                         | 3/3/2010    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                         | 9/29/2010   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                         | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 3/25/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 8/30/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 2/27/2012   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                         | 10/18/2012  | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 10/18/2012  | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                         | 4/24/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 4/24/2013   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 10/2/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 10/2/2013   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                         | 2/26/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 2/26/2014   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 4/6/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 4/6/2015    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                         | 9/3/2015    | N/A       | N/A       | 2.7*        | < 10         | < 10        | < 10         | N/A       |
|                                         | 9/3/2015    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 2/18/2016   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                         | 8/3/2016    | N/A       | N/A       | 1.48*       | < 10         | < 10        | < 10         | N/A       |
|                                         | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                         | 3/1/2017    | N/A       | N/A       | 1.19*       | < 10         | < 10        | < 10         | < 10      |
|                                         | 3/1/2017    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 7/13/2017   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 7/13/2017   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                         | 3/28/2018   | 0.81*     | < 10      | 1.26*       | < 10         | < 10        | < 10         | 0.669*    |
|                                         | 7/12/2018   | 3.33*     | < 10      | 2.32*       | < 10         | < 10        | < 10         | < 10      |
|                                         | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 2.53*     |
|                                         | 2/25/2019   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 6/4/2019    | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 6/4/2019    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 3/25/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 3/25/2020   | N/A       | < 10      | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                         | 7/16/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 7/16/2020   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                         | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                         | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents      | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Benzene, ug/L (CAS NO - 71-43-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.16      | 0.33         | N/A       |
|                                  | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 0.5       | < 0.5        | N/A       |
|                                  | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 0.5       | < 0.5        | N/A       |
|                                  | 7/21/2009   | N/A       | N/A       | < 0.5       | < 0.5        | N/A         | < 0.5        | N/A       |
|                                  | 9/9/2009    | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | N/A       |
|                                  | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.5        | N/A       |
|                                  | 3/3/2010    | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | N/A       |
|                                  | 9/29/2010   | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | N/A       |
|                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.5     |
|                                  | 3/25/2011   | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                  | 8/30/2011   | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                  | 2/27/2012   | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                  | 10/18/2012  | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                  | 10/18/2012  | N/A       | N/A       | < 0.5       | N/A          | N/A         | N/A          | N/A       |
|                                  | 4/24/2013   | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                  | 4/24/2013   | N/A       | N/A       | N/A         | < 0.5        | N/A         | N/A          | N/A       |
|                                  | 10/2/2013   | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | 0.406*       | < 0.5     |
|                                  | 10/2/2013   | N/A       | N/A       | < 0.5       | N/A          | N/A         | N/A          | N/A       |
|                                  | 2/26/2014   | N/A       | N/A       | < 0.5       | < 0.5        | 0.188*      | 0.4*         | < 0.5     |
|                                  | 2/26/2014   | N/A       | N/A       | N/A         | < 0.5        | N/A         | N/A          | N/A       |
|                                  | 9/22/2014   | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | 0.225*       | < 0.5     |
|                                  | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.5     |
|                                  | 4/6/2015    | N/A       | N/A       | < 0.5       | < 0.5        | 0.238*      | 0.222*       | < 0.5     |
|                                  | 4/6/2015    | N/A       | N/A       | < 0.5       | N/A          | N/A         | N/A          | N/A       |
|                                  | 9/3/2015    | N/A       | N/A       | < 0.5       | < 0.5        | 0.293*      | 0.391*       | N/A       |
|                                  | 9/3/2015    | N/A       | N/A       | N/A         | < 0.5        | N/A         | N/A          | N/A       |
|                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.5     |
|                                  | 2/18/2016   | N/A       | N/A       | < 0.5       | < 0.5        | 0.202*      | < 0.5        | N/A       |
|                                  | 8/3/2016    | N/A       | N/A       | < 0.5       | < 0.5        | 0.136*      | 0.386*       | N/A       |
|                                  | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.369*       | N/A       |
|                                  | 3/1/2017    | N/A       | N/A       | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                  | 3/1/2017    | N/A       | N/A       | N/A         | < 0.5        | N/A         | N/A          | N/A       |
|                                  | 7/13/2017   | N/A       | N/A       | < 0.5       | < 0.5        | 0.111*      | 0.453*       | < 0.5     |
|                                  | 7/13/2017   | N/A       | N/A       | < 0.5       | N/A          | N/A         | N/A          | N/A       |
|                                  | 3/28/2018   | < 0.5     | < 0.5     | < 0.5       | < 0.5        | 0.271*      | < 0.5        | < 0.5     |
|                                  | 7/12/2018   | < 0.5     | < 0.5     | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.5     |
|                                  | 2/25/2019   | < 0.5     | < 0.5     | < 0.5       | < 0.5        | 0.253*      | < 0.5        | < 0.5     |
|                                  | 6/4/2019    | < 0.5     | < 0.5     | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                  | 6/4/2019    | N/A       | N/A       | N/A         | < 0.5        | N/A         | N/A          | N/A       |
|                                  | 3/25/2020   | < 0.5     | < 0.5     | < 0.5       | < 0.5        | 0.22*       | < 0.5        | < 0.5     |
|                                  | 3/25/2020   | N/A       | < 0.5     | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                  | 7/16/2020   | < 0.5     | < 0.5     | < 0.5       | < 0.5        | < 0.5       | < 0.5        | < 0.5     |
|                                  | 7/16/2020   | N/A       | N/A       | N/A         | < 0.5        | N/A         | N/A          | N/A       |
|                                  | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 0.5       | < 0.5        | N/A       |
|                                  | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 0.5       | N/A          | N/A       |
|                                  | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 0.5       | < 0.5        | N/A       |
|                                  | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.5        | N/A       |
|                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.5       | < 0.5        | N/A       |

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|                                                                            | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Appendix I VOC Constituents<br>Bromochloromethane, ug/L (CAS NO - 74-97-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.76      | < 0.76       | N/A       |
|                                                                            | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                                            | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                                            | 7/21/2009   | N/A       | N/A       | < 5         | < 5          | N/A         | < 5          | N/A       |
|                                                                            | 9/9/2009    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                                            | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                                            | 3/3/2010    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                                            | 9/29/2010   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                                            | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                                            | 3/25/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 8/30/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 2/27/2012   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 10/18/2012  | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 10/18/2012  | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                                            | 4/24/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 4/24/2013   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                                            | 10/2/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 10/2/2013   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                                            | 2/26/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 2/26/2014   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                                            | 9/22/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                                            | 4/6/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 4/6/2015    | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                                            | 9/3/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                                            | 9/3/2015    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                                            | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                                            | 2/18/2016   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                                            | 8/3/2016    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                                            | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                                            | 3/1/2017    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 3/1/2017    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                                            | 7/13/2017   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 7/13/2017   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                                            | 3/28/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 7/12/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                                            | 2/25/2019   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 6/4/2019    | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 6/4/2019    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                                            | 3/25/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 3/25/2020   | N/A       | < 5       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                                            | 7/16/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                            | 7/16/2020   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                                            | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                                            | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | N/A          | N/A       |
|                                                                            | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                                            | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                                            | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                   | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Bromodichloromethane, ug/L (CAS NO - 75-27-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.2       | < 0.2        | N/A       |
|                                               | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                               | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                               | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                               | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                               | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 10/18/2012  | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 10/18/2012  | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                               | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                               | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                               | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                               | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                               | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                               | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                               | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                               | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                               | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                               | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                               | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                               | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                               | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents        | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Bromoform, ug/L (CAS NO - 75-25-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.43      | < 0.43       | N/A       |
|                                    | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                    | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                    | 7/21/2009   | N/A       | N/A       | < 5         | < 5          | N/A         | < 5          | N/A       |
|                                    | 9/9/2009    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                    | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                    | 3/3/2010    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                    | 9/29/2010   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                    | 3/25/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 8/30/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 2/27/2012   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 10/18/2012  | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 10/18/2012  | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                    | 4/24/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 4/24/2013   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                    | 10/2/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 10/2/2013   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                    | 2/26/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 2/26/2014   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                    | 9/22/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                    | 4/6/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 4/6/2015    | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                    | 9/3/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                    | 9/3/2015    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                    | 2/18/2016   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                    | 8/3/2016    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                    | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                    | 3/1/2017    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 3/1/2017    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                    | 7/13/2017   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 7/13/2017   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                    | 3/28/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 7/12/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                    | 2/25/2019   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 6/4/2019    | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 6/4/2019    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                    | 3/25/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 3/25/2020   | N/A       | < 5       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                    | 7/16/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                    | 7/16/2020   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                    | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                    | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | N/A          | N/A       |
|                                    | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                    | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

|                                                                      | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Appendix I VOC Constituents<br>Bromomethane, ug/L (CAS NO - 74-83-9) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.48      | < 0.48       | N/A       |
|                                                                      | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                                                      | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                                                      | 7/21/2009   | N/A       | N/A       | < 4         | < 4          | N/A         | < 4          | N/A       |
|                                                                      | 9/9/2009    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                                      | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 4          | N/A       |
|                                                                      | 3/3/2010    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                                      | 9/29/2010   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                                      | 3/25/2011   | N/A       | N/A       | < 4         | < 4          | < 4         | < 5          | < 4       |
|                                                                      | 8/30/2011   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 2/27/2012   | N/A       | N/A       | < 50        | < 50         | < 50        | < 50         | < 50      |
|                                                                      | 10/18/2012  | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                                      | 10/18/2012  | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                                      | 4/24/2013   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 4/24/2013   | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                                      | 10/2/2013   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 10/2/2013   | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                                                      | 2/26/2014   | N/A       | N/A       | 0.321*      | < 4          | 0.317*      | 0.272*       | 0.292*    |
|                                                                      | 2/26/2014   | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                                      | 9/22/2014   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                                      | 4/6/2015    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 4/6/2015    | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                                                      | 9/3/2015    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                                      | 9/3/2015    | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                                      | 2/18/2016   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                                      | 8/3/2016    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                                      | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 4          | N/A       |
|                                                                      | 3/1/2017    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 3/1/2017    | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                                      | 7/13/2017   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | 0.23*     |
|                                                                      | 7/13/2017   | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                                                      | 3/28/2018   | < 4       | < 4       | < 4         | 0.251*       | < 4         | < 4          | < 4       |
|                                                                      | 7/12/2018   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                                      | 2/25/2019   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 6/4/2019    | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 6/4/2019    | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                                      | 3/25/2020   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 3/25/2020   | N/A       | < 4       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                                      | 7/16/2020   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                                      | 7/16/2020   | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                                      | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                                                      | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 4         | N/A          | N/A       |
|                                                                      | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                                                      | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 4          | N/A       |
|                                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents               | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Carbon Disulfide, ug/L (CAS NO - 75-15-0) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.18      | < 0.18       | N/A       |
|                                           | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                           | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                           | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                           | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                           | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                           | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                           | 9/29/2010   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                           | 3/25/2011   | N/A       | N/A       | < 4         | < 4          | < 4         | < 1          | < 4       |
|                                           | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                           | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | 1         |
|                                           | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                           | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                           | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                           | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                           | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                           | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                           | 2/26/2014   | N/A       | N/A       | < 1         | 0.178*       | 0.195*      | 0.233*       | 0.238*    |
|                                           | 2/26/2014   | N/A       | N/A       | N/A         | 0.17*        | N/A         | N/A          | N/A       |
|                                           | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                           | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                           | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                           | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                           | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                           | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                           | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                           | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                           | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                           | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | 0.307*    |
|                                           | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                           | 7/13/2017   | N/A       | N/A       | 1.05        | < 1          | < 1         | < 1          | 0.739*    |
|                                           | 7/13/2017   | N/A       | N/A       | 0.559*      | N/A          | N/A         | N/A          | N/A       |
|                                           | 3/28/2018   | 0.275*    | 0.155*    | 0.401*      | < 1          | < 1         | < 1          | 0.322*    |
|                                           | 7/12/2018   | 1.02      | 0.778*    | 1.46        | < 1          | < 1         | < 1          | < 1       |
|                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 1.33      |
|                                           | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                           | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | 0.487*    |
|                                           | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                           | 3/25/2020   | 0.456*    | < 1       | < 1         | < 1          | < 1         | < 1          | 0.598*    |
|                                           | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                           | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                           | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                           | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | 0.485*       | N/A       |
|                                           | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                           | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                           | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                   | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Carbon Tetrachloride, ug/L (CAS NO - 56-23-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.31      | < 0.31       | N/A       |
|                                               | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                               | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 2         | < 2          | N/A         | < 2          | N/A       |
|                                               | 9/9/2009    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                               | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 2          | N/A       |
|                                               | 3/3/2010    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                               | 9/29/2010   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                               | 3/25/2011   | N/A       | N/A       | < 4         | < 4          | < 4         | < 2          | < 4       |
|                                               | 8/30/2011   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 2/27/2012   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 10/18/2012  | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 10/18/2012  | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                               | 4/24/2013   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 4/24/2013   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                               | 10/2/2013   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 10/2/2013   | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                               | 2/26/2014   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 2/26/2014   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                               | 4/6/2015    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 4/6/2015    | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                               | 9/3/2015    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                               | 9/3/2015    | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                               | 2/18/2016   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                               | 8/3/2016    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                               | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 2          | N/A       |
|                                               | 3/1/2017    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 3/1/2017    | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                               | 7/13/2017   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 7/13/2017   | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                               | 3/28/2018   | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 7/12/2018   | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                               | 2/25/2019   | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 6/4/2019    | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 6/4/2019    | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                               | 3/25/2020   | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 3/25/2020   | N/A       | < 2       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | < 2       | < 2       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                               | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                               | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 2         | N/A          | N/A       |
|                                               | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                               | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 2          | N/A       |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents             | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Chlorobenzene, ug/L (CAS NO - 108-90-7) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.17      | < 0.17       | N/A       |
|                                         | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                         | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                         | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                         | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                         | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                         | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                         | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                         | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                         | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                         | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                         | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                         | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                         | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                         | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                         | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                         | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                         | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                         | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                         | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                         | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                         | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                         | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                         | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                         | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                         | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                    | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Chlorodibromomethane, ug/L (CAS NO - 124-48-1) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.26      | < 0.26       | N/A       |
|                                                | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 5         | < 5          | N/A         | < 5          | N/A       |
|                                                | 9/9/2009    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                | 3/3/2010    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                | 9/29/2010   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                | 3/25/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 8/30/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 2/27/2012   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 10/18/2012  | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 10/18/2012  | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                | 4/24/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 4/24/2013   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                | 10/2/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 10/2/2013   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                | 2/26/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 2/26/2014   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                | 4/6/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 4/6/2015    | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                | 9/3/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                | 9/3/2015    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                | 2/18/2016   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                | 8/3/2016    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                | 3/1/2017    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 3/1/2017    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                | 7/13/2017   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 7/13/2017   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                | 3/28/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 7/12/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                | 2/25/2019   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 6/4/2019    | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 6/4/2019    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                | 3/25/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 3/25/2020   | N/A       | < 5       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | N/A          | N/A       |
|                                                | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents           | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|---------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Chloroethane, ug/L (CAS NO - 75-00-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.5       | < 0.5        | N/A       |
|                                       | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                       | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                       | 7/21/2009   | N/A       | N/A       | < 4         | < 4          | N/A         | < 4          | N/A       |
|                                       | 9/9/2009    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                       | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 4          | N/A       |
|                                       | 3/3/2010    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                       | 9/29/2010   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                       | 3/25/2011   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 8/30/2011   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 2/27/2012   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 10/18/2012  | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 10/18/2012  | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                       | 4/24/2013   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 4/24/2013   | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                       | 10/2/2013   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 10/2/2013   | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                       | 2/26/2014   | N/A       | N/A       | < 4         | < 4          | 0.559*      | < 4          | < 4       |
|                                       | 2/26/2014   | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                       | 9/22/2014   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                       | 4/6/2015    | N/A       | N/A       | < 4         | < 4          | 0.401*      | < 4          | < 4       |
|                                       | 4/6/2015    | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                       | 9/3/2015    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                       | 9/3/2015    | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                       | 2/18/2016   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                       | 8/3/2016    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                       | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 4          | N/A       |
|                                       | 3/1/2017    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 3/1/2017    | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                       | 7/13/2017   | N/A       | N/A       | < 4         | < 4          | < 4         | 0.25*        | < 4       |
|                                       | 7/13/2017   | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                       | 3/28/2018   | < 4       | < 4       | < 4         | < 4          | 0.692*      | < 4          | < 4       |
|                                       | 7/12/2018   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                       | 2/25/2019   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 6/4/2019    | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 6/4/2019    | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                       | 3/25/2020   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 3/25/2020   | N/A       | < 4       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                       | 7/16/2020   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                       | 7/16/2020   | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                       | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                       | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 4         | N/A          | N/A       |
|                                       | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                       | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 4          | N/A       |
|                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents         | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Chloroform, ug/L (CAS NO - 67-66-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.17      | < 0.17       | N/A       |
|                                     | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                     | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                     | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                     | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                     | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                     | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                     | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 10/18/2012  | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                     | 10/18/2012  | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                     | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                     | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                     | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                     | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                     | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                     | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                     | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                     | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                     | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                     | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                     | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                     | 7/12/2018   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                     | 2/25/2019   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                     | 6/4/2019    | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                     | 6/4/2019    | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                     | 3/25/2020   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                     | 3/25/2020   | N/A       | < 3       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                     | 7/16/2020   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                     | 7/16/2020   | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                     | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                     | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 3         | N/A          | N/A       |
|                                     | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                     | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents            | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Chloromethane, ug/L (CAS NO - 74-87-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.2       | < 0.2        | N/A       |
|                                        | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                        | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                        | 7/21/2009   | N/A       | N/A       | < 3         | < 3          | N/A         | < 3          | N/A       |
|                                        | 9/9/2009    | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | N/A       |
|                                        | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                        | 3/3/2010    | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | N/A       |
|                                        | 9/29/2010   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | N/A       |
|                                        | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                        | 3/25/2011   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 8/30/2011   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 2/27/2012   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 10/18/2012  | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 10/18/2012  | N/A       | N/A       | < 3         | N/A          | N/A         | N/A          | N/A       |
|                                        | 4/24/2013   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 4/24/2013   | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                        | 10/2/2013   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 10/2/2013   | N/A       | N/A       | < 3         | N/A          | N/A         | N/A          | N/A       |
|                                        | 2/26/2014   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 2/26/2014   | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                        | 9/22/2014   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                        | 4/6/2015    | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 4/6/2015    | N/A       | N/A       | < 3         | N/A          | N/A         | N/A          | N/A       |
|                                        | 9/3/2015    | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | N/A       |
|                                        | 9/3/2015    | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                        | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                        | 2/18/2016   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | N/A       |
|                                        | 8/3/2016    | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | N/A       |
|                                        | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                        | 3/1/2017    | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 3/1/2017    | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                        | 7/13/2017   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 7/13/2017   | N/A       | N/A       | < 3         | N/A          | N/A         | N/A          | N/A       |
|                                        | 3/28/2018   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 7/12/2018   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                        | 2/25/2019   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 6/4/2019    | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 6/4/2019    | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                        | 3/25/2020   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 3/25/2020   | N/A       | < 3       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                        | 7/16/2020   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                        | 7/16/2020   | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                        | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                        | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 3         | N/A          | N/A       |
|                                        | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                        | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                        | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                      | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| cis-1,2-Dichloroethene, ug/L (CAS NO - 156-59-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.37      | 1.65         | N/A       |
|                                                  | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | 2.43         | N/A       |
|                                                  | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | 2.03         | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | 1.99         | N/A       |
|                                                  | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | 1.29         | N/A       |
|                                                  | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 2.24         | N/A       |
|                                                  | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | 1.2          | N/A       |
|                                                  | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | 2.16         | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                  | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | 1.62         | < 1       |
|                                                  | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | 1.89         | < 1       |
|                                                  | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | 1            | < 1       |
|                                                  | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | 1.75         | < 1       |
|                                                  | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                  | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | 1.14         | < 1       |
|                                                  | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                  | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | 0.209*      | 1.72         | < 1       |
|                                                  | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                  | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | 2.13         | < 1       |
|                                                  | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | 0.975*       | < 1       |
|                                                  | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                  | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | 0.718*      | 1.16         | < 1       |
|                                                  | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                  | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | 0.918*      | 1.87         | N/A       |
|                                                  | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                  | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | 0.455*      | 0.837*       | N/A       |
|                                                  | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | 0.437*      | 1.66         | N/A       |
|                                                  | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 1.63         | N/A       |
|                                                  | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | 0.544*      | 0.856*       | < 1       |
|                                                  | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                  | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | 0.226*      | 1.91         | < 1       |
|                                                  | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                  | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | 0.903*      | 0.339*       | < 1       |
|                                                  | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | 0.481*      | 1.02         | < 1       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                  | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | 0.213*      | < 1          | < 1       |
|                                                  | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | 0.377*      | < 1          | < 1       |
|                                                  | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                  | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | 0.395*      | < 1          | < 1       |
|                                                  | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | 0.288*      | 0.986*       | < 1       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                  | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.411*      | < 1          | N/A       |
|                                                  | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.392*      | N/A          | N/A       |
|                                                  | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                  | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | 0.579*       | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                         | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| cis-1,3-Dichloropropene, ug/L (CAS NO - 10061-01-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.23      | < 0.23       | N/A       |
|                                                     | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                     | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                     | 7/21/2009   | N/A       | N/A       | < 5         | < 5          | N/A         | < 5          | N/A       |
|                                                     | 9/9/2009    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                     | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                     | 3/3/2010    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                     | 9/29/2010   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                     | 3/25/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 8/30/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 2/27/2012   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 10/18/2012  | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 10/18/2012  | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 4/24/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 4/24/2013   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                     | 10/2/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 10/2/2013   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 2/26/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 2/26/2014   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                     | 9/22/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                     | 4/6/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 4/6/2015    | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 9/3/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                     | 9/3/2015    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                     | 2/18/2016   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                     | 8/3/2016    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                     | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                     | 3/1/2017    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 3/1/2017    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                     | 7/13/2017   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 7/13/2017   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 3/28/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 7/12/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                     | 2/25/2019   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 6/4/2019    | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 6/4/2019    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                     | 3/25/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 3/25/2020   | N/A       | < 5       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 7/16/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                     | 7/16/2020   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                     | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                     | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | N/A          | N/A       |
|                                                     | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                     | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents            | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Ethylbenzene, ug/L (CAS NO - 100-41-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.25      | < 0.25       | N/A       |
|                                        | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                        | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                        | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                        | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                        | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                        | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                        | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                        | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                        | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                        | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                        | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                        | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                        | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                        | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                        | 9/3/2015    | N/A       | N/A       | 0.234*      | 0.289*       | 0.21*       | < 1          | N/A       |
|                                        | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                        | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.239*    |
|                                        | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                        | 8/3/2016    | N/A       | N/A       | 0.666*      | < 1          | < 1         | < 1          | N/A       |
|                                        | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                        | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                        | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                        | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                        | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                        | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                        | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                        | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                        | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                        | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                        | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                        | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                        | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

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| Appendix I VOC Constituents          | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Iodomethane, ug/L (CAS NO - 74-88-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.4       | < 0.4        | N/A       |
|                                      | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                      | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                      | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | < 10         | N/A       |
|                                      | 9/9/2009    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                      | 3/3/2010    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 9/29/2010   | N/A       | N/A       | < 20        | < 20         | < 20        | < 20         | N/A       |
|                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 3/25/2011   | N/A       | N/A       | < 50        | < 50         | < 50        | < 10         | < 50      |
|                                      | 8/30/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 2/27/2012   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 10/18/2012  | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 10/18/2012  | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                      | 4/24/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 4/24/2013   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 10/2/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 10/2/2013   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                      | 2/26/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 2/26/2014   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 4/6/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 4/6/2015    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                      | 9/3/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 9/3/2015    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 2/18/2016   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 8/3/2016    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                      | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                      | 3/1/2017    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 3/1/2017    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 7/13/2017   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 7/13/2017   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                      | 3/28/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 7/12/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 2/25/2019   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 6/4/2019    | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 6/4/2019    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 3/25/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 3/25/2020   | N/A       | < 10      | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                      | 7/16/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                      | 7/16/2020   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                      | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                      | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                      | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                      | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |

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| Appendix I VOC Constituents                | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Methylene Bromide, ug/L (CAS NO - 74-95-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.3       | < 0.3        | N/A       |
|                                            | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                            | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                            | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                            | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                            | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                            | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                            | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                            | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                            | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                            | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                            | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                            | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                            | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                            | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                            | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                            | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                            | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                            | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                            | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                            | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                            | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                            | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                            | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                            | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                            | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                            | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                            | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                            | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                            | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                            | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                            | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                            | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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| Appendix I VOC Constituents                 | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|---------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Methylene Chloride, ug/L (CAS NO - 75-09-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 0.77        | 1.09         | N/A       |
|                                             | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                             | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                             | 7/21/2009   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                             | 9/9/2009    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                             | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                             | 3/3/2010    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                             | 9/29/2010   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                             | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                             | 3/25/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 8/30/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 2/27/2012   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 10/18/2012  | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 10/18/2012  | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                             | 4/24/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 4/24/2013   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                             | 10/2/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 10/2/2013   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                             | 2/26/2014   | N/A       | N/A       | 0.624*      | 1.29*        | 1.13*       | 1.26*        | 0.726*    |
|                                             | 2/26/2014   | N/A       | N/A       | N/A         | 0.886*       | N/A         | N/A          | N/A       |
|                                             | 9/22/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                             | 4/6/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 4/6/2015    | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                             | 9/3/2015    | N/A       | N/A       | < 5         | < 5          | 0.236*      | < 5          | N/A       |
|                                             | 9/3/2015    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                             | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                             | 2/18/2016   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                             | 8/3/2016    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                             | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                             | 3/1/2017    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 3/1/2017    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                             | 7/13/2017   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 7/13/2017   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                             | 3/28/2018   | 0.208*    | 0.194*    | < 5         | 0.179*       | 0.266*      | 0.255*       | 0.21*     |
|                                             | 7/12/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                             | 2/25/2019   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 6/4/2019    | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 6/4/2019    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                             | 3/25/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 3/25/2020   | N/A       | < 5       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/16/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                             | 7/16/2020   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                             | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                             | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | N/A          | N/A       |
|                                             | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                             | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                             | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents       | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Styrene, ug/L (CAS NO - 100-42-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.19      | < 0.19       | N/A       |
|                                   | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                   | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                   | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                   | 3/3/2010    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                   | 9/29/2010   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                   | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                   | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                   | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                   | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                   | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                   | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                   | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 7/13/2017   | N/A       | N/A       | 0.26*       | < 1          | < 1         | < 1          | < 1       |
|                                   | 7/13/2017   | N/A       | N/A       | 0.282*      | N/A          | N/A         | N/A          | N/A       |
|                                   | 3/28/2018   | < 1       | < 1       | 0.568*      | < 1          | < 1         | < 1          | < 1       |
|                                   | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                   | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                   | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                   | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                   | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                   | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                   | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                 | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|---------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Tetrachloroethene, ug/L (CAS NO - 127-18-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.38      | < 0.38       | N/A       |
|                                             | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                             | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                             | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                             | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                             | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                             | 3/3/2010    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                             | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                             | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                             | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                             | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                             | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                             | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                             | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                             | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                             | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                             | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                             | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                             | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                             | 3/28/2018   | < 1       | 0.248*    | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                             | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                             | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                             | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                             | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                             | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                             | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                             | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents       | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Toluene, ug/L (CAS NO - 108-88-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.14      | < 0.14       | N/A       |
|                                   | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                   | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                   | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                   | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                   | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                   | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                   | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                   | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                   | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                   | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                   | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | 1.59        | < 1          | < 1         | < 1          | N/A       |
|                                   | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                   | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | 0.557*       | N/A       |
|                                   | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 0.803*       | N/A       |
|                                   | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 7/13/2017   | N/A       | N/A       | < 1         | 0.165*       | 0.17*       | < 1          | < 1       |
|                                   | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                   | 3/28/2018   | < 1       | 0.569*    | < 1         | 0.183*       | < 1         | < 1          | < 1       |
|                                   | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                   | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                   | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                   | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                   | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                   | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                   | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                   | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                   | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                        | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| trans-1,2-Dichloroethene, ug/L (CAS NO - 156-60-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.31      | < 0.31       | N/A       |
|                                                    | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                    | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                                    | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                    | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                                    | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                    | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                    | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                    | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                    | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                           | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| trans-1,3-Dichloropropene, ug/L (CAS NO - 10061-02-6) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.17      | < 0.17       | N/A       |
|                                                       | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                       | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                       | 7/21/2009   | N/A       | N/A       | < 5         | < 5          | N/A         | < 5          | N/A       |
|                                                       | 9/9/2009    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                       | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                       | 3/3/2010    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                       | 9/29/2010   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                       | 3/25/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 8/30/2011   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 2/27/2012   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 10/18/2012  | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 10/18/2012  | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                       | 4/24/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 4/24/2013   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                       | 10/2/2013   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 10/2/2013   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                       | 2/26/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 2/26/2014   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                       | 4/6/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 4/6/2015    | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                       | 9/3/2015    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                       | 9/3/2015    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                       | 2/18/2016   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                       | 8/3/2016    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | N/A       |
|                                                       | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                       | 3/1/2017    | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 3/1/2017    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                       | 7/13/2017   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 7/13/2017   | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                       | 3/28/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 7/12/2018   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                       | 2/25/2019   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 6/4/2019    | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 6/4/2019    | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                       | 3/25/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 3/25/2020   | N/A       | < 5       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                       | 7/16/2020   | < 5       | < 5       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                       | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                       | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 5         | N/A          | N/A       |
|                                                       | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                       | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                           | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| trans-1,4-Dichloro-2-Butene, ug/L (CAS NO - 110-57-6) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.8       | < 1.8        | N/A       |
|                                                       | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                       | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 8/30/2011   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 2/27/2012   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 10/18/2012  | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 10/18/2012  | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                                       | 4/24/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 4/24/2013   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                       | 10/2/2013   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 10/2/2013   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                                       | 2/26/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 2/26/2014   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 4/6/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 4/6/2015    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                                       | 9/3/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                                       | 9/3/2015    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 2/18/2016   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                                       | 8/3/2016    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                                       | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                                       | 3/1/2017    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 3/1/2017    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                       | 7/13/2017   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 7/13/2017   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                                       | 3/28/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 7/12/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 2/25/2019   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 6/4/2019    | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 6/4/2019    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                       | 3/25/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 3/25/2020   | N/A       | < 10      | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                       | 7/16/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                       | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                       | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                                       | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                       | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents              | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Trichloroethene, ug/L (CAS NO - 79-01-6) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.24      | < 0.24       | N/A       |
|                                          | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                          | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                          | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | < 1          | N/A       |
|                                          | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                          | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                          | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                          | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                          | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                          | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                          | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                          | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                          | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                          | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                          | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                          | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                          | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                          | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                          | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                          | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                          | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                          | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                          | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                          | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                          | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                          | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                          | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                          | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                          | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                          | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                          | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                          | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                          | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents                     | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Trichlorofluoromethane, ug/L (CAS NO - 75-69-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.26      | < 0.26       | N/A       |
|                                                 | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                                 | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 4         | < 4          | N/A         | < 4          | N/A       |
|                                                 | 9/9/2009    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                 | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 4          | N/A       |
|                                                 | 3/3/2010    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                 | 9/29/2010   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                 | 3/25/2011   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 8/30/2011   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 2/27/2012   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 10/18/2012  | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 10/18/2012  | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                                 | 4/24/2013   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 4/24/2013   | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                 | 10/2/2013   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 10/2/2013   | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                                 | 2/26/2014   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 2/26/2014   | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                 | 4/6/2015    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 4/6/2015    | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                                 | 9/3/2015    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                 | 9/3/2015    | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                 | 2/18/2016   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                 | 8/3/2016    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | N/A       |
|                                                 | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 4          | N/A       |
|                                                 | 3/1/2017    | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 3/1/2017    | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                 | 7/13/2017   | N/A       | N/A       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 7/13/2017   | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                                 | 3/28/2018   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 7/12/2018   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                 | 2/25/2019   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 6/4/2019    | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 6/4/2019    | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                 | 3/25/2020   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 3/25/2020   | N/A       | < 4       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | < 4       | < 4       | < 4         | < 4          | < 4         | < 4          | < 4       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                 | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                                 | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 4         | N/A          | N/A       |
|                                                 | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                                 | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 4          | N/A       |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents             | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Vinyl Acetate, ug/L (CAS NO - 108-05-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.36      | < 1.36       | N/A       |
|                                         | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                         | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                         | 7/21/2009   | N/A       | N/A       | < 2         | < 2          | N/A         | < 2          | N/A       |
|                                         | 9/9/2009    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                         | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 2          | N/A       |
|                                         | 3/3/2010    | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                         | 9/29/2010   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | N/A       |
|                                         | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                         | 3/25/2011   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                         | 8/30/2011   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                         | 2/27/2012   | N/A       | N/A       | < 5         | < 5          | < 5         | < 5          | < 5       |
|                                         | 10/18/2012  | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                         | 10/18/2012  | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                         | 4/24/2013   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                         | 4/24/2013   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                         | 10/2/2013   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                         | 10/2/2013   | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                         | 2/26/2014   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                         | 2/26/2014   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                         | 9/22/2014   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                         | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                         | 4/6/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 4/6/2015    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                         | 9/3/2015    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                         | 9/3/2015    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 2/18/2016   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                         | 8/3/2016    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | N/A       |
|                                         | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                         | 3/1/2017    | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 3/1/2017    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 7/13/2017   | N/A       | N/A       | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 7/13/2017   | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                         | 3/28/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 7/12/2018   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 2/25/2019   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 6/4/2019    | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 6/4/2019    | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 3/25/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 3/25/2020   | N/A       | < 10      | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                         | 7/16/2020   | < 10      | < 10      | < 10        | < 10         | < 10        | < 10         | < 10      |
|                                         | 7/16/2020   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                         | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                         | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |

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Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents             | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Vinyl Chloride, ug/L (CAS NO - 75-01-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | 1.14        | 1.62         | N/A       |
|                                         | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | 1.9          | N/A       |
|                                         | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 1         | 1.67         | N/A       |
|                                         | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | < 1         | 1.61         | N/A       |
|                                         | 9/9/2009    | N/A       | N/A       | < 1         | < 1          | < 1         | 1.04         | N/A       |
|                                         | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | 1.68         | N/A       |
|                                         | 3/3/2010    | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | N/A       |
|                                         | 9/29/2010   | N/A       | N/A       | < 1         | < 1          | < 1         | 1.75         | N/A       |
|                                         | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                         | 3/25/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 8/30/2011   | N/A       | N/A       | < 1         | < 1          | < 1         | 1.41         | < 1       |
|                                         | 2/27/2012   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | 1.48         | < 1       |
|                                         | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                         | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 10/2/2013   | N/A       | N/A       | < 1         | < 1          | 0.267*      | 0.972*       | < 1       |
|                                         | 10/2/2013   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                         | 2/26/2014   | N/A       | N/A       | < 1         | < 1          | 1.6         | 1.06         | < 1       |
|                                         | 2/26/2014   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | 2.02        | < 1          | < 1       |
|                                         | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                         | 4/6/2015    | N/A       | N/A       | < 1         | < 1          | 1.66        | < 1          | < 1       |
|                                         | 4/6/2015    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                         | 9/3/2015    | N/A       | N/A       | < 1         | < 1          | 1.63        | 1.18         | N/A       |
|                                         | 9/3/2015    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                         | 2/18/2016   | N/A       | N/A       | < 1         | < 1          | 1.35        | < 1          | N/A       |
|                                         | 8/3/2016    | N/A       | N/A       | < 1         | < 1          | 0.779*      | 1.09         | N/A       |
|                                         | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | 1.13         | N/A       |
|                                         | 3/1/2017    | N/A       | N/A       | < 1         | < 1          | 1.78        | < 1          | < 1       |
|                                         | 3/1/2017    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 7/13/2017   | N/A       | N/A       | < 1         | < 1          | < 1         | 1.39         | < 1       |
|                                         | 7/13/2017   | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                         | 3/28/2018   | < 1       | < 1       | < 1         | < 1          | 1.76        | < 1          | < 1       |
|                                         | 7/12/2018   | < 1       | < 1       | < 1         | < 1          | 0.751*      | < 1          | < 1       |
|                                         | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                         | 2/25/2019   | < 1       | < 1       | < 1         | < 1          | 0.818*      | < 1          | < 1       |
|                                         | 6/4/2019    | < 1       | < 1       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                         | 6/4/2019    | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 3/25/2020   | < 1       | < 1       | < 1         | < 1          | 0.629*      | < 1          | < 1       |
|                                         | 3/25/2020   | N/A       | < 1       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                         | 7/16/2020   | < 1       | < 1       | < 1         | < 1          | 0.255*      | 0.265*       | < 1       |
|                                         | 7/16/2020   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                         | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.514*      | < 1          | N/A       |
|                                         | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | 0.517*      | N/A          | N/A       |
|                                         | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | 0.504*      | < 1          | N/A       |
|                                         | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                         | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | 0.187*      | < 1          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Appendix I VOC Constituents               | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Xylenes, total, ug/L (CAS NO - 1330-20-7) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.3       | < 0.3        | N/A       |
|                                           | 9/15/2008   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                           | 3/24/2009   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                           | 7/21/2009   | N/A       | N/A       | < 3         | < 3          | N/A         | < 3          | N/A       |
|                                           | 9/9/2009    | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | N/A       |
|                                           | 9/9/2009    | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                           | 3/3/2010    | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | N/A       |
|                                           | 9/29/2010   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | N/A       |
|                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                           | 3/25/2011   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 8/30/2011   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 2/27/2012   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 10/18/2012  | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 10/18/2012  | N/A       | N/A       | < 3         | N/A          | N/A         | N/A          | N/A       |
|                                           | 4/24/2013   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 4/24/2013   | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                           | 10/2/2013   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 10/2/2013   | N/A       | N/A       | < 3         | N/A          | N/A         | N/A          | N/A       |
|                                           | 2/26/2014   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 2/26/2014   | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                           | 9/22/2014   | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                           | 4/6/2015    | N/A       | N/A       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 4/6/2015    | N/A       | N/A       | < 3         | N/A          | N/A         | N/A          | N/A       |
|                                           | 9/3/2015    | N/A       | N/A       | 1.22*       | 0.387*       | 1.04*       | 0.198*       | N/A       |
|                                           | 9/3/2015    | N/A       | N/A       | N/A         | 1.21*        | N/A         | N/A          | N/A       |
|                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.227*    |
|                                           | 2/18/2016   | N/A       | N/A       | 0.562*      | < 3          | < 3         | < 3          | N/A       |
|                                           | 8/3/2016    | N/A       | N/A       | 1.41*       | < 3          | < 3         | < 3          | N/A       |
|                                           | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                           | 3/1/2017    | N/A       | N/A       | 0.184*      | < 3          | < 3         | < 3          | < 3       |
|                                           | 3/1/2017    | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                           | 7/13/2017   | N/A       | N/A       | 0.225*      | 0.164*       | 0.144*      | < 3          | < 3       |
|                                           | 7/13/2017   | N/A       | N/A       | 0.17*       | N/A          | N/A         | N/A          | N/A       |
|                                           | 3/28/2018   | 0.133*    | 0.245*    | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 7/12/2018   | 0.46*     | < 3       | 0.473*      | < 3          | < 3         | < 3          | < 3       |
|                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                           | 2/25/2019   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 6/4/2019    | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 6/4/2019    | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                           | 3/25/2020   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | < 3       |
|                                           | 3/25/2020   | N/A       | < 3       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                           | 7/16/2020   | < 3       | < 3       | < 3         | < 3          | < 3         | < 3          | 1.19*     |
|                                           | 7/16/2020   | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                           | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                           | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 3         | N/A          | N/A       |
|                                           | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                           | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
| M&P-Xylene, ug/L (CAS NO - 179601-23-1)   | 10/18/2012  | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                           | 10/18/2012  | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                           | 4/24/2013   | N/A       | N/A       | < 2         | < 2          | < 2         | < 2          | < 2       |
|                                           | 4/24/2013   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
| O-Xylene, ug/L (CAS NO - 95-47-6)         | 10/18/2012  | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                           | 10/18/2012  | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                           | 4/24/2013   | N/A       | N/A       | < 1         | < 1          | < 1         | < 1          | < 1       |
|                                           | 4/24/2013   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |

Note: \* indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.

Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                  | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,1-Dichloropropene, ug/L (CAS NO - 563-58-6)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.24      | < 0.24       | N/A       |
|                                                     | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                     | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                     | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                     | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                     | 2/25/2019   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 6/4/2019    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                     |             |           |           |             |              |             |              |           |
| 1,2,4,5-Tetrachlorobenzene, ug/L (CAS NO - 95-94-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.38      | < 1.38       | N/A       |
|                                                     | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                     | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                     | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                     | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                     | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                     | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                     | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                     |             |           |           |             |              |             |              |           |
| 1,2,4-Trichlorobenzene, ug/L (CAS NO - 120-82-1)    | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.035     | < 1.035      | N/A       |
|                                                     | 7/21/2009   | N/A       | N/A       | < 5         | < 5          | N/A         | N/A          | N/A       |
|                                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                     | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                     | 9/22/2014   | N/A       | N/A       | < 5         | < 5          | N/A         | N/A          | N/A       |
|                                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                     | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 5         | N/A          | N/A       |
|                                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                     | 2/25/2019   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                     | 6/4/2019    | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                     |             |           |           |             |              |             |              |           |
| 1,3,5-Trinitrobenzene, ug/L (CAS NO - 99-35-4)      | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.05      | < 1.05       | N/A       |
|                                                     | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                     | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                     | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                     | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                     | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                     | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                     | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                     |             |           |           |             |              |             |              |           |
| 1,3-Dichlorobenzene, ug/L (CAS NO - 541-73-1)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.22      | < 0.22       | N/A       |
|                                                     | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                     | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                     | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                     | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                     | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                     | 2/25/2019   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                     | 6/4/2019    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                     | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                     | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                     |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                             | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 1,3-Dichloropropane, ug/L (CAS NO - 142-28-9)  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.19      | < 0.19       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 1,3-Dinitrobenzene, ug/L (CAS NO - 99-65-0)    | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 5.74      | < 5.74       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 1,4-Naphthoquinone, ug/L (CAS NO - 130-15-4)   | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.29      | < 1.29       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 1,4-Phenylenediamine, ug/L (CAS NO - 106-50-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 8.4       | < 8.4        | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 1-Naphthylamine, ug/L (CAS NO - 134-32-7)      | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 4.22      | < 4.22       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                 | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 2,2-Dichloropropane, ug/L (CAS NO - 594-20-7)      | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.48      | < 0.48       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 4         | < 4          | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 4         | < 4          | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 4         | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 4          | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 4          | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 4         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 4         | < 4          | N/A       |
| 2,3,4,6-Tetrachlorophenol, ug/L (CAS NO - 58-90-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 5.58      | < 5.58       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
| 2,4,5-T [2C], ug/L (CAS NO - 93-76-5)              | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.105     | < 0.105      | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 0.2       | < 0.2        | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.52    |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | 4.38        | < 1.03       | N/A       |
|                                                    | 2/26/2014   | N/A       | N/A       | N/A         | N/A          | < 1.05      | N/A          | N/A       |
|                                                    | 7/24/2014   | N/A       | N/A       | N/A         | N/A          | < 1.04      | N/A          | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 1.01      | < 1.02       | < 1.03      | N/A          | N/A       |
|                                                    | 4/6/2015    | N/A       | N/A       | N/A         | N/A          | < 1.02      | N/A          | N/A       |
|                                                    | 9/3/2015    | N/A       | N/A       | N/A         | N/A          | < 1.03      | N/A          | N/A       |
|                                                    | 2/18/2016   | N/A       | N/A       | N/A         | N/A          | < 1.17      | N/A          | N/A       |
|                                                    | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | < 0.537     | N/A          | N/A       |
|                                                    | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | < 1.05      | N/A          | < 1.09    |
|                                                    | 7/13/2017   | N/A       | N/A       | N/A         | N/A          | < 1.01      | N/A          | N/A       |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | < 1.09      | < 1.07       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 1.05       | N/A         | N/A          | N/A       |
|                                                    | 7/30/2019   | N/A       | N/A       | < 1.06      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1.12    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.98      | < 0.978      | N/A       |
| 2,4,5-TP [Silvex] [2C], ug/L (CAS NO - 93-72-1)    | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.116     | < 0.116      | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 0.2       | < 0.2        | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.52    |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 1.03      | 0.661*       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 1.01      | < 1.02       | N/A         | N/A          | N/A       |
|                                                    | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1.09    |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 1.07       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 1.05       | N/A         | N/A          | N/A       |
|                                                    | 7/30/2019   | N/A       | N/A       | < 1.06      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1.12    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.98      | < 0.978      | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                             | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 2,4,5-Trichlorophenol, ug/L (CAS NO - 95-95-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.65      | < 2.65       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 2,4,6-Trichlorophenol, ug/L (CAS NO - 88-06-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 3.07      | < 3.07       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 2,4-D [2C], ug/L (CAS NO - 94-75-7)            | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.126     | < 0.126      | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 1.03      | < 1.03       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 1.01      | < 1.02       | N/A         | N/A          | N/A       |
|                                                | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1.09    |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 1.07       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 1.05       | N/A         | N/A          | N/A       |
|                                                | 7/30/2019   | N/A       | N/A       | < 1.06      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1.12    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.98      | < 0.978      | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 2,4-Dichlorophenol, ug/L (CAS NO - 120-83-2)   | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.47      | < 1.47       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 2,4-Dimethylphenol, ug/L (CAS NO - 105-67-9)   | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.38      | < 2.38       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                             | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 2,4-Dinitrophenol, ug/L (CAS NO - 51-28-5)     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.19      | < 1.19       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 20        | < 20         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 20      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 20.4      | < 20.8       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 20        | < 20         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 20      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 20.8      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 20.2       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 21.1       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 20.8      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 21.3    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 20        | < 20         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 2,4-Dinitrotoluene, ug/L (CAS NO - 121-14-2)   | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.51      | < 1.51       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 2,6-Dichlorophenol, ug/L (CAS NO - 87-65-0)    | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 5.61      | < 5.61       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 2,6-Dinitrotoluene, ug/L (CAS NO - 606-20-2)   | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.05      | < 1.05       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| 2-Acetylaminofluorene, ug/L (CAS NO - 53-96-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.05      | < 1.05       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                           | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 2-Chloronaphthalene, ug/L (CAS NO - 91-58-7) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.9       | < 2.9        | N/A       |
|                                              | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                              | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                              | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                              | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                              | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                              | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                              | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                              | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                              | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                              | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                              | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                              |             |           |           |             |              |             |              |           |
| 2-Chlorophenol, ug/L (CAS NO - 95-57-8)      | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.68      | < 1.68       | N/A       |
|                                              | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                              | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                              | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                              | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                              | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                              | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                              | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                              | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                              | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                              | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                              | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                              |             |           |           |             |              |             |              |           |
| 2-Methylnaphthalene, ug/L (CAS NO - 91-57-8) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                              | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                              | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                              | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                              | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                              | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                              | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                              | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                              | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                              | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                              | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                              | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                              |             |           |           |             |              |             |              |           |
| 2-Methylphenol, ug/L (CAS NO - 95-48-7)      | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.19      | < 2.19       | N/A       |
|                                              | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                              | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                              | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                              | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                              | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                              | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                              | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                              | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                              | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                              | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                              | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                              |             |           |           |             |              |             |              |           |
| 2-Naphthylamine, ug/L (CAS NO - 91-59-8)     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 8.52      | < 8.52       | N/A       |
|                                              | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                              | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                              | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                              | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                              | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                              | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                              | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                              | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                              | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                              | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                              | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                              |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                              | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 2-Nitroaniline, ug/L (CAS NO - 88-74-4)         | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 3.02      | < 3.02       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | 1.72*       | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 |             |           |           |             |              |             |              |           |
| 2-Nitrophenol, ug/L (CAS NO - 88-75-5)          | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.63      | < 1.63       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 |             |           |           |             |              |             |              |           |
| 3,3-Dichlorobenzidine, ug/L (CAS NO - 91-94-1)  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 79.5      | < 79.5       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 51        | < 52.1       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 50        | < 50         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 50      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 52.1      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 |             |           |           |             |              |             |              |           |
| 3,3-Dimethylbenzidine, ug/L (CAS NO - 119-93-7) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 12.2      | < 12.2       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 |             |           |           |             |              |             |              |           |
| 3,4-Methylphenol, ug/L (CAS NO - T-34MP)        | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.27      | < 2.27       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                            | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 3-Chloropropene, ug/L (CAS NO - 107-05-1)     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.28      | < 0.28       | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 2         | < 2          | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 2         | < 2          | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 2         | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 2          | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                               |             |           |           |             |              |             |              |           |
| 3-Methylcholanthrene, ug/L (CAS NO - 56-49-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 6.35      | < 6.35       | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                               |             |           |           |             |              |             |              |           |
| 3-Nitroaniline, ug/L (CAS NO - 99-09-2)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.55      | < 2.55       | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                               |             |           |           |             |              |             |              |           |
| 4,4'-DDD, ug/L (CAS NO - 72-54-8)             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.034     | < 0.034      | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | 0.00217*    | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
|                                               |             |           |           |             |              |             |              |           |
| 4,4'-DDE, ug/L (CAS NO - 72-55-9)             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.029     | < 0.029      | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
|                                               |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                   | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 4,4'-DDT, ug/L (CAS NO - 50-29-3)                    | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.026     | < 0.026      | N/A       |
|                                                      | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                      | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | 0.0148*      | N/A       |
|                                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                                      | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
|                                                      |             |           |           |             |              |             |              |           |
| 4,6-Dinitro-2-methylphenol, ug/L (CAS NO - 534-52-1) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.37      | < 1.37       | N/A       |
|                                                      | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                      | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                      |             |           |           |             |              |             |              |           |
| 4-Aminobiphenyl, ug/L (CAS NO - 92-67-1)             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 10.1      | < 10.1       | N/A       |
|                                                      | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                      | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                      |             |           |           |             |              |             |              |           |
| 4-Bromophenyl phenyl ether, ug/L (CAS NO - 101-55-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.51      | < 1.51       | N/A       |
|                                                      | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                      | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                      |             |           |           |             |              |             |              |           |
| 4-Chloro-3-methylphenol, ug/L (CAS NO - 59-50-7)     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.16      | < 2.16       | N/A       |
|                                                      | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                      | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                      |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                     | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 4-Chloroaniline, ug/L (CAS NO - 106-47-8)              | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.36      | < 2.36       | N/A       |
|                                                        | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                        | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                        | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                        | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                        | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                        | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                        | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                        | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                        | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                        | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.6       | < 2.6        | N/A       |
| 4-Chlorophenyl phenyl ether, ug/L (CAS NO - 7005-72-3) | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                        | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                        | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                        | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                        | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                        | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                        | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                        | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                        | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                        | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.37      | < 1.37       | N/A       |
|                                                        | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
| 4-Nitroaniline, ug/L (CAS NO - 100-01-6)               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                        | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                        | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                        | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                        | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                        | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                        | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                        | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                        | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.6455    | < 0.6455     | N/A       |
|                                                        | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                        | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
| 4-Nitrophenol, ug/L (CAS NO - 100-02-7)                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                        | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                        | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                        | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                        | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                        | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                        | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                        | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                        | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 5.41      | < 5.41       | N/A       |
|                                                        | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                        | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                        | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
| 5-Nitro-o-toluidine, ug/L (CAS NO - 99-55-8)           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                        | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                        | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                        | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                        | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                        | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                        | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 5.41      | < 5.41       | N/A       |
|                                                        | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                        | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                        | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                        | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                        | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                        | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| 7,12-Dimethylbenz [a] anthracene, ug/L (CAS NO - 57-97-6) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 5.82      | < 5.82       | N/A       |
|                                                           | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                           | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                           | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                           |             |           |           |             |              |             |              |           |
| Acenaphthene, ug/L (CAS NO - 83-32-9)                     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.05      | < 2.05       | N/A       |
|                                                           | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                           | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                           | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                           |             |           |           |             |              |             |              |           |
| Acenaphthylene, ug/L (CAS NO - 208-96-8)                  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.68      | < 1.68       | N/A       |
|                                                           | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                           | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                           | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                           |             |           |           |             |              |             |              |           |
| Acetonitrile, ug/L (CAS NO - 75-05-8)                     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 10000     | < 10000      | N/A       |
|                                                           | 7/21/2009   | N/A       | N/A       | < 10000     | < 10000      | N/A         | N/A          | N/A       |
|                                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10000   |
|                                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | 1170*       | 1110*        | N/A       |
|                                                           | 9/22/2014   | N/A       | N/A       | < 10000     | 252*         | N/A         | N/A          | N/A       |
|                                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10000   |
|                                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10000     | N/A          | N/A       |
|                                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10000      | N/A       |
|                                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 10000      | N/A         | N/A          | N/A       |
|                                                           | 6/4/2019    | N/A       | N/A       | < 10000     | N/A          | N/A         | N/A          | N/A       |
|                                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10000   |
|                                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10000     | < 10000      | N/A       |
|                                                           |             |           |           |             |              |             |              |           |
| Acetophenone, ug/L (CAS NO - 98-86-2)                     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.37      | < 1.37       | N/A       |
|                                                           | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                           | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                           | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                           |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                            | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Acrolein, ug/L (CAS NO - 107-02-8)            | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 4.37      | < 4.37       | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                               |             |           |           |             |              |             |              |           |
| Aldrin, ug/L (CAS NO - 309-00-2)              | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.036      | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
|                                               |             |           |           |             |              |             |              |           |
| Anthracene, ug/L (CAS NO - 120-12-7)          | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.96      | < 1.96       | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                               |             |           |           |             |              |             |              |           |
| Benzo [a] anthracene, ug/L (CAS NO - 56-55-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.34      | < 2.34       | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                               |             |           |           |             |              |             |              |           |
| Benzo [a] pyrene, ug/L (CAS NO - 50-32-8)     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.35      | < 2.35       | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                               |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                               | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Benzo [b] fluoranthene, ug/L (CAS NO - 205-99-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.27      | < 1.27       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| Benzo [g,h,i] perylene, ug/L (CAS NO - 191-24-2) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.59      | < 2.59       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| Benzo [k] fluoranthene, ug/L (CAS NO - 207-08-9) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.35      | < 1.35       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| Benzyl alcohol, ug/L (CAS NO - 100-51-6)         | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.15      | < 1.15       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| Alpha-BHC, ug/L (CAS NO - 319-84-6)              | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.039     | < 0.039      | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | 0.00259*    | < 0.0327     | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                  | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | 0.00484*    | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | 0.00253*     | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | 0.00221*     | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
|                                                  |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                   | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Beta-BHC, ug/L (CAS NO - 319-85-7)                   | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                      | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | 0.00688*     | N/A       |
|                                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                                      | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
|                                                      |             |           |           |             |              |             |              |           |
| Delta-BHC, ug/L (CAS NO - 319-86-8)                  | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | 0.00563*    | < 0.0327     | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                      | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                                      | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
|                                                      |             |           |           |             |              |             |              |           |
| Gamma-BHC [Lindane], ug/L (CAS NO - 58-89-9)         | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.037     | < 0.037      | N/A       |
|                                                      | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                      | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                                      | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
|                                                      |             |           |           |             |              |             |              |           |
| Bis[2-chloroethoxy]methane, ug/L (CAS NO - 111-91-1) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.7       | < 2.7        | N/A       |
|                                                      | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                      | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                      |             |           |           |             |              |             |              |           |
| Bis[2-chloroethyl]ether, ug/L (CAS NO - 111-44-4)    | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.37      | < 1.37       | N/A       |
|                                                      | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                      | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                      | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                      |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                    | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Bis[2-chloroisopropyl]ether, ug/L (CAS NO - 108-60-1) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.27      | < 1.27       | N/A       |
|                                                       | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                       | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                       | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
| Bis[2-ethylhexyl]phthalate, ug/L (CAS NO - 117-81-7)  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.87      | < 1.87       | N/A       |
|                                                       | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | 15.3        | 9.7*         | N/A       |
|                                                       | 2/26/2014   | N/A       | N/A       | N/A         | N/A          | < 51.5      | N/A          | N/A       |
|                                                       | 7/24/2014   | N/A       | N/A       | N/A         | N/A          | < 10.5      | N/A          | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | 0.398*      | < 10         | < 10        | N/A          | N/A       |
|                                                       | 4/6/2015    | N/A       | N/A       | N/A         | N/A          | < 10.3      | N/A          | N/A       |
|                                                       | 9/3/2015    | N/A       | N/A       | N/A         | N/A          | 5.14*       | N/A          | N/A       |
|                                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 27        |
|                                                       | 2/18/2016   | N/A       | N/A       | N/A         | N/A          | 1.14*       | N/A          | N/A       |
|                                                       | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                       | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | < 10.2      | N/A          | < 10.5    |
|                                                       | 7/13/2017   | N/A       | N/A       | N/A         | N/A          | 17.8        | N/A          | 12.7      |
|                                                       | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | 0.715*    |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | < 10.8      | < 10.1       | < 12.5    |
|                                                       | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | < 10.5      | N/A          | < 10.6    |
|                                                       | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | < 10.4      | N/A          | < 10.3    |
|                                                       | 3/25/2020   | N/A       | N/A       | N/A         | N/A          | < 11.4      | N/A          | < 10.6    |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | < 11        | N/A          | < 10.6    |
|                                                       | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | < 10.5      | N/A          | < 10.5    |
|                                                       | 3/9/2022    | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | < 9.62    |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
| Butyl benzyl phthalate, ug/L (CAS NO - 85-68-7)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.39      | < 1.39       | N/A       |
|                                                       | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                       | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                       | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
| Chlordane, ug/L (CAS NO - 57-74-9)                    | 7/21/2009   | N/A       | N/A       | < 2         | < 2          | N/A         | N/A          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                                       | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 2.25      | < 2.04       | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | < 2         | < 2          | N/A         | N/A          | N/A       |
|                                                       | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 2.06      | N/A          | N/A       |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 2.02       | N/A       |
|                                                       | 2/25/2019   | N/A       | N/A       | N/A         | < 2.13       | N/A         | N/A          | N/A       |
|                                                       | 6/4/2019    | N/A       | N/A       | < 2.08      | N/A          | N/A         | N/A          | N/A       |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2.2     |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 2         | < 1.96       | N/A       |
| Alpha-Chlordane, ug/L (CAS NO - 5103-71-9)            | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.02      | < 0.02       | N/A       |
| Gamma-Chlordane, ug/L (CAS NO - 5566-34-7)            | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.025     | < 0.025      | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                 | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Chlorobenzilate, ug/L (CAS NO - 510-15-6)          | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.24      | < 1.24       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Chloroprene, ug/L (CAS NO - 126-99-8)              | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.28      | < 0.28       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 1          | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 1         | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Chrysene, ug/L (CAS NO - 218-01-9)                 | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.27      | < 1.27       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Cyanide, mg/L (CAS NO - 57-12-5)                   | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.01      | < 0.01       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 0.01      | < 0.01       | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.01    |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.01      | < 0.01       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 0.01      | < 0.01       | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.01    |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.01      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | 0.00431*     | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 0.01       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 0.01      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.01    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.01      | < 0.01       | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Diallate [cis or trans], ug/L (CAS NO - 2303-16-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.27      | < 2.27       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                               | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Dibenz [a,h] anthracene, ug/L (CAS NO - 53-70-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.5       | < 1.5        | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.56      | < 2.56       | N/A       |
| Dibenzofuran, ug/L (CAS NO - 132-64-9)           | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.39      | 0.41         | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 3         | < 3          | N/A         | N/A          | N/A       |
| Dichlorodifluoromethane, ug/L (CAS NO - 75-71-8) | 9/29/2010   | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                                  | 3/25/2011   | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                                  | 8/30/2011   | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                                  | 2/27/2012   | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                                  | 10/18/2012  | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                                  | 4/24/2013   | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                                  | 2/26/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 3         | < 3          | N/A         | < 3          | N/A       |
|                                                  | 4/6/2015    | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                                  | 9/3/2015    | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 3         | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 3          | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 3          | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 3         | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 3       |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 3         | < 3          | N/A       |
|                                                  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.036      | N/A       |
| Dieldrin, ug/L (CAS NO - 60-57-1)                | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                  | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | 0.00328*     | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |

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Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                               | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Diethyl phthalate, ug/L (CAS NO - 84-66-2)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.18      | < 1.18       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 4.75      | < 4.75       | N/A       |
| Dimethoate, ug/L (CAS NO - 60-51-5)              | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.58      | < 2.58       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
| Dimethyl phthalate, ug/L (CAS NO - 131-11-3)     | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 4.07      | < 4.07       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
| Dimethylaminoazobenzene, ug/L (CAS NO - 60-11-7) | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.29      | < 1.29       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
| Di-n-butyl phthalate, ug/L (CAS NO - 84-74-2)    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | 0.908*      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                             | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Di-n-octyl phthalate, ug/L (CAS NO - 117-84-0) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.62      | < 1.62       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 20.4      | < 20.8       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 20        | < 20         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 20      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 20.8      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 20.2       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 21.1       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 20.8      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 21.3    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 20        | < 20         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| Dinoseb, ug/L (CAS NO - 88-85-7)               | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.593     | < 0.593      | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| Diphenylamine, ug/L (CAS NO - 122-39-4)        | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 5.08      | < 5.08       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| Disulfoton, ug/L (CAS NO - 298-04-4)           | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 62.7      | < 62.7       | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                |             |           |           |             |              |             |              |           |
| Endosulfan I, ug/L (CAS NO - 959-98-8)         | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.038     | < 0.038      | N/A       |
|                                                | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                                | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                                | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                                | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                                | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                                | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                                | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                                | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.00371*  |
|                                                | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
|                                                |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                            | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Endosulfan II, ug/L (CAS NO - 33213-65-9)     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.023     | < 0.023      | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
| Endosulfan sulfate, ug/L (CAS NO - 1031-07-8) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.011     | < 0.011      | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
| Endrin, ug/L (CAS NO - 72-20-8)               | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.034     | < 0.034      | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | 0.00585*    | 0.00299*     | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
| Endrin aldehyde, ug/L (CAS NO - 7421-93-4)    | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.012     | < 0.012      | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                               | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/30/2019   | N/A       | N/A       | N/A         | < 0.0339     | N/A         | N/A          | N/A       |
|                                               | 10/11/2019  | N/A       | N/A       | N/A         | < 0.0335     | N/A         | N/A          | N/A       |
|                                               | 3/25/2020   | N/A       | N/A       | N/A         | < 0.033      | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | < 0.0356     | N/A         | N/A          | < 0.0352  |
|                                               | 5/26/2021   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                               | 3/9/2022    | N/A       | N/A       | N/A         | < 0.064      | N/A         | N/A          | N/A       |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | < 0.064      | < 0.064     | < 0.0627     | N/A       |
| Ethyl Methacrylate, ug/L (CAS NO - 97-63-2)   | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.26      | < 0.26       | N/A       |
|                                               | 7/21/2009   | N/A       | N/A       | < 2         | < 2          | N/A         | N/A          | N/A       |
|                                               | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                               | 9/22/2014   | N/A       | N/A       | < 2         | < 2          | N/A         | N/A          | N/A       |
|                                               | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                               | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 2         | N/A          | N/A       |
|                                               | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 2          | N/A       |
|                                               | 2/25/2019   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                               | 6/4/2019    | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                               | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                               | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                              | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Ethyl Methanesulfonate, ug/L (CAS NO - 62-50-0) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.52      | < 1.52       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 11.9      | < 11.9       | N/A       |
| Famphur, ug/L (CAS NO - 52-85-7)                | 7/21/2009   | N/A       | N/A       | < 20        | < 20         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 20      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 20.4      | < 20.8       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 20        | < 20         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 20      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 20.8      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.5       | < 1.5        | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
| Fluoranthene, ug/L (CAS NO - 206-44-0)          | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.31      | < 2.31       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
| Fluorene, ug/L (CAS NO - 86-73-7)               | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.036      | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | 0.0124*     | < 0.0327     | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
| Heptachlor, ug/L (CAS NO - 76-44-8)             | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |

# SCS ENGINEERS

## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                 | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Heptachlor Epoxide, ug/L (CAS NO - 1024-57-3)      | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.037     | < 0.037      | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.036     | < 0.0327     | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                                    | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Hexachlorobenzene, ug/L (CAS NO - 118-74-1)        | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.19      | < 1.19       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Hexachlorobutadiene, ug/L (CAS NO - 87-68-3)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.65      | < 1.65       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Hexachlorocyclopentadiene, ug/L (CAS NO - 77-47-4) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.28      | < 1.28       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 20.4      | < 20.8       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 20        | < 20         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 20      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 20.8      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Hexachloroethane, ug/L (CAS NO - 67-72-1)          | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.85      | < 1.85       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |

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| Other Constituents                                 | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|----------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Hexachloropropene, ug/L (CAS NO - 1888-71-7)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.34      | < 1.34       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Indeno [1,2,3-cd] pyrene, ug/L (CAS NO - 193-39-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.19      | < 1.19       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Isobutanol, mg/L (CAS NO - 78-83-1)                | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Isodrin, ug/L (CAS NO - 465-73-6)                  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 4.3       | < 4.3        | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |
| Isophorone, ug/L (CAS NO - 78-59-1)                | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.72      | < 2.72       | N/A       |
|                                                    | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                    | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                    | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                    | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                    | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                    | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                    | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                    | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                    | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                    |             |           |           |             |              |             |              |           |

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| Other Constituents                          | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|---------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Isosafrole, ug/L (CAS NO - 120-58-1)        | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.4       | < 2.4        | N/A       |
|                                             | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                             | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                             | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                             | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                             | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                             | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                             | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                             | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                             | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                             | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.36      | < 2.36       | N/A       |
| Kepone, ug/L (CAS NO - 143-50-0)            | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                             | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                             | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                             | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                             | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                             | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                             | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                             | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                             | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                             | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.56      | < 0.56       | N/A       |
|                                             | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
| Methacrylonitrile, ug/L (CAS NO - 126-98-7) | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                             | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | N/A       |
|                                             | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                             | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                             | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                             | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                             | 2/25/2019   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                             | 6/4/2019    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                             | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.58      | < 2.58       | N/A       |
|                                             | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                             | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
| Methapyrilene, ug/L (CAS NO - 91-80-5)      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                             | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                             | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                             | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                             | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                             | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                             | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                             | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.015     | < 0.015      | N/A       |
|                                             | 7/21/2009   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
|                                             | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.032   |
|                                             | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | 0.00335*    | 0.00244*     | N/A       |
|                                             | 9/22/2014   | N/A       | N/A       | < 0.032     | < 0.032      | N/A         | N/A          | N/A       |
| Methoxychlor, ug/L (CAS NO - 72-43-5)       | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.16    |
|                                             | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.033     | N/A          | N/A       |
|                                             | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.0323     | N/A       |
|                                             | 2/25/2019   | N/A       | N/A       | N/A         | < 0.034      | N/A         | N/A          | N/A       |
|                                             | 6/4/2019    | N/A       | N/A       | < 0.0333    | N/A          | N/A         | N/A          | N/A       |
|                                             | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.0352  |
|                                             | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.064     | < 0.0627     | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                               | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Methyl Methacrylate, ug/L (CAS NO - 80-62-6)     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.78      | < 0.78       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 2         | < 2          | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 4       |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 2         | < 2          | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 2         | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 2          | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 2          | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 2         | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| Methyl Methanesulfonate, ug/L (CAS NO - 66-27-3) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.12      | < 1.12       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| Naphthalene, ug/L (CAS NO - 91-20-3)             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.35      | < 0.35       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 5         | < 5          | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 5         | < 5          | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 5         | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 5          | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 5          | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 5         | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 5       |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 5         | < 5          | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| Nitrobenzene, ug/L (CAS NO - 98-95-3)            | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.17      | < 1.17       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| N-Nitrosodiethylamine, ug/L (CAS NO - 55-18-5)   | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.85      | < 1.85       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                    | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| N-Nitrosodimethylamine, ug/L (CAS NO - 62-75-9)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.5       | < 1.5        | N/A       |
|                                                       | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                       | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                       | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                       |             |           |           |             |              |             |              |           |
| N-Nitrosodi-n-butylamine, ug/L (CAS NO - 924-16-3)    | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.51      | < 2.51       | N/A       |
|                                                       | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                       | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                       | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                       |             |           |           |             |              |             |              |           |
| N-Nitrosodi-n-propylamine, ug/L (CAS NO - 621-64-7)   | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.63      | < 1.63       | N/A       |
|                                                       | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                       | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                       | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                       |             |           |           |             |              |             |              |           |
| N-Nitrosodiphenylamine, ug/L (CAS NO - 86-30-6)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 5.08      | < 5.08       | N/A       |
|                                                       | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                       | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                       | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                       |             |           |           |             |              |             |              |           |
| N-Nitrosomethylethylamine, ug/L (CAS NO - 10595-95-6) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.27      | < 1.27       | N/A       |
|                                                       | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                       | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                       | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                       | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                       | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                       | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                       | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                       | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                       | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                       |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                                        | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| N-Nitrosopiperidine, ug/L (CAS NO - 100-75-4)             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.13      | < 1.13       | N/A       |
|                                                           | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                           | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                           | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                           |             |           |           |             |              |             |              |           |
| N-Nitrosopyrrolidine, ug/L (CAS NO - 930-55-2)            | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.44      | < 1.44       | N/A       |
|                                                           | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                           | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                           | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                           |             |           |           |             |              |             |              |           |
| O,O,O-Triethyl Phosphorothioate, ug/L (CAS NO - 126-68-1) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 23.5      | < 23.5       | N/A       |
|                                                           | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                           | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                           | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                           |             |           |           |             |              |             |              |           |
| O-Toluidine, ug/L (CAS NO - 95-53-4)                      | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 4.7       | < 4.7        | N/A       |
|                                                           | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                           | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                           | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                           |             |           |           |             |              |             |              |           |
| Parathion-Ethyl, ug/L (CAS NO - 56-38-2)                  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 5.78      | < 5.78       | N/A       |
|                                                           | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                           | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                           | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                           | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                           | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                           | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                           | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                           | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                           | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                           |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                         | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Parathion-Methyl, ug/L (CAS NO - 298-00-0) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 5.87      | < 5.87       | N/A       |
|                                            | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                            | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                            | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                            | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                            | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                            | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                            | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                            | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                            | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                            | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                            | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                            |             |           |           |             |              |             |              |           |
| PCB-1016, ug/L (CAS NO - 12674-11-2)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.14      | < 0.14       | N/A       |
|                                            | 7/21/2009   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                            | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.8     |
|                                            | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.833      | N/A       |
|                                            | 9/22/2014   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                            | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.842   |
|                                            | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.833     | N/A          | N/A       |
|                                            | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.808      | N/A       |
|                                            | 2/25/2019   | N/A       | N/A       | N/A         | < 0.842      | N/A         | N/A          | N/A       |
|                                            | 6/4/2019    | N/A       | N/A       | < 0.833     | N/A          | N/A         | N/A          | N/A       |
|                                            | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.879   |
|                                            | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.784      | N/A       |
|                                            |             |           |           |             |              |             |              |           |
| PCB-1221, ug/L (CAS NO - 11104-28-2)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.49      | < 0.49       | N/A       |
|                                            | 7/21/2009   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                            | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.8     |
|                                            | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.833      | N/A       |
|                                            | 9/22/2014   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                            | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.842   |
|                                            | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.833     | N/A          | N/A       |
|                                            | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.808      | N/A       |
|                                            | 2/25/2019   | N/A       | N/A       | N/A         | < 0.842      | N/A         | N/A          | N/A       |
|                                            | 6/4/2019    | N/A       | N/A       | < 0.833     | N/A          | N/A         | N/A          | N/A       |
|                                            | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.879   |
|                                            | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.784      | N/A       |
|                                            |             |           |           |             |              |             |              |           |
| PCB-1232, ug/L (CAS NO - 11141-16-5)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.12      | < 0.12       | N/A       |
|                                            | 7/21/2009   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                            | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.8     |
|                                            | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.833      | N/A       |
|                                            | 9/22/2014   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                            | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.842   |
|                                            | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.833     | N/A          | N/A       |
|                                            | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.808      | N/A       |
|                                            | 2/25/2019   | N/A       | N/A       | N/A         | < 0.842      | N/A         | N/A          | N/A       |
|                                            | 6/4/2019    | N/A       | N/A       | < 0.833     | N/A          | N/A         | N/A          | N/A       |
|                                            | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.879   |
|                                            | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.784      | N/A       |
|                                            |             |           |           |             |              |             |              |           |
| PCB-1242, ug/L (CAS NO - 53469-21-9)       | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.16      | < 0.16       | N/A       |
|                                            | 7/21/2009   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                            | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.8     |
|                                            | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.833      | N/A       |
|                                            | 9/22/2014   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                            | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.842   |
|                                            | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.833     | N/A          | N/A       |
|                                            | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.808      | N/A       |
|                                            | 2/25/2019   | N/A       | N/A       | N/A         | < 0.842      | N/A         | N/A          | N/A       |
|                                            | 6/4/2019    | N/A       | N/A       | < 0.833     | N/A          | N/A         | N/A          | N/A       |
|                                            | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.879   |
|                                            | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.784      | N/A       |
|                                            |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                               | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| PCB-1248, ug/L (CAS NO - 12672-29-6)             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.12      | < 0.12       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.8     |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.833      | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                                  | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.842   |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.833     | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.808      | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 0.842      | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 0.833     | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.879   |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.784      | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| PCB-1254, ug/L (CAS NO - 11097-69-1)             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.044     | < 0.044      | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.8     |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.833      | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                                  | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.842   |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.833     | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.808      | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 0.842      | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 0.833     | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.879   |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.784      | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| PCB-1260, ug/L (CAS NO - 11096-82-5)             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.075     | < 0.075      | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.8     |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.833      | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 0.8       | < 0.8        | N/A         | N/A          | N/A       |
|                                                  | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.842   |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 0.833     | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 0.808      | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 0.842      | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 0.833     | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.879   |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 0.8       | < 0.784      | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| Pentachlorobenzene, ug/L (CAS NO - 608-93-5)     | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.69      | < 2.69       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  |             |           |           |             |              |             |              |           |
| Pentachloronitrobenzene, ug/L (CAS NO - 82-68-8) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.38      | < 1.38       | N/A       |
|                                                  | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                  | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                  | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                  | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                  | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                  | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                  | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                  | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                  | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                  |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                              | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-------------------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Pentachlorophenol [2C], ug/L (CAS NO - 87-86-5) | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.8374    | < 0.8374     | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 |             |           |           |             |              |             |              |           |
| Phenacetin, ug/L (CAS NO - 62-44-2)             | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.42      | < 1.42       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 |             |           |           |             |              |             |              |           |
| Phenanthrene, ug/L (CAS NO - 85-01-8)           | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.31      | < 2.31       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 |             |           |           |             |              |             |              |           |
| Phenol, ug/L (CAS NO - 108-95-2)                | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 11.6      | < 11.6       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 |             |           |           |             |              |             |              |           |
| Phorate, ug/L (CAS NO - 298-02-2)               | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 56.4      | < 56.4       | N/A       |
|                                                 | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                                 | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                                 | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                                 | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                                 | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                                 | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                                 | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                                 | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                                 | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                                 |             |           |           |             |              |             |              |           |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                      | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|-----------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Pronamide, ug/L (CAS NO - 23950-58-5)   | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.44      | < 1.44       | N/A       |
|                                         | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                         | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                         | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                         | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                         | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                         | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                         | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                         | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                         | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.84      | < 2.84       | N/A       |
| Propionitrile, ug/L (CAS NO - 107-12-0) | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                         | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                         | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10        | N/A          | N/A       |
|                                         | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10         | N/A       |
|                                         | 2/25/2019   | N/A       | N/A       | N/A         | < 10         | N/A         | N/A          | N/A       |
|                                         | 6/4/2019    | N/A       | N/A       | < 10        | N/A          | N/A         | N/A          | N/A       |
|                                         | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2.6       | < 2.6        | N/A       |
|                                         | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
| Pyrene, ug/L (CAS NO - 129-00-0)        | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                         | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                         | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                         | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                         | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                         | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                         | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                         | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 4.8       | < 4.8        | N/A       |
|                                         | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                         | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
| Safrole, ug/L (CAS NO - 94-59-7)        | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                         | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                         | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                         | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                         | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                         | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                         | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                         | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                         | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 4.8       | < 4.8        | N/A       |
|                                         | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                         | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                         | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                         | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |

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## Summary of Groundwater Chemistry

Union County Sanitary Landfill - 88-SDP-01-79C

| Other Constituents                   | Sample Date | PZ-22 UPG | MW-21 DNG | MW-89-2 DNG | MW-89-6R DNG | MW-89-7 DNG | MW-89-9R DNG | PZ-21 DNG |
|--------------------------------------|-------------|-----------|-----------|-------------|--------------|-------------|--------------|-----------|
| Sulfide, mg/L (CAS NO - 18496-25-8)  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 2         | < 2          | N/A       |
|                                      | 7/21/2009   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | N/A       |
|                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 5.8       |
|                                      | 3/25/2011   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                      | 6/23/2011   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.12    |
|                                      | 8/30/2011   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 0.12    |
|                                      | 2/27/2012   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                      | 10/18/2012  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.3       |
|                                      | 4/24/2013   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 1         | < 1          | < 1       |
|                                      | 2/26/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                      | 9/22/2014   | N/A       | N/A       | < 1         | < 1          | N/A         | N/A          | < 1       |
|                                      | 9/22/2014   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 1.27      |
|                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                      | 8/3/2016    | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                      | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | 0.193*    |
|                                      | 7/13/2017   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 1       |
|                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 1         | N/A          | 3.1       |
|                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | 2.21         | 5.78      |
|                                      | 11/7/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                      | 2/25/2019   | 1.67      | N/A       | N/A         | 0.558*       | N/A         | 1.86         | 3.08      |
|                                      | 4/11/2019   | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | N/A       |
|                                      | 3/25/2020   | 0.321*    | N/A       | N/A         | N/A          | N/A         | < 1          | 0.465*    |
|                                      | 7/16/2020   | < 10      | N/A       | N/A         | N/A          | N/A         | < 10         | < 10      |
|                                      | 5/26/2021   | N/A       | N/A       | N/A         | N/A          | N/A         | < 1          | 0.814*    |
|                                      | 3/9/2022    | < 1       | N/A       | N/A         | N/A          | N/A         | < 1          | < 1       |
|                                      | 7/13/2023   | 0.448*    | N/A       | N/A         | N/A          | < 1         | < 1          | < 1       |
| Thionazin, ug/L (CAS NO - 297-97-2)  | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 1.16      | < 1.16       | N/A       |
|                                      | 7/21/2009   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 10.2      | < 10.4       | N/A       |
|                                      | 9/22/2014   | N/A       | N/A       | < 10        | < 10         | N/A         | N/A          | N/A       |
|                                      | 11/20/2015  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 10.4      | N/A          | N/A       |
|                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 10.1       | N/A       |
|                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 10.5       | N/A         | N/A          | N/A       |
|                                      | 6/4/2019    | N/A       | N/A       | < 10.4      | N/A          | N/A         | N/A          | N/A       |
|                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10.6    |
|                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 10        | < 10         | N/A       |
|                                      | 6/10/2008   | N/A       | N/A       | N/A         | N/A          | < 0.5       | < 0.5        | N/A       |
| Toxaphene, ug/L (CAS NO - 8001-35-2) | 7/21/2009   | N/A       | N/A       | < 2         | < 2          | N/A         | N/A          | N/A       |
|                                      | 12/27/2010  | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2       |
|                                      | 10/2/2013   | N/A       | N/A       | N/A         | N/A          | < 2.25      | < 2.04       | N/A       |
|                                      | 9/22/2014   | N/A       | N/A       | < 2         | < 2          | N/A         | N/A          | N/A       |
|                                      | 3/1/2017    | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 10      |
|                                      | 3/28/2018   | N/A       | N/A       | N/A         | N/A          | < 2.06      | N/A          | N/A       |
|                                      | 7/12/2018   | N/A       | N/A       | N/A         | N/A          | N/A         | < 2.02       | N/A       |
|                                      | 2/25/2019   | N/A       | N/A       | N/A         | < 2.13       | N/A         | N/A          | N/A       |
|                                      | 6/4/2019    | N/A       | N/A       | < 2.08      | N/A          | N/A         | N/A          | N/A       |
|                                      | 7/16/2020   | N/A       | N/A       | N/A         | N/A          | N/A         | N/A          | < 2.2     |
|                                      | 7/13/2023   | N/A       | N/A       | N/A         | N/A          | < 2         | < 1.96       | N/A       |

Note: \* indicates 'J flag'. Detection is below the reporting limit, but greater than the MDL (Method Detection Limit). The concentration is estimated.

Denotes Detection.

Denotes Confirmed Outlier. Statistically Excluded.

Sampling performed over multiple dates is recorded on the first date sampled. Refer to field forms for exact sample date.

**Appendix D**  
**Summary of Statistical Methodology**



## Statistical Method and Output

The purpose of this document is to provide the statistical evaluation of groundwater analytical data collected from the groundwater monitoring network of the closed Union County Sanitary Landfill (Landfill).

### **Diagnostic and Exploratory Evaluations and Tests of Assumptions**

The detection and assessment monitoring statistical programs include diagnostic and exploratory evaluations and statistical tests of assumptions, as appropriate, including the following:

- Time Series Plots
- Shapiro-Wilk test for normality
- Ohio Environmental Protection Agency (EPA) Method for outliers
- Mann-Kendall/Sen's Slope trend test

### **Management of Non-Detect Data**

Non-detect values in the dataset are managed using simple substitution or the Kaplan-Meier estimator. If less than 15% of the data are non-detects, simple substitution is used, where non-detect values are assigned a concentration of one-half ( $\frac{1}{2}$ ) of the practical quantification limit (PQL). If greater than 15% but less than 50% of the data are non-detects, the Kaplan-Meier estimator is used to define the distribution for the dataset. If non-detects comprise greater than 50% of the available data, non-parametric statistical methods are used.

### **Management of Outliers**

Background datasets are evaluated for outliers using the Ohio EPA Method as included in the Sanitas™ statistical software program and described below, which includes the use of Dixon's, Rosner's, and Tukey's outlier tests, as appropriate based on the diagnostic tests, for the datasets that contain less than 75% of the measured concentrations below the PQL. Outliers are not confirmed unless a physical cause or explanation for the outlier is determined.

### **Management of Data (ND data < 75%)**

If less than 75% of the background dataset is below the PQL, outliers are statistically evaluated using the following guidelines.

- A parametric dataset with  $n < 20$  was evaluated with the Dixon's outlier test.
- A parametric dataset with  $n \geq 20$  was evaluated with the Rosner's outlier test.
- A non-parametric dataset was evaluated with the Tukey's outlier test.

In accordance with the Ohio EPA Method, if a statistically significant outlier is not found using the above tests, but the highest value data point exceeds the second highest data point by an order of magnitude, the highest point is considered an outlier.

### **Management of Data (ND data $\geq$ 75%)**

If greater than or equal to 75% of the background dataset is less than the PQL, outliers are statistically evaluated using the following guidelines.

- Single detection  $\geq$  the PQL:
  - o If  $\geq 50\%$  of the background dataset has detections  $\geq$  the method detection limit (MDL), any value  $\geq$  two times the PQL of background is considered an outlier.
  - o If  $< 50\%$  of the background dataset has detections  $\geq$  the MDL, any value  $\geq$  the PQL of background is considered an outlier.
- Two or more detections  $\geq$  the PQL:
  - o If  $\geq 50\%$  of the background dataset has detections  $\geq$  the MDL, any value  $\geq$  three times the PQL of background is considered an outlier.
  - o If  $< 50\%$  of the background dataset has detections  $\geq$  the MDL, any value  $\geq$  two times the PQL of background is considered an outlier.

Confirmed outliers, if any, are shown in the Summary of Groundwater Chemistry included in the Annual Water Quality Report.

#### **Detection Monitoring Statistical Program**

The detection monitoring statistical program for the Landfill is defined by Iowa Administrative Code (IAC) 567-113.10(4)"g". Interwell prediction limits with retesting were selected as the appropriate statistical method for the determination of statistically significant increases (SSIs) over background for inorganic constituents with historical detections in background. Prediction limits are established using the process below. Data from the most recent sampling event is compared to the prediction limits for the determination of SSIs.

#### **Interwell Prediction Limits with Retesting**

- If the dataset has a normal distribution (or can be transformed to a normal distribution using Ladder of Powers), parametric interwell prediction limits are calculated if at least five datasets have been collected from the background monitoring point(s).
- If the dataset does not have a normal distribution (and cannot be transformed to a normal distribution using Ladder of Powers) or has greater than 50% non-detects, nonparametric interwell prediction limits are calculated if at least five datasets have been collected from the background monitoring point(s).
- If an SSI above the prediction limit is indicated, retesting samples using the 1-of-2 retesting scheme are collected prior to the next regularly scheduled sampling event with temporal sample spacing consideration to provide samples with greater independence. If the retesting results are above the prediction limit, the SSI is confirmed, and the monitoring well is placed into the assessment monitoring program.

#### **Double Quantification Method**

The quasi-statistical "double quantification" method is used for constituents not detected in the background monitoring points. If a constituent is detected in the compliance dataset that has not been historically detected in the background dataset, that constituent must be retested before the next regularly scheduled sampling event. If the retesting results confirm the original detection with a quantifiable detection, the SSI is confirmed, and the monitoring point is placed into the assessment monitoring program.

#### **Assessment Monitoring Statistical Program**

Confidence intervals or confidence bands, as appropriate, were selected as the appropriate statistical methods for comparison of the groundwater analytical data against a fixed groundwater protection

standard (GWPS). The assessment monitoring statistical evaluations were performed using the most recent eight samples or all samples if less than eight samples were available. The confidence intervals or confidence bands used for the assessment monitoring statistical evaluation were established using the process below. Transformation of the distribution was not considered.

**Confidence Intervals or Confidence Bands**

- A parametric confidence interval around a normal mean is calculated if the dataset has a normal distribution and no statistically significant trend is present.
- A non-parametric confidence interval around a median is calculated if the dataset does not have a normal distribution and no statistically significant trend is present.
- Non-parametric confidence bands around a Theil-Sen trend line are calculated if the dataset has a statistically significant trend.

In the event that the lower confidence limit or any part of the lower confidence band, as appropriate, exceeds the GWPS, then the monitoring point is declared out of compliance, and an assessment of corrective measures (ACM) is required.

**Statistical Software Output**

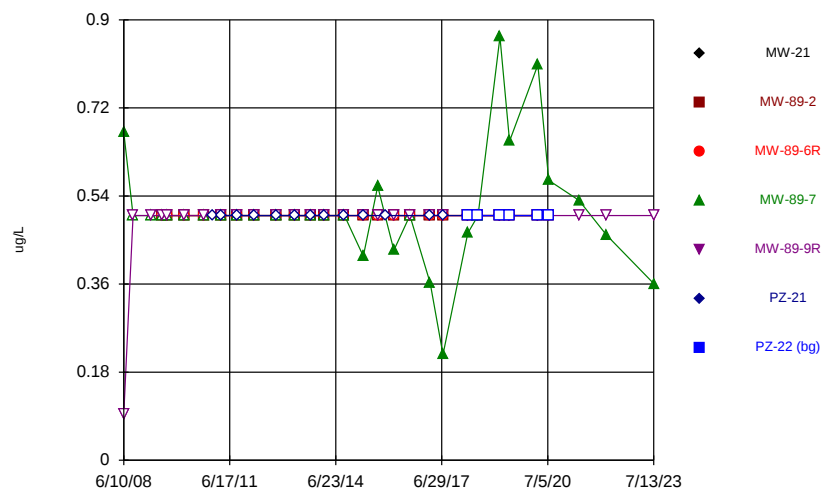
Sanitas™ statistical software is used to perform the statistical evaluations. The statistical output for the 2023 statistical evaluations is attached to this appendix.



## Time Series Plots

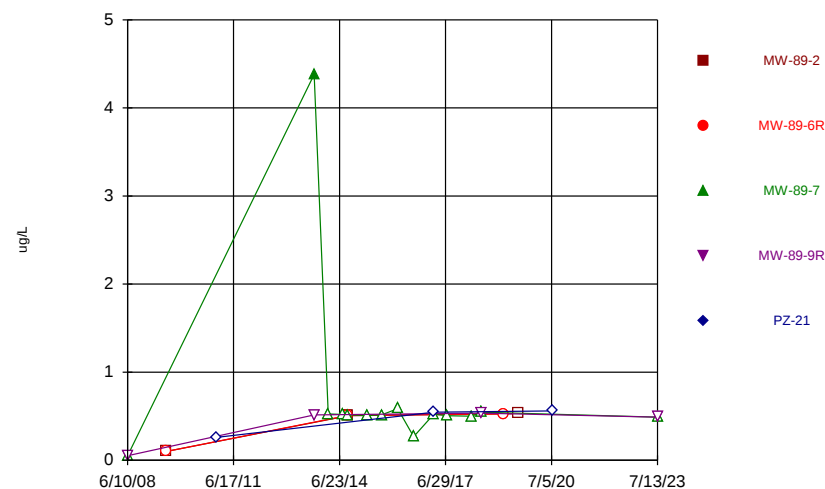


### Time Series



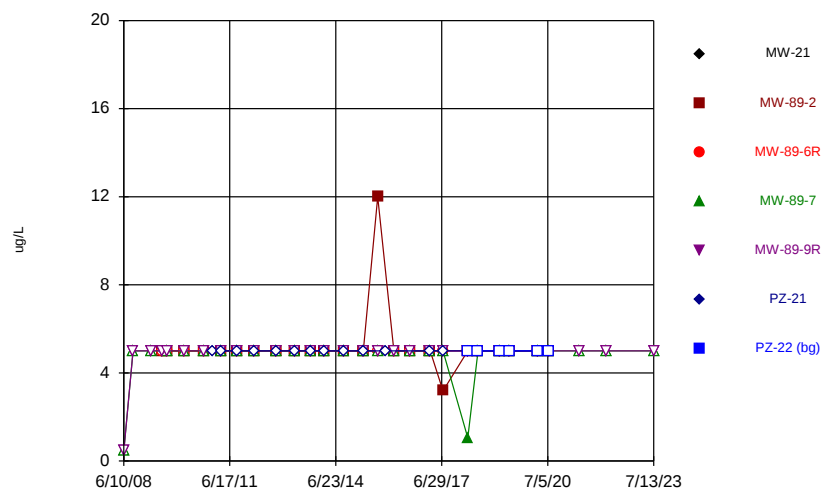
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

### Time Series



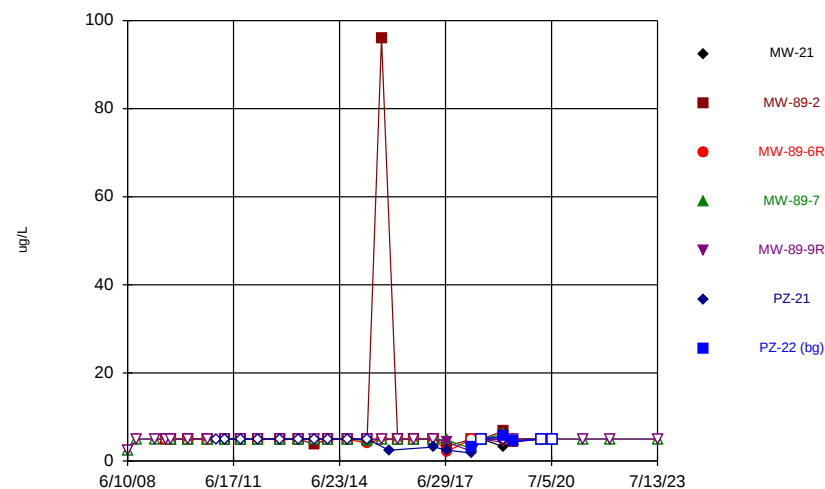
Constituent: 2,4,5-T [2C] Analysis Run 8/8/2023 12:59 PM View: 2023AWQR - Time Series  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

### Time Series



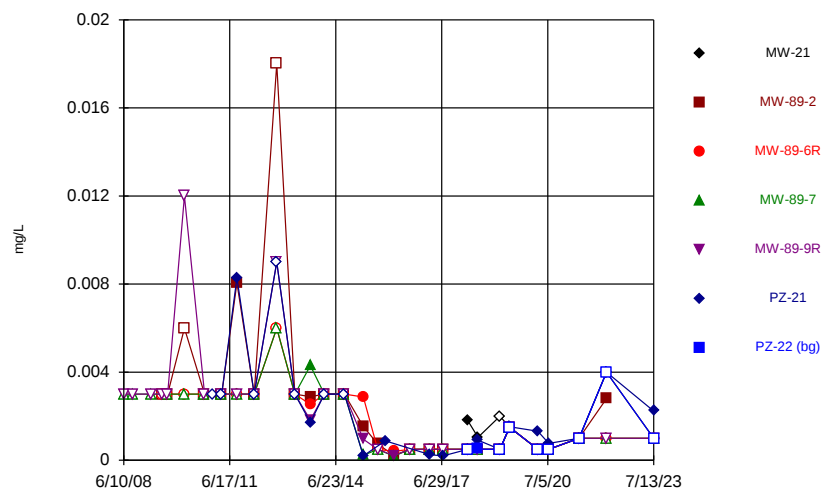
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

### Time Series



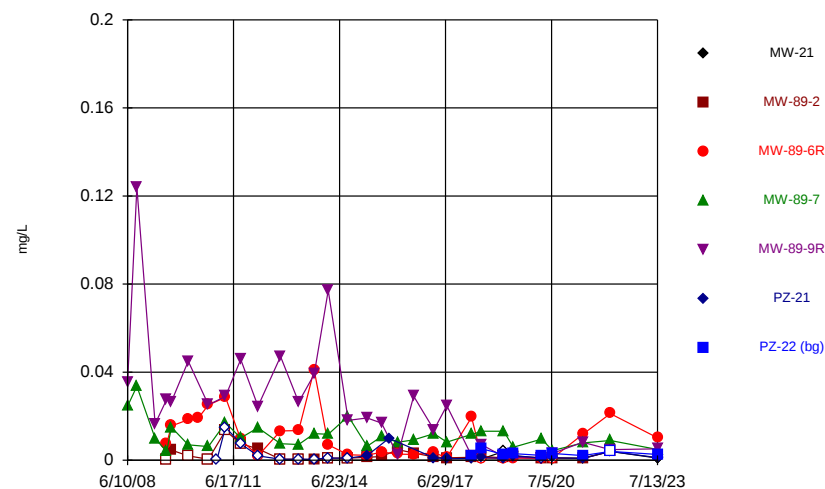
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



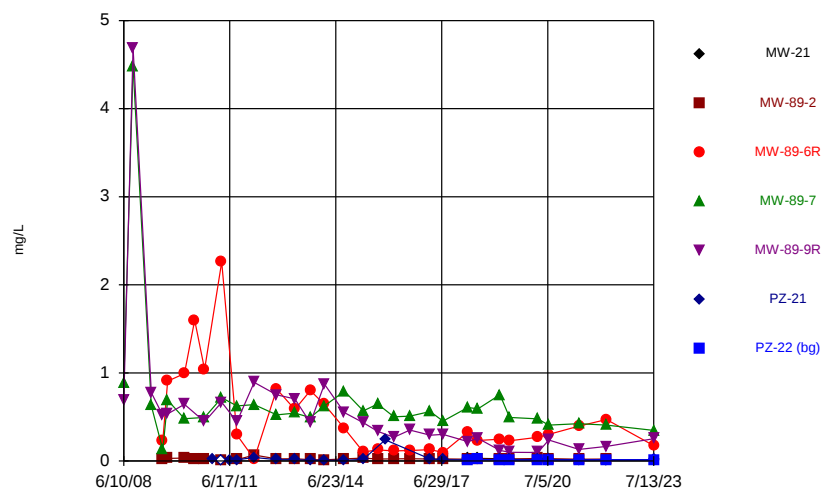
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



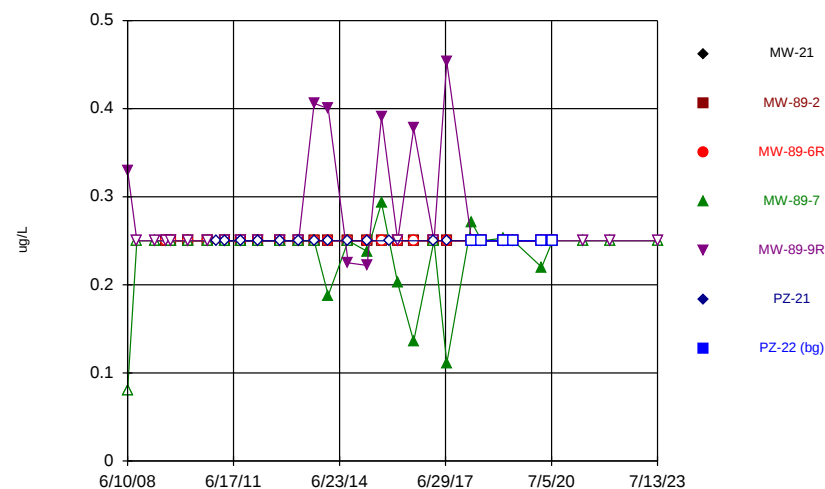
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



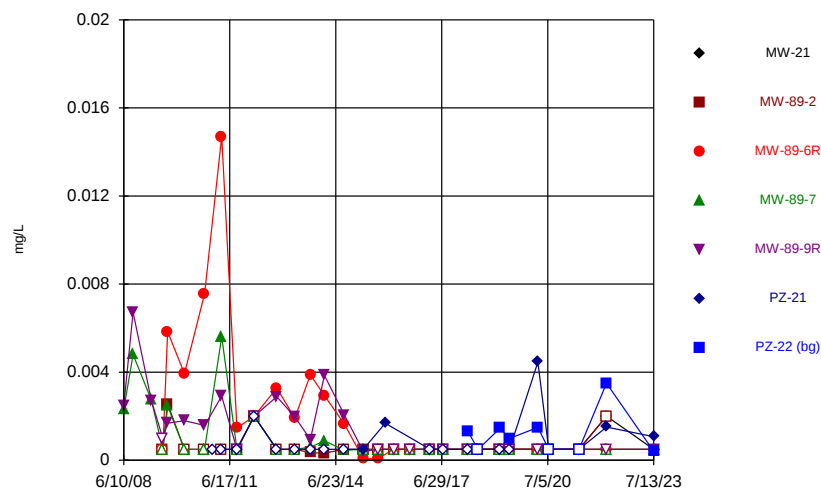
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series

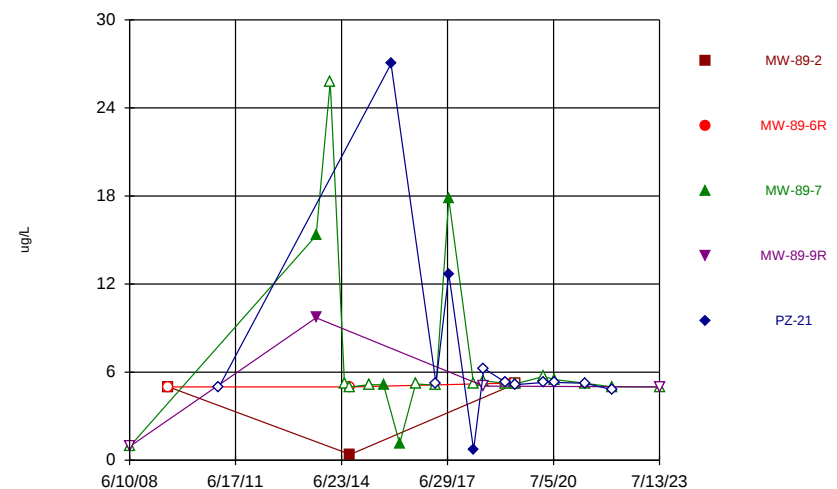


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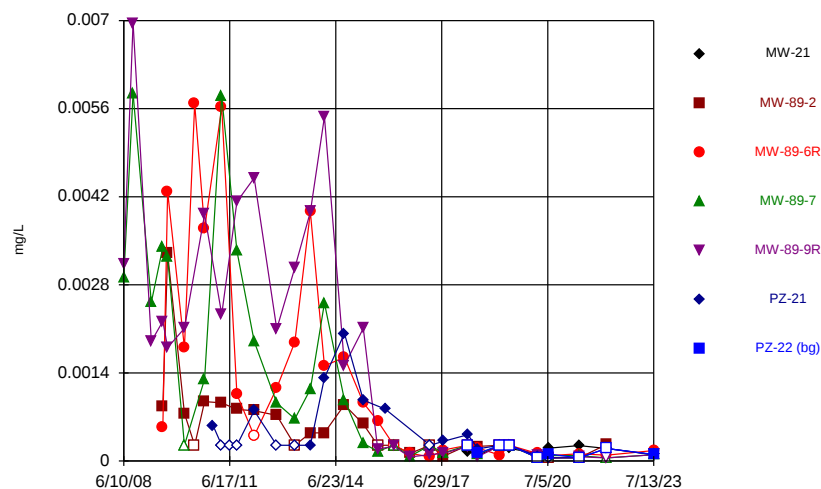
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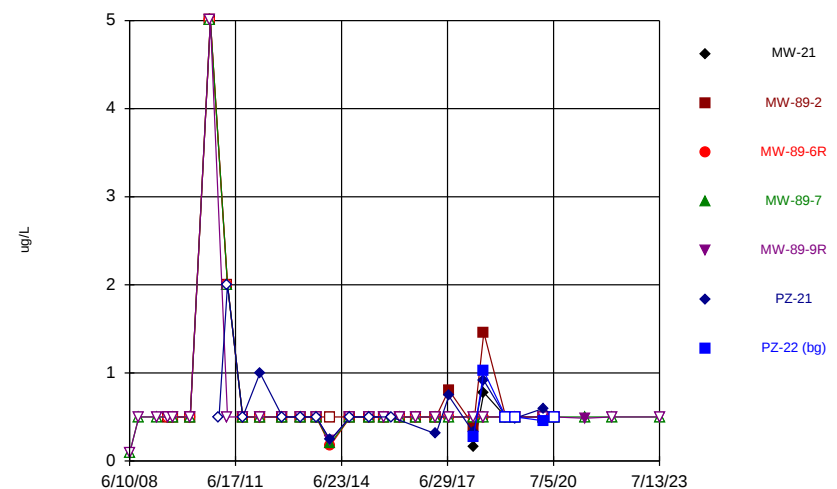
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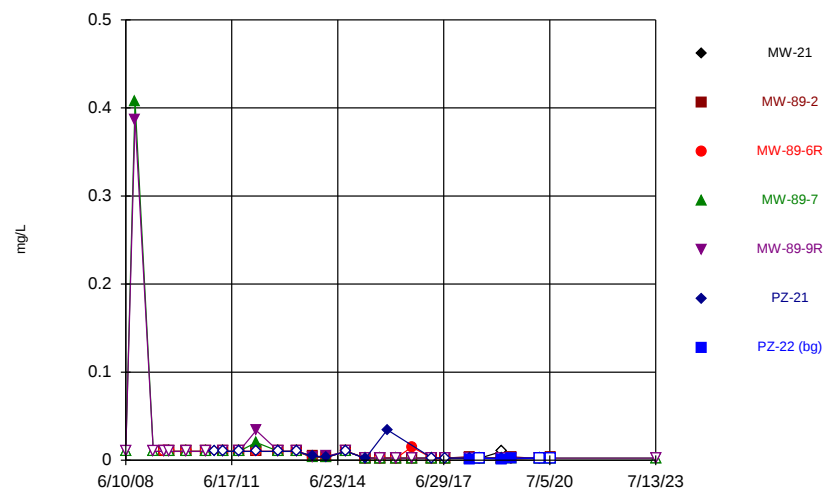
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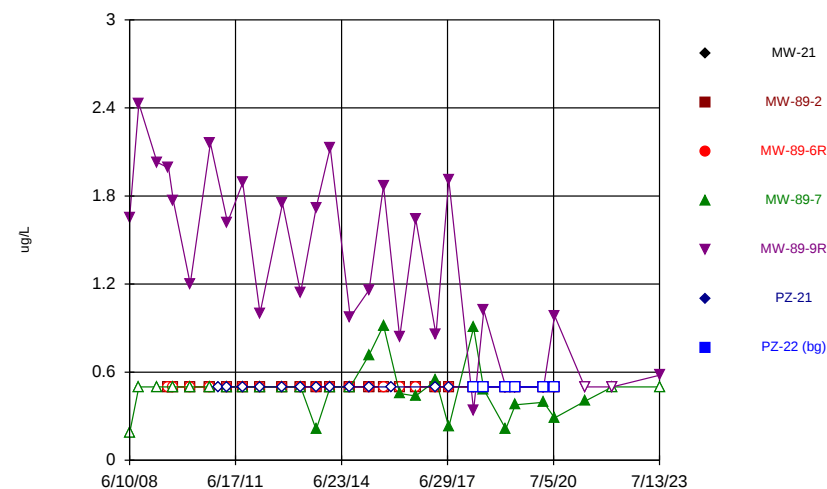
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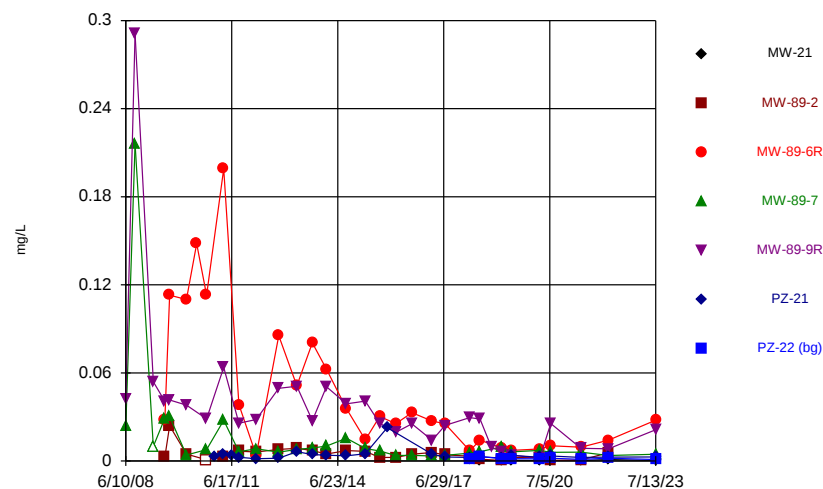
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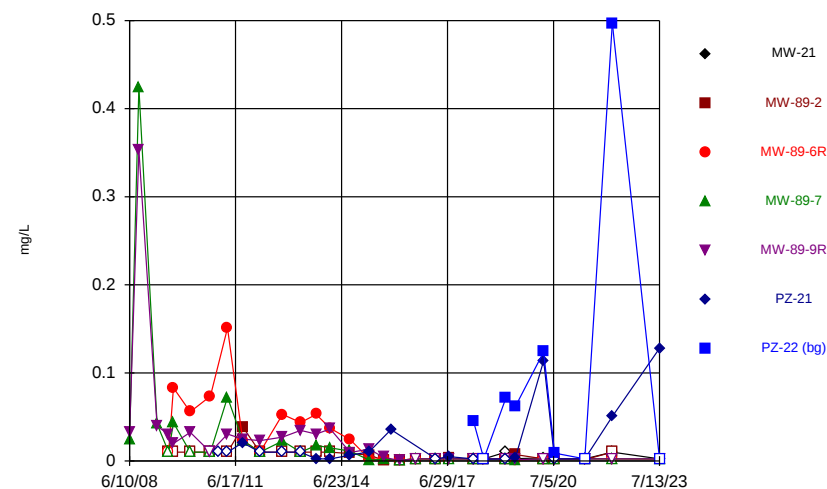
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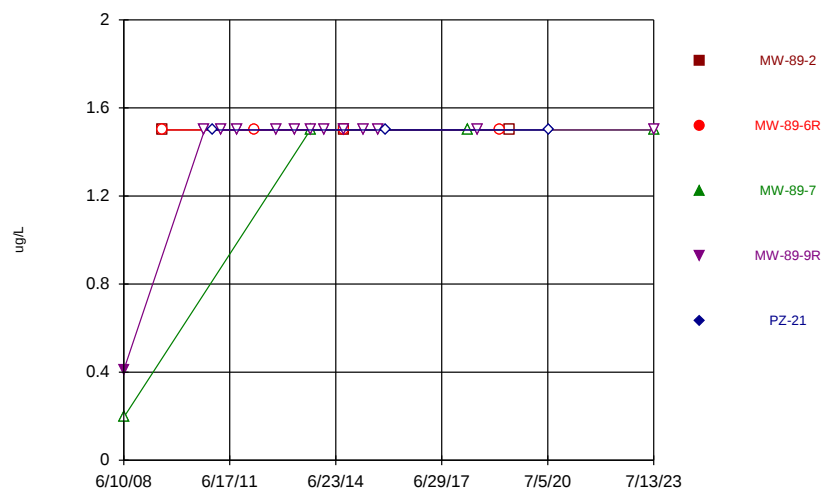
Time Series



Time Series

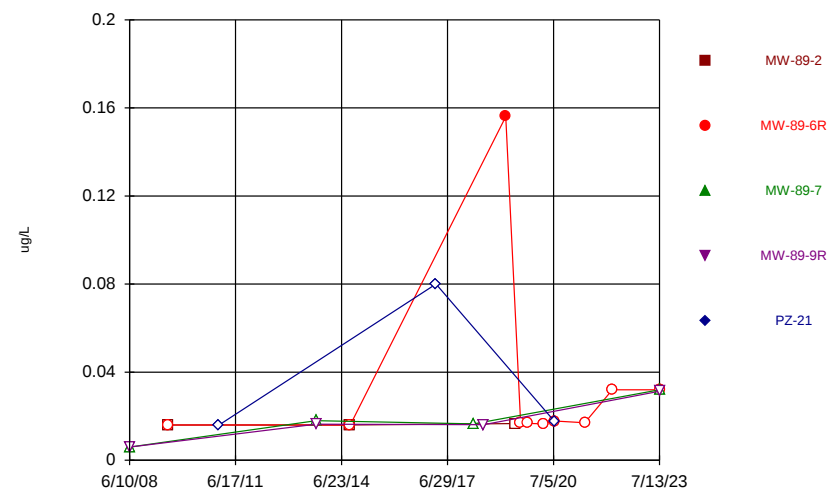


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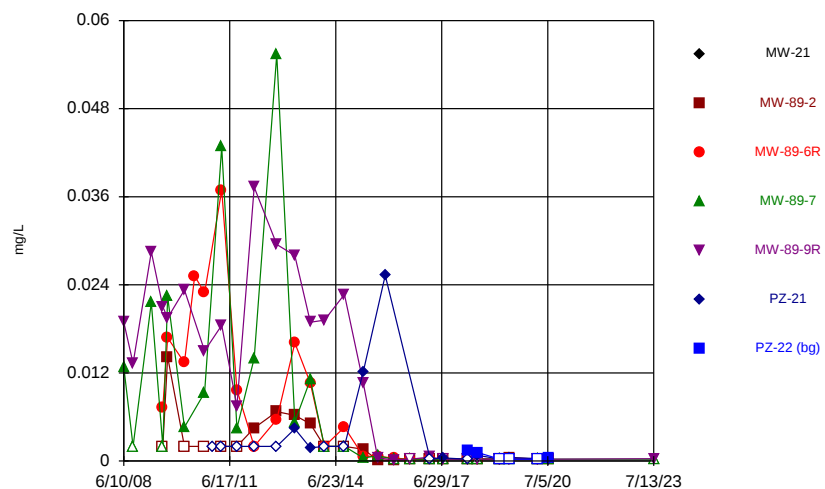
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



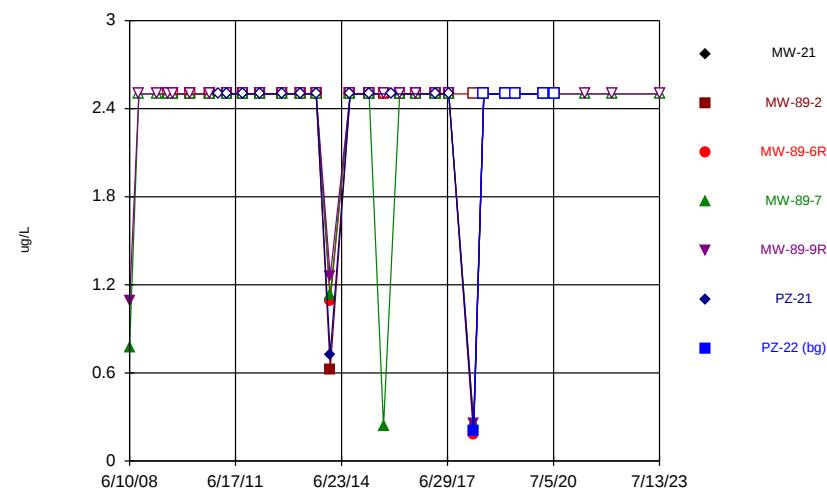
Constituent: Endrin aldehyde Analysis Run 8/8/2023 1:00 PM View: 2023AWQR - Time Series  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



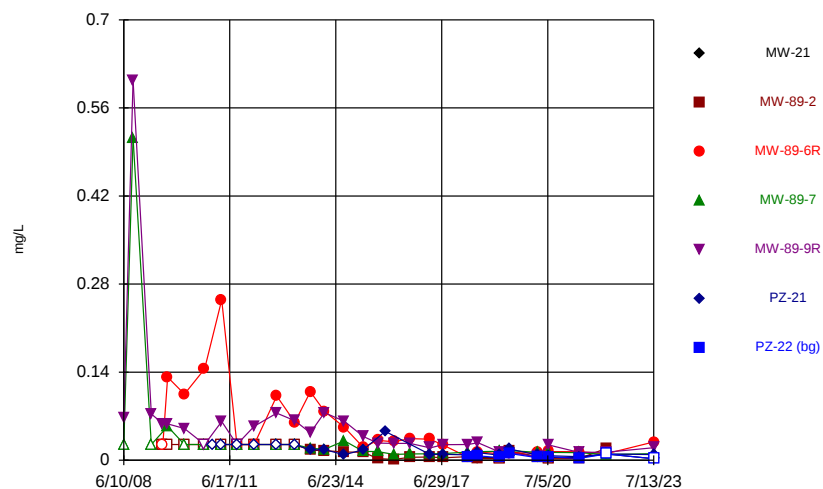
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



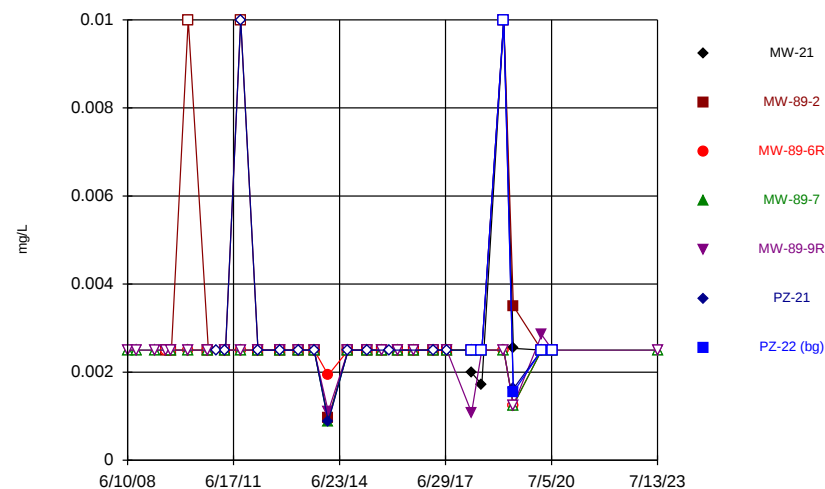
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



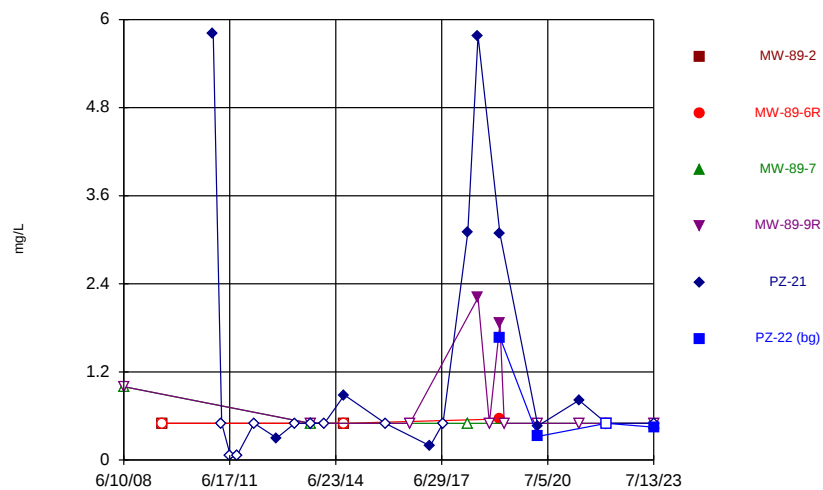
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



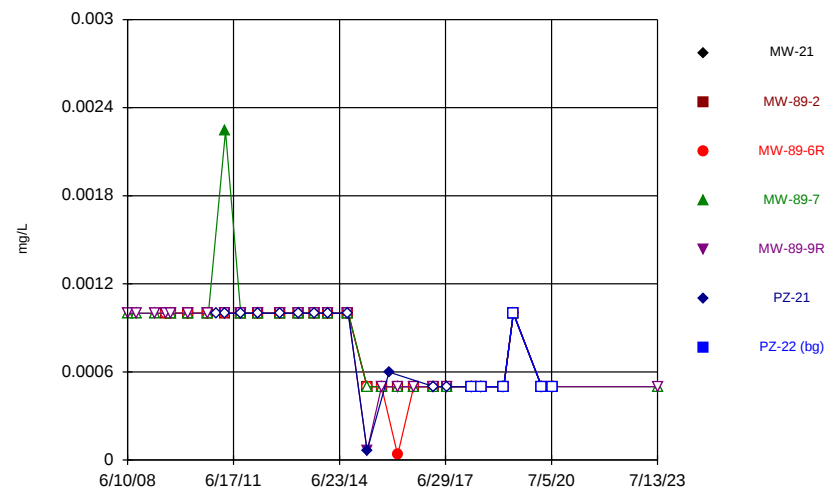
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series



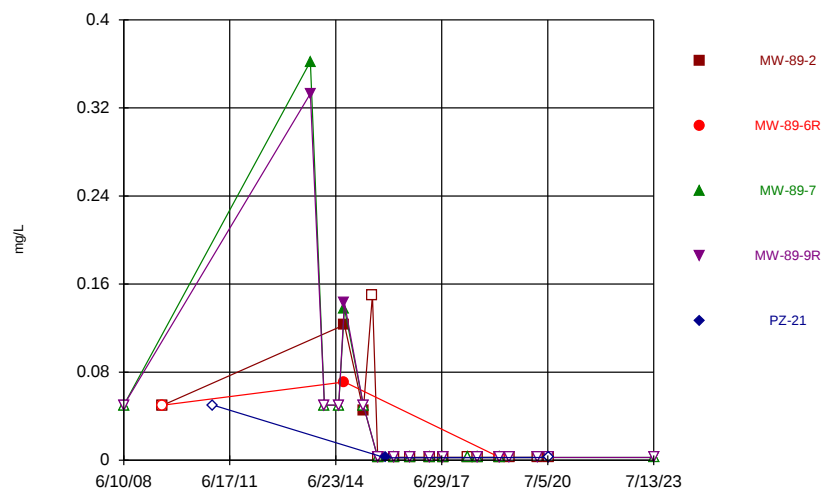
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Time Series

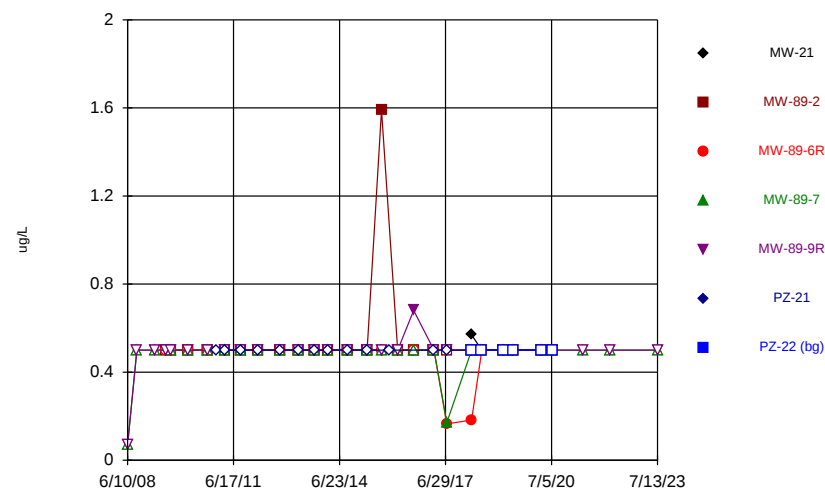


Constituent: Thallium Analysis Run 8/8/2023 1:00 PM View: 2023AWQR - Time Series  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

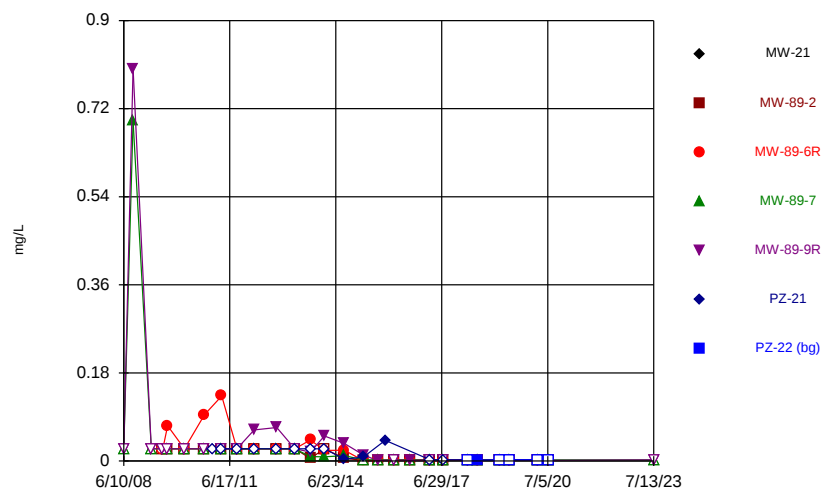
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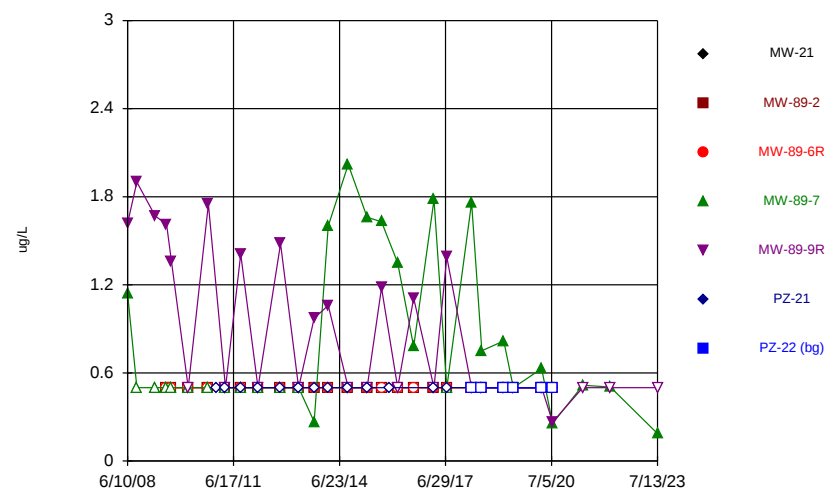
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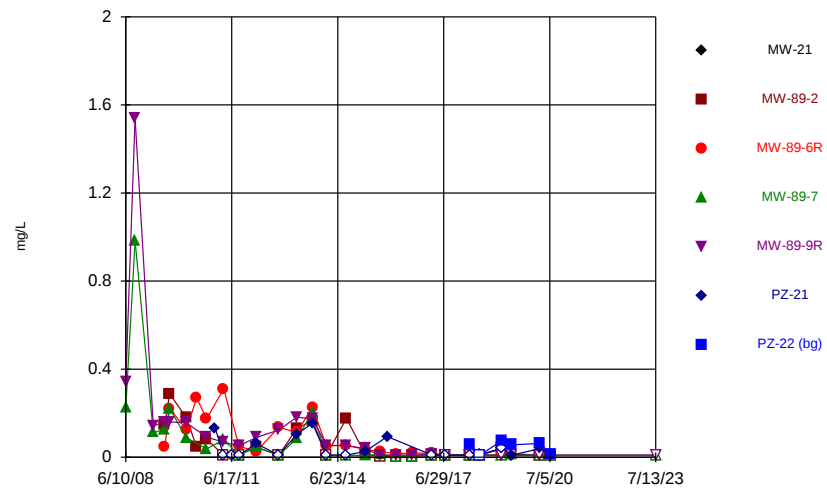
Time Series



Time Series



### Time Series



Constituent: Zinc Analysis Run 8/8/2023 1:00 PM View: 2023AWQR - Time Series  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

## **Outliers Test Summary Table and Graphs**

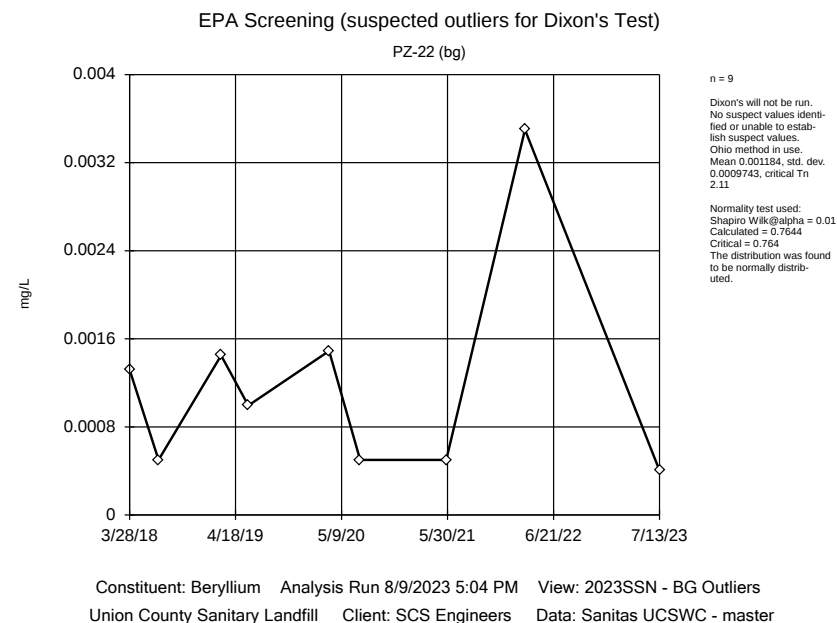
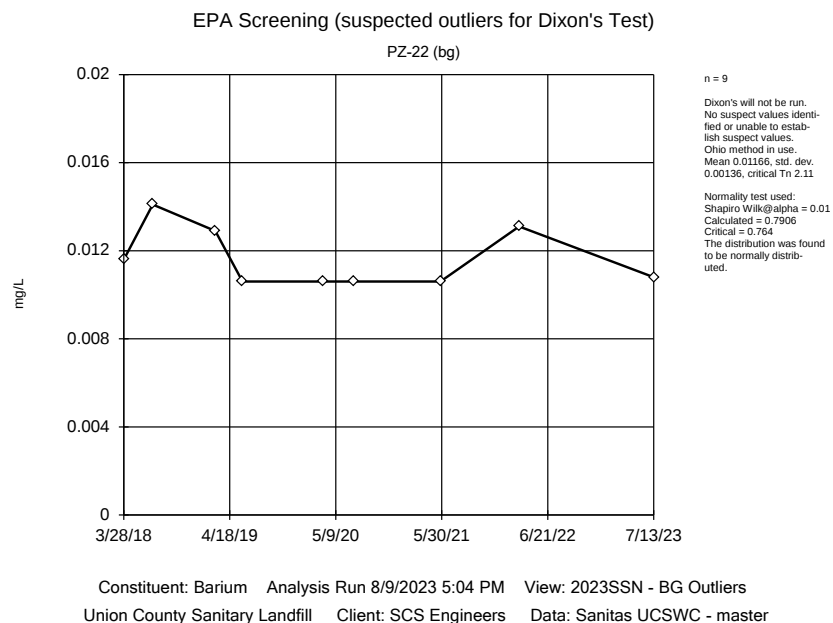
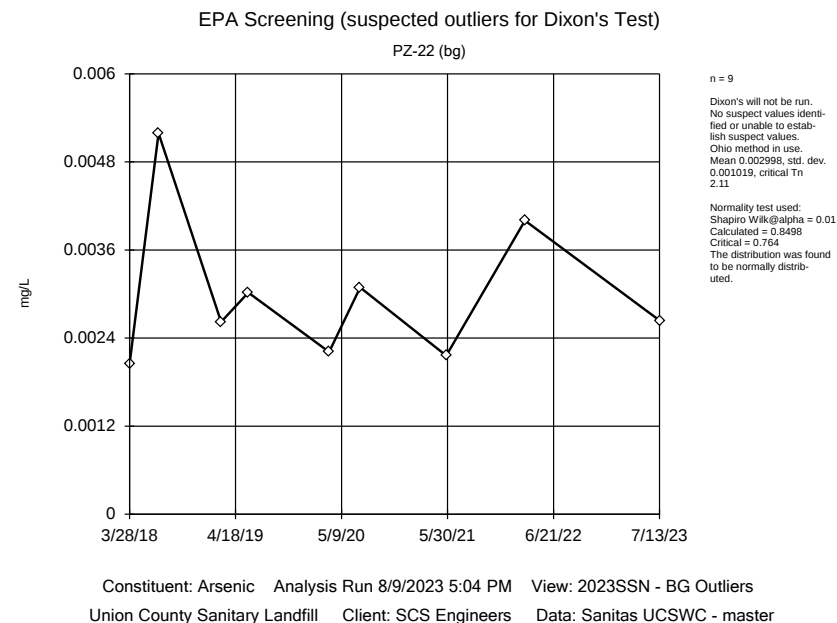
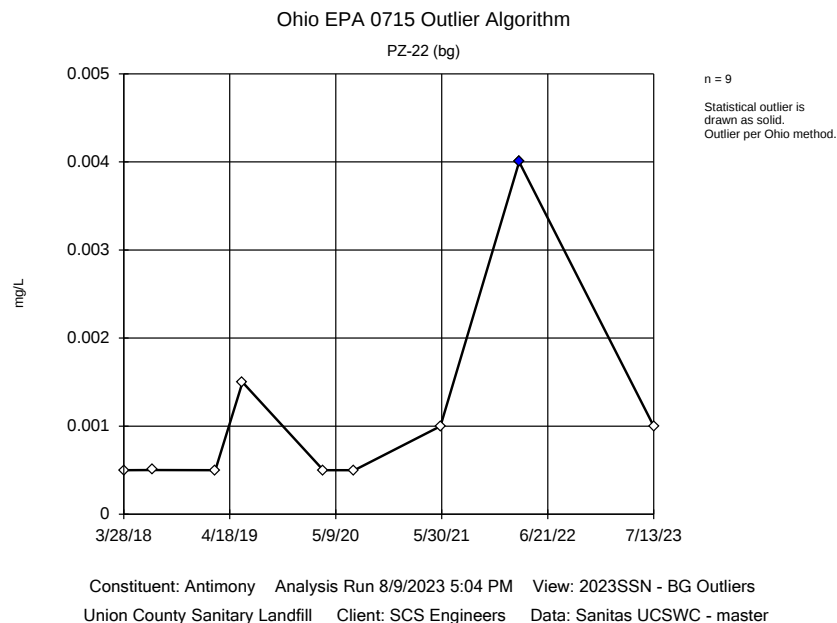


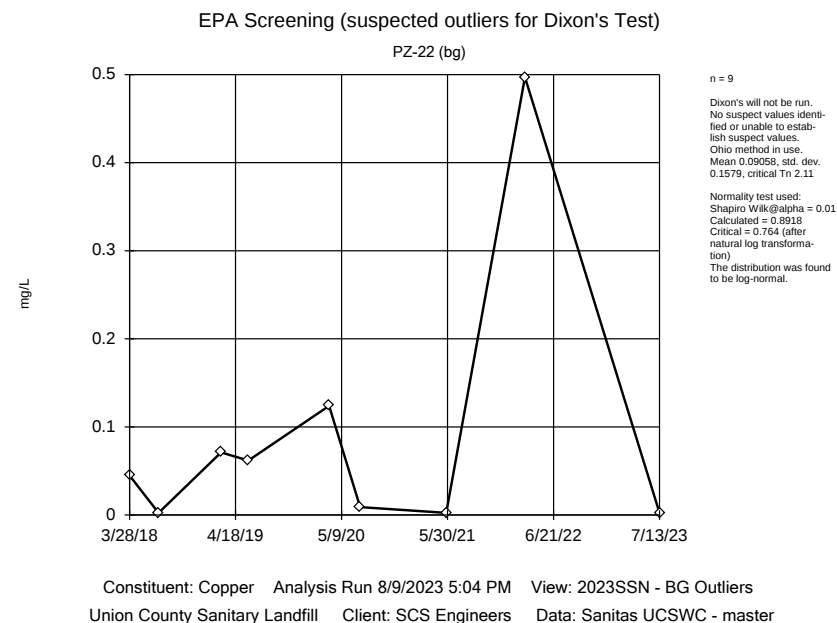
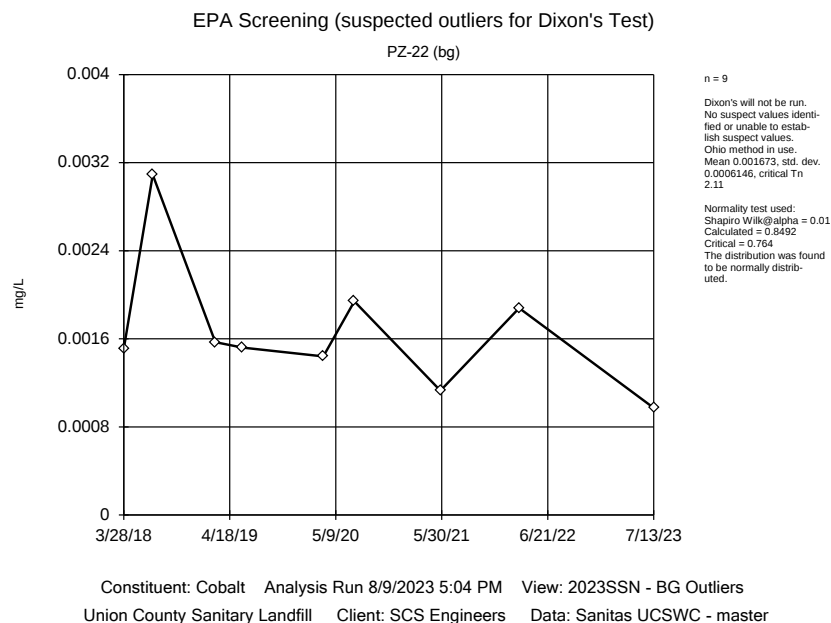
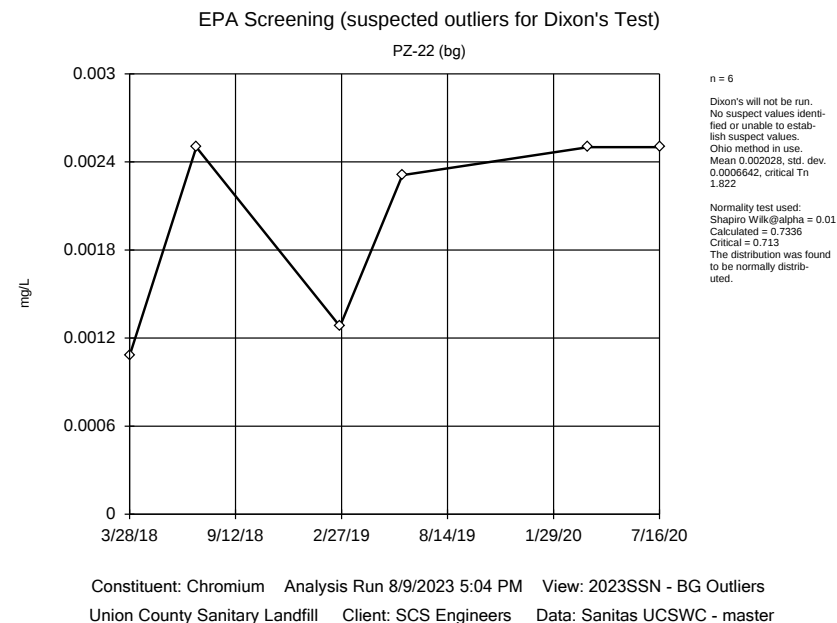
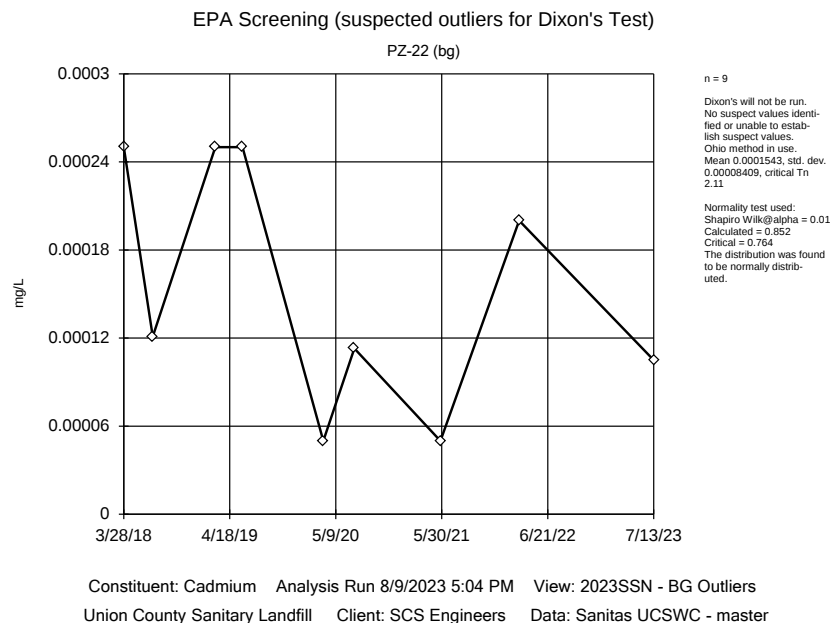
# Outlier Analysis

Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master Printed 8/9/2023, 5:06 PM

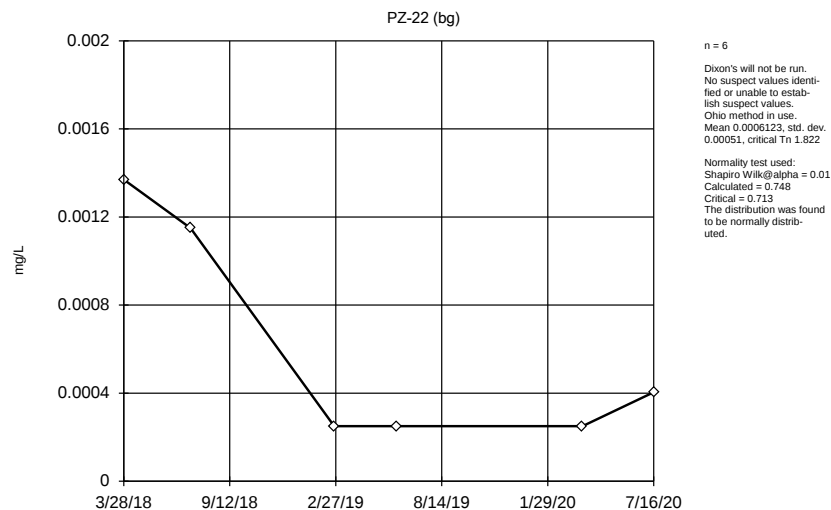
| <u>Constituent</u>     | <u>Well</u>       | <u>Outlier</u> | <u>Value(s)</u> | <u>Date(s)</u>   | <u>Method</u> | <u>Alpha</u> | <u>N</u> | <u>Mean</u>     | <u>Std. Dev.</u> | <u>Normality Test</u> |
|------------------------|-------------------|----------------|-----------------|------------------|---------------|--------------|----------|-----------------|------------------|-----------------------|
| <b>Antimony (mg/L)</b> | <b>PZ-22 (bg)</b> | <b>Yes</b>     | <b>0.004</b>    | <b>3/9/2022</b>  | <b>OH</b>     | <b>NaN</b>   | <b>9</b> | <b>0.001111</b> | <b>0.001139</b>  | <b>n/a</b>            |
| Arsenic (mg/L)         | PZ-22 (bg)        | No             | n/a             | n/a              | EPA/OH        | 0.05         | 9        | 0.002998        | 0.001019         | ShapiroWilk           |
| Barium (mg/L)          | PZ-22 (bg)        | No             | n/a             | n/a              | EPA/OH        | 0.05         | 9        | 0.01166         | 0.00136          | ShapiroWilk           |
| Beryllium (mg/L)       | PZ-22 (bg)        | No             | n/a             | n/a              | EPA/OH        | 0.05         | 9        | 0.001184        | 0.0009743        | ShapiroWilk           |
| Cadmium (mg/L)         | PZ-22 (bg)        | No             | n/a             | n/a              | EPA/OH        | 0.05         | 9        | 0.0001543       | 0.00008409       | ShapiroWilk           |
| Chromium (mg/L)        | PZ-22 (bg)        | No             | n/a             | n/a              | EPA/OH        | 0.05         | 6        | 0.002028        | 0.0006642        | ShapiroWilk           |
| Cobalt (mg/L)          | PZ-22 (bg)        | No             | n/a             | n/a              | EPA/OH        | 0.05         | 9        | 0.001673        | 0.0006146        | ShapiroWilk           |
| Copper (mg/L)          | PZ-22 (bg)        | No             | n/a             | n/a              | EPA/OH        | 0.05         | 9        | 0.09058         | 0.1579           | ShapiroWilk           |
| Lead (mg/L)            | PZ-22 (bg)        | No             | n/a             | n/a              | EPA/OH        | 0.05         | 6        | 0.0006123       | 0.00051          | ShapiroWilk           |
| Nickel (mg/L)          | PZ-22 (bg)        | No             | n/a             | n/a              | EPA/OH        | 0.05         | 9        | 0.005692        | 0.003018         | ShapiroWilk           |
| <b>Selenium (mg/L)</b> | <b>PZ-22 (bg)</b> | <b>Yes</b>     | <b>0.01</b>     | <b>2/25/2019</b> | <b>OH</b>     | <b>NaN</b>   | <b>6</b> | <b>0.00359</b>  | <b>0.003164</b>  | <b>n/a</b>            |
| Vanadium (mg/L)        | PZ-22 (bg)        | No             | n/a             | n/a              | OH            | NaN          | 6        | 0.00225         | 0.0006124        | n/a                   |
| Zinc (mg/L)            | PZ-22 (bg)        | No             | n/a             | n/a              | EPA/OH        | 0.05         | 6        | 0.0467          | 0.02762          | ShapiroWilk           |





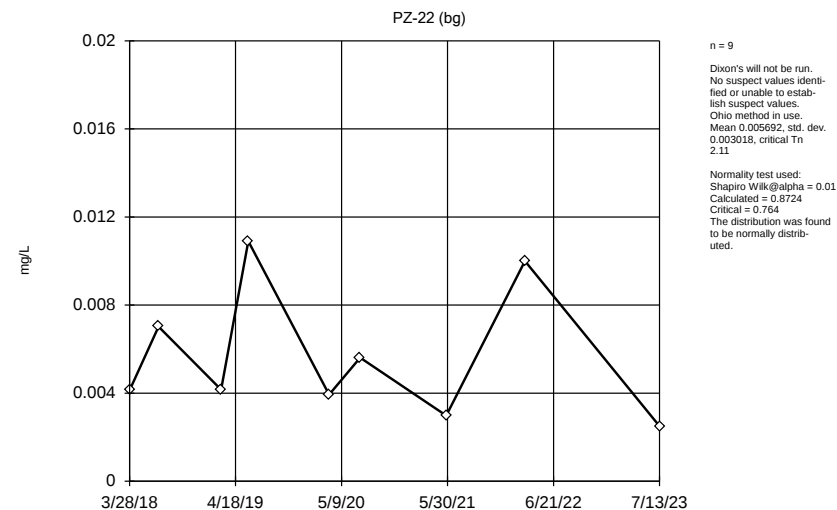


## EPA Screening (suspected outliers for Dixon's Test)



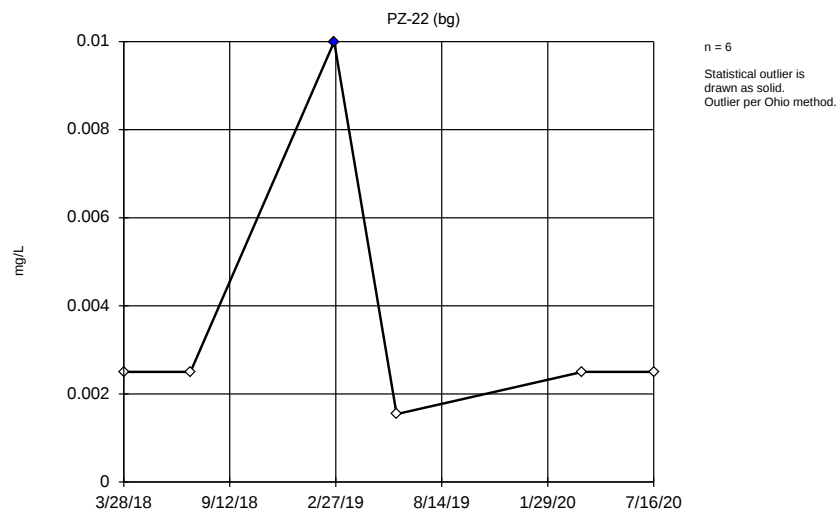
Constituent: Lead Analysis Run 8/9/2023 5:04 PM View: 2023SSN - BG Outliers  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

## EPA Screening (suspected outliers for Dixon's Test)



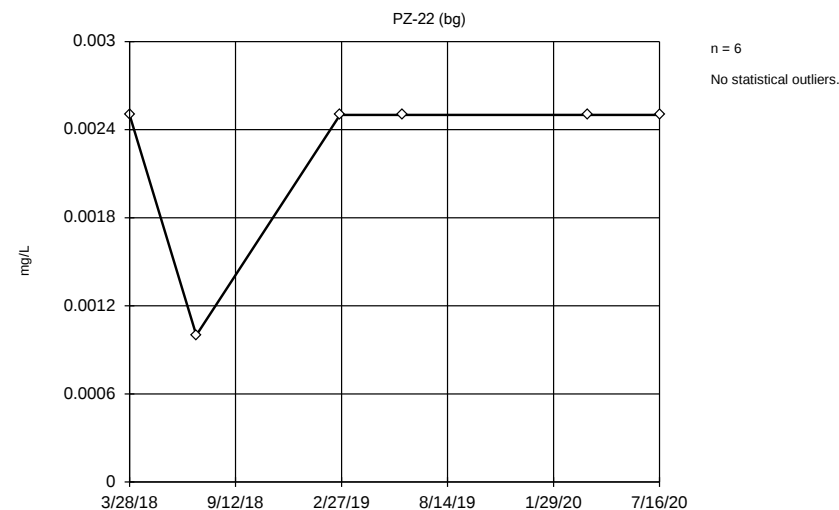
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Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

## Ohio EPA 0715 Outlier Algorithm



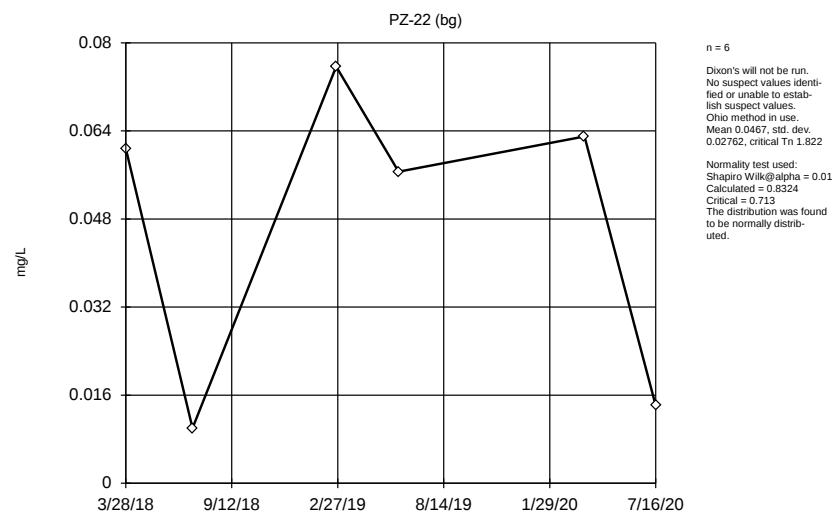
Constituent: Selenium Analysis Run 8/9/2023 5:04 PM View: 2023SSN - BG Outliers  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

## Ohio EPA 0715 Outlier Algorithm



Constituent: Vanadium Analysis Run 8/9/2023 5:04 PM View: 2023SSN - BG Outliers  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

# EPA Screening (suspected outliers for Dixon's Test)



Constituent: Zinc Analysis Run 8/9/2023 5:04 PM View: 2023SSN - BG Outliers  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

**Prediction Limits Summary Table and Graphs**



# Prediction Limit

Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master Printed 8/9/2023, 5:14 PM

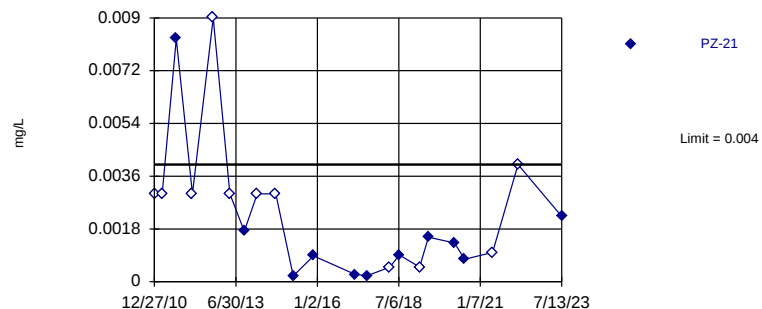
| <u>Constituent</u>    | <u>Well</u>     | <u>Upper Lim.</u> | <u>Lower Lim.</u> | <u>Date</u>      | <u>Observ.</u> | <u>Sig.</u> | <u>Bg N</u> | <u>%NDs</u>  | <u>Trans...</u> | <u>Alpha</u>   | <u>Method</u>               |
|-----------------------|-----------------|-------------------|-------------------|------------------|----------------|-------------|-------------|--------------|-----------------|----------------|-----------------------------|
| Antimony (mg/L)       | PZ-21           | 0.004             | n/a               | 7/13/2023        | 0.00223        | No          | 9           | 88.89        | n/a             | 0.1            | NP Inter (NDs)              |
| <b>Arsenic (mg/L)</b> | <b>MW-89-6R</b> | <b>0.005755</b>   | <b>n/a</b>        | <b>7/13/2023</b> | <b>0.0102</b>  | <b>Yes</b>  | <b>9</b>    | <b>11.11</b> | <b>No</b>       | <b>0.01667</b> | <b>Param Inter</b>          |
| Arsenic (mg/L)        | MW-89-7         | 0.005755          | n/a               | 7/13/2023        | 0.0049         | No          | 9           | 11.11        | No              | 0.01667        | Param Inter                 |
| Arsenic (mg/L)        | MW-89-9R        | 0.005755          | n/a               | 7/13/2023        | 0.00519        | No          | 9           | 11.11        | No              | 0.01667        | Param Inter                 |
| Barium (mg/L)         | MW-21           | 0.0141            | n/a               | 7/13/2023        | 0.0108         | No          | 9           | 0            | n/a             | 0.08457        | NP Inter (normality)        |
| <b>Barium (mg/L)</b>  | <b>MW-89-6R</b> | <b>0.0141</b>     | <b>n/a</b>        | <b>7/13/2023</b> | <b>0.176</b>   | <b>Yes</b>  | <b>9</b>    | <b>0</b>     | <b>n/a</b>      | <b>0.08457</b> | <b>NP Inter (normality)</b> |
| <b>Barium (mg/L)</b>  | <b>MW-89-7</b>  | <b>0.0141</b>     | <b>n/a</b>        | <b>7/13/2023</b> | <b>0.347</b>   | <b>Yes</b>  | <b>9</b>    | <b>0</b>     | <b>n/a</b>      | <b>0.08457</b> | <b>NP Inter (normality)</b> |
| <b>Barium (mg/L)</b>  | <b>MW-89-9R</b> | <b>0.0141</b>     | <b>n/a</b>        | <b>7/13/2023</b> | <b>0.253</b>   | <b>Yes</b>  | <b>9</b>    | <b>0</b>     | <b>n/a</b>      | <b>0.08457</b> | <b>NP Inter (normality)</b> |
| <b>Barium (mg/L)</b>  | <b>PZ-21</b>    | <b>0.0141</b>     | <b>n/a</b>        | <b>7/13/2023</b> | <b>0.0147</b>  | <b>Yes</b>  | <b>9</b>    | <b>0</b>     | <b>n/a</b>      | <b>0.08457</b> | <b>NP Inter (normality)</b> |
| Beryllium (mg/L)      | PZ-21           | 0.003118          | n/a               | 7/13/2023        | 0.00107        | No          | 9           | 33.33        | sqrt(x)         | 0.05           | Param Inter                 |
| <b>Cobalt (mg/L)</b>  | <b>MW-89-6R</b> | <b>0.003455</b>   | <b>n/a</b>        | <b>7/13/2023</b> | <b>0.0278</b>  | <b>Yes</b>  | <b>9</b>    | <b>0</b>     | <b>No</b>       | <b>0.0125</b>  | <b>Param Inter</b>          |
| <b>Cobalt (mg/L)</b>  | <b>MW-89-7</b>  | <b>0.003455</b>   | <b>n/a</b>        | <b>7/13/2023</b> | <b>0.0046</b>  | <b>Yes</b>  | <b>9</b>    | <b>0</b>     | <b>No</b>       | <b>0.0125</b>  | <b>Param Inter</b>          |
| <b>Cobalt (mg/L)</b>  | <b>MW-89-9R</b> | <b>0.003455</b>   | <b>n/a</b>        | <b>7/13/2023</b> | <b>0.0213</b>  | <b>Yes</b>  | <b>9</b>    | <b>0</b>     | <b>No</b>       | <b>0.0125</b>  | <b>Param Inter</b>          |
| Cobalt (mg/L)         | PZ-21           | 0.003455          | n/a               | 7/13/2023        | 0.00277        | No          | 9           | 0            | No              | 0.0125         | Param Inter                 |
| Copper (mg/L)         | PZ-21           | 0.3953            | n/a               | 7/13/2023        | 0.128          | No          | 9           | 33.33        | x^(1/3)         | 0.05           | Param Inter                 |
| <b>Nickel (mg/L)</b>  | <b>MW-89-6R</b> | <b>0.01233</b>    | <b>n/a</b>        | <b>7/13/2023</b> | <b>0.0292</b>  | <b>Yes</b>  | <b>9</b>    | <b>22.22</b> | <b>No</b>       | <b>0.0125</b>  | <b>Param Inter</b>          |
| Nickel (mg/L)         | MW-89-7         | 0.01233           | n/a               | 7/13/2023        | 0.0105         | No          | 9           | 22.22        | No              | 0.0125         | Param Inter                 |
| <b>Nickel (mg/L)</b>  | <b>MW-89-9R</b> | <b>0.01233</b>    | <b>n/a</b>        | <b>7/13/2023</b> | <b>0.02</b>    | <b>Yes</b>  | <b>9</b>    | <b>22.22</b> | <b>No</b>       | <b>0.0125</b>  | <b>Param Inter</b>          |
| Nickel (mg/L)         | PZ-21           | 0.01233           | n/a               | 7/13/2023        | 0.00905        | No          | 9           | 22.22        | No              | 0.0125         | Param Inter                 |



Within Limit

## Prediction Limit

Interwell Non-parametric



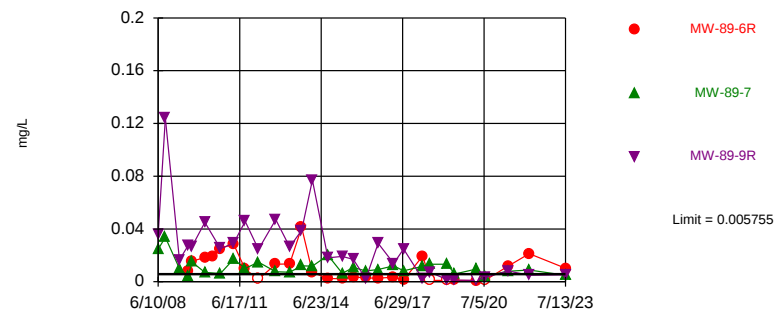
Non-parametric test used in lieu of parametric prediction limit because censored data exceeded 50%. Limit is highest of 9 background values. 88.89% NDs. Report alpha = 0.1. Most recent point compared to limit. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Antimony Analysis Run 8/9/2023 5:12 PM View: 2023SSN - AM Prediction Limit  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Exceeds Limit: MW-89-6R

## Prediction Limit

Interwell Parametric



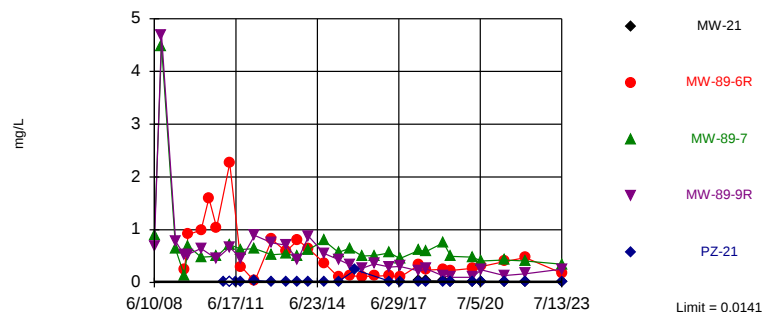
Background Data Summary: Mean=0.002998, Std. Dev.=0.001019, n=9, 11.11% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8498, critical = 0.829. Report alpha = 0.05. Individual comparison alpha = 0.01667. Most recent point for each compliance well compared to limit.

Constituent: Arsenic Analysis Run 8/9/2023 5:12 PM View: 2023SSN - AM Prediction Limit  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Exceeds Limit: MW-89-6R, MW-89-7, MW-89-9R, PZ-21

## Prediction Limit

Interwell Non-parametric



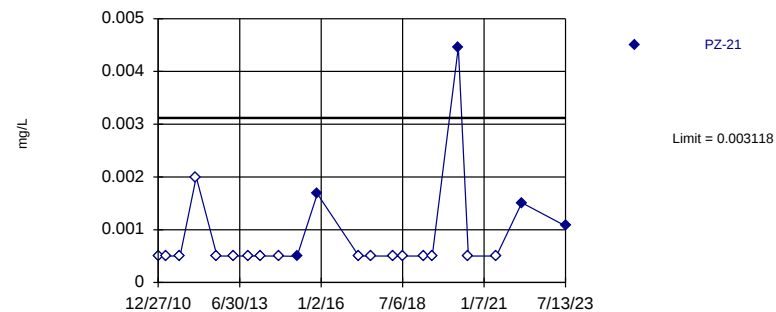
Non-parametric test used in lieu of parametric prediction limit because the Shapiro Wilk normality test showed the data to be non-normal at the 0.05 alpha level. Limit is highest of 9 background values. Report alpha = 0.3571. Individual comparison alpha = 0.08457. Most recent point for each compliance well compared to limit. Insufficient data to test for seasonality; data will not be deseasonalized.

Constituent: Barium Analysis Run 8/9/2023 5:12 PM View: 2023SSN - AM Prediction Limit  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Within Limit

## Prediction Limit

Interwell Parametric

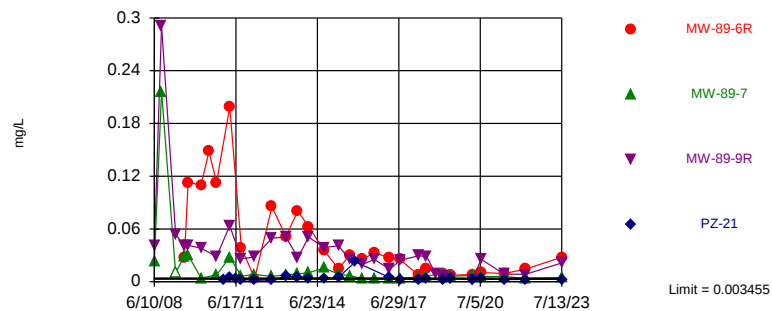


Background Data Summary (based on square root transformation) (after Kaplan-Meier Adjustment): Mean=0.03347, Std. Dev.=0.01141, n=9, 33.33% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8507, critical = 0.829. Report alpha = 0.05. Most recent point compared to limit.

Constituent: Beryllium Analysis Run 8/9/2023 5:12 PM View: 2023SSN - AM Prediction Limit  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Exceeds Limit: MW-89-6R, MW-89-7, MW-89-9R

### Prediction Limit Interwell Parametric

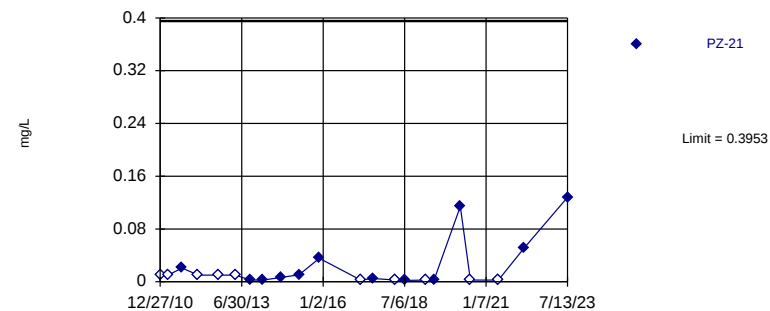


Background Data Summary: Mean=0.001673, Std. Dev.=0.0006146, n=9. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8492, critical = 0.829. Report alpha = 0.05. Individual comparison alpha = 0.0125. Most recent point for each compliance well compared to limit.

Constituent: Cobalt Analysis Run 8/9/2023 5:12 PM View: 2023SSN - AM Prediction Limit  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Within Limit

### Prediction Limit Interwell Parametric

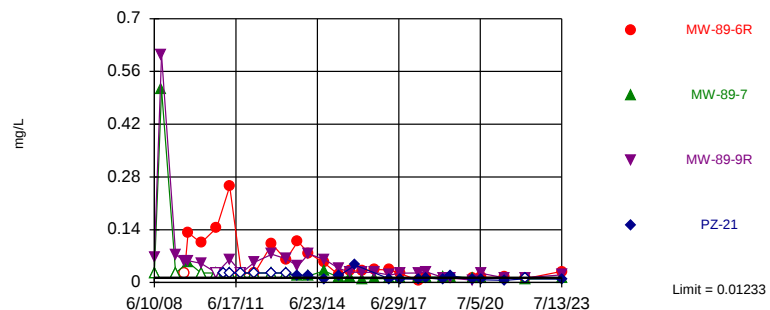


Background Data Summary (based on cube root transformation) (after Kaplan-Meier Adjustment): Mean=0.3529, Std. Dev.=0.1944, n=9, 33.33% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8739, critical = 0.829. Report alpha = 0.05. Most recent point compared to limit.

Constituent: Copper Analysis Run 8/9/2023 5:12 PM View: 2023SSN - AM Prediction Limit  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

Exceeds Limit: MW-89-6R, MW-89-9R

### Prediction Limit Interwell Parametric



Background Data Summary (after Kaplan-Meier Adjustment): Mean=0.005316, Std. Dev.=0.002419, n=9, 22.22% NDs. Insufficient data to test for seasonality; not deseasonalized. Normality test: Shapiro Wilk @alpha = 0.05, calculated = 0.8724, critical = 0.829. Report alpha = 0.05. Individual comparison alpha = 0.0125. Most recent point for each compliance well compared to limit.

Constituent: Nickel Analysis Run 8/9/2023 5:12 PM View: 2023SSN - AM Prediction Limit  
Union County Sanitary Landfill Client: SCS Engineers Data: Sanitas UCSWC - master

## **Sen's Slope/Mann-Kendall Summary Table and Graphs**



# Trend Test

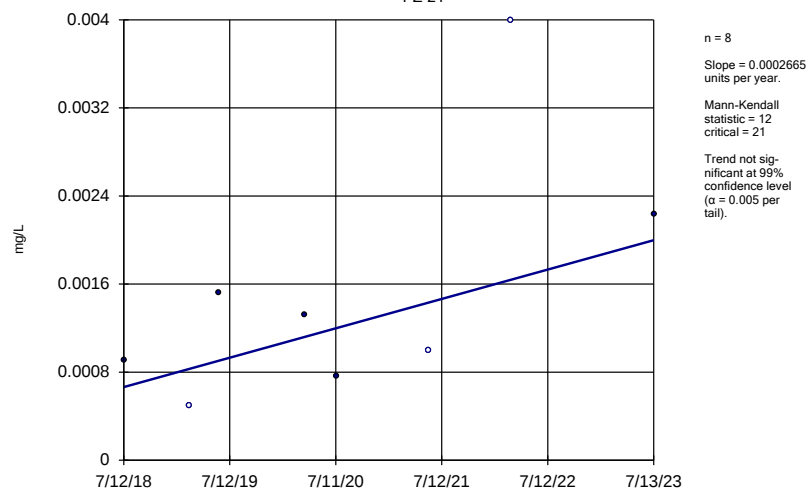
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM Printed 8/10/2023, 10:05 AM

| <u>Constituent</u>            | <u>Well</u>    | <u>Slope</u>    | <u>Calc.</u> | <u>Critical</u> | <u>Sig.</u> | <u>N</u> | <u>%NDs</u> | <u>Alpha</u> | <u>Method</u> |
|-------------------------------|----------------|-----------------|--------------|-----------------|-------------|----------|-------------|--------------|---------------|
| Antimony (mg/L)               | PZ-21          | 0.0002665       | 12           | 21              | No          | 8        | 37.5        | 0.01         | NP            |
| Arsenic (mg/L)                | MW-89-2        | -0.00006134     | -5           | -21             | No          | 8        | 12.5        | 0.01         | NP            |
| Arsenic (mg/L)                | MW-89-6R       | 0.002177        | 11           | 21              | No          | 8        | 37.5        | 0.01         | NP            |
| Arsenic (mg/L)                | MW-89-7        | -0.001422       | -13          | -21             | No          | 8        | 0           | 0.01         | NP            |
| Arsenic (mg/L)                | MW-89-9R       | 0.0007495       | 6            | 21              | No          | 8        | 12.5        | 0.01         | NP            |
| Arsenic (mg/L)                | PZ-21          | 0.00002757      | 2            | 21              | No          | 8        | 25          | 0.01         | NP            |
| Barium (mg/L)                 | MW-89-2        | 0.0002948       | 2            | 21              | No          | 8        | 0           | 0.01         | NP            |
| Barium (mg/L)                 | MW-89-6R       | 0.04405         | 10           | 21              | No          | 8        | 0           | 0.01         | NP            |
| <b>Barium (mg/L)</b>          | <b>MW-89-7</b> | <b>-0.04798</b> | <b>-23</b>   | <b>-21</b>      | <b>Yes</b>  | <b>8</b> | <b>0</b>    | <b>0.01</b>  | <b>NP</b>     |
| Barium (mg/L)                 | MW-89-9R       | 0.009775        | 4            | 21              | No          | 8        | 0           | 0.01         | NP            |
| Barium (mg/L)                 | PZ-21          | -0.000769       | -10          | -21             | No          | 8        | 0           | 0.01         | NP            |
| Beryllium (mg/L)              | PZ-21          | 0               | 8            | 21              | No          | 8        | 62.5        | 0.01         | NP            |
| Cadmium (mg/L)                | MW-89-6R       | -0.000006615    | -4           | -21             | No          | 8        | 12.5        | 0.01         | NP            |
| Carbon disulfide (ug/L)       | MW-89-2        | 0               | -2           | -21             | No          | 8        | 62.5        | 0.01         | NP            |
| Carbon disulfide (ug/L)       | PZ-21          | 0.03555         | 5            | 21              | No          | 8        | 25          | 0.01         | NP            |
| cis-1,2-Dichloroethene (ug/L) | MW-89-9R       | 0               | -2           | -21             | No          | 8        | 62.5        | 0.01         | NP            |
| Cobalt (mg/L)                 | MW-89-2        | 0.00006378      | 2            | 21              | No          | 8        | 0           | 0.01         | NP            |
| Cobalt (mg/L)                 | MW-89-6R       | 0.001488        | 11           | 21              | No          | 8        | 0           | 0.01         | NP            |
| Cobalt (mg/L)                 | MW-89-7        | -0.0006955      | -18          | -21             | No          | 8        | 0           | 0.01         | NP            |
| Cobalt (mg/L)                 | MW-89-9R       | 0.001368        | 4            | 21              | No          | 8        | 0           | 0.01         | NP            |
| Cobalt (mg/L)                 | PZ-21          | 0.00002624      | 0            | 21              | No          | 8        | 0           | 0.01         | NP            |
| Copper (mg/L)                 | MW-89-2        | 0               | 2            | 21              | No          | 8        | 75          | 0.01         | NP            |
| Copper (mg/L)                 | PZ-21          | 0.008748        | 15           | 21              | No          | 8        | 37.5        | 0.01         | NP            |
| Endrin aldehyde (ug/L)        | MW-89-6R       | 0.0002906       | 5            | 21              | No          | 8        | 87.5        | 0.01         | NP            |
| Lead (mg/L)                   | PZ-21          | 0               | 0            | 21              | No          | 8        | 50          | 0.01         | NP            |
| Nickel (mg/L)                 | MW-89-2        | 0.00003557      | 1            | 21              | No          | 8        | 25          | 0.01         | NP            |
| Nickel (mg/L)                 | MW-89-6R       | 0.001226        | 10           | 21              | No          | 8        | 0           | 0.01         | NP            |
| Nickel (mg/L)                 | MW-89-7        | -0.0007738      | -20          | -21             | No          | 8        | 0           | 0.01         | NP            |
| Nickel (mg/L)                 | MW-89-9R       | -0.00006669     | -1           | -21             | No          | 8        | 0           | 0.01         | NP            |
| Nickel (mg/L)                 | PZ-21          | -0.0006528      | -6           | -21             | No          | 8        | 12.5        | 0.01         | NP            |
| Selenium (mg/L)               | MW-89-2        | 0               | 3            | 21              | No          | 8        | 87.5        | 0.01         | NP            |
| Sulfide (mg/L)                | MW-89-9R       | 0               | -3           | -21             | No          | 8        | 87.5        | 0.01         | NP            |
| Sulfide (mg/L)                | PZ-21          | -0.2733         | -9           | -21             | No          | 8        | 37.5        | 0.01         | NP            |
| Zinc (mg/L)                   | MW-89-6R       | 0               | -9           | -21             | No          | 8        | 75          | 0.01         | NP            |
| Zinc (mg/L)                   | PZ-21          | 0               | 4            | 21              | No          | 8        | 62.5        | 0.01         | NP            |



### Sen's Slope Estimator

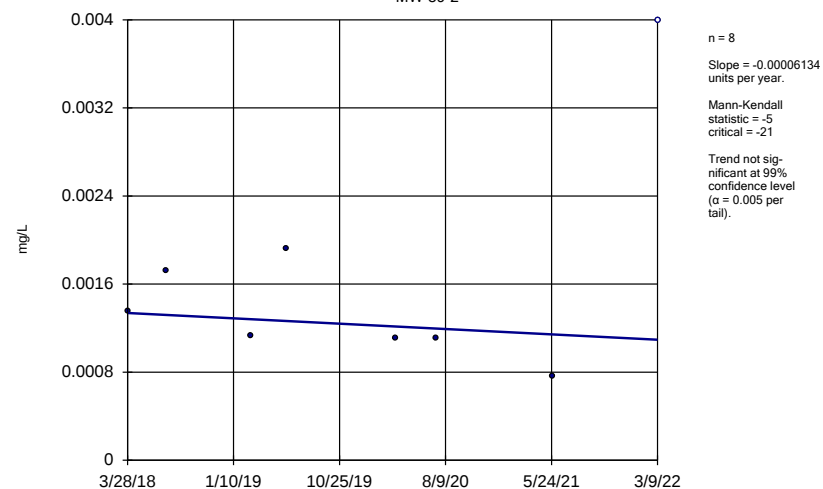
PZ-21



Constituent: Antimony Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

### Sen's Slope Estimator

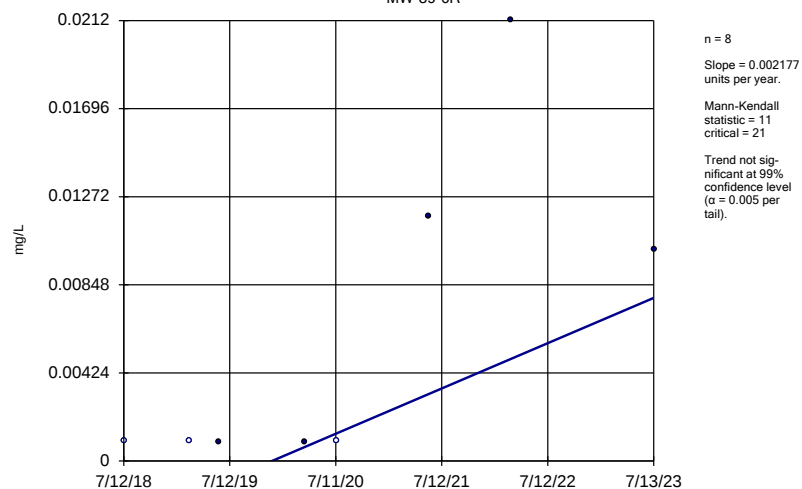
MW-89-2



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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

### Sen's Slope Estimator

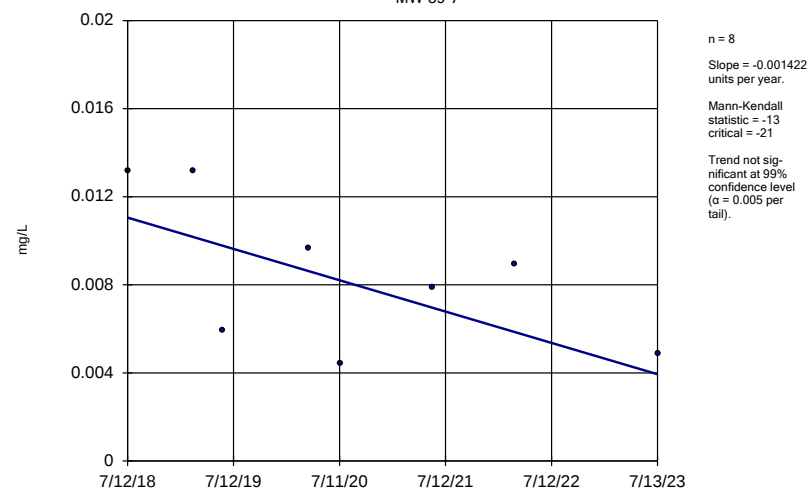
MW-89-6R



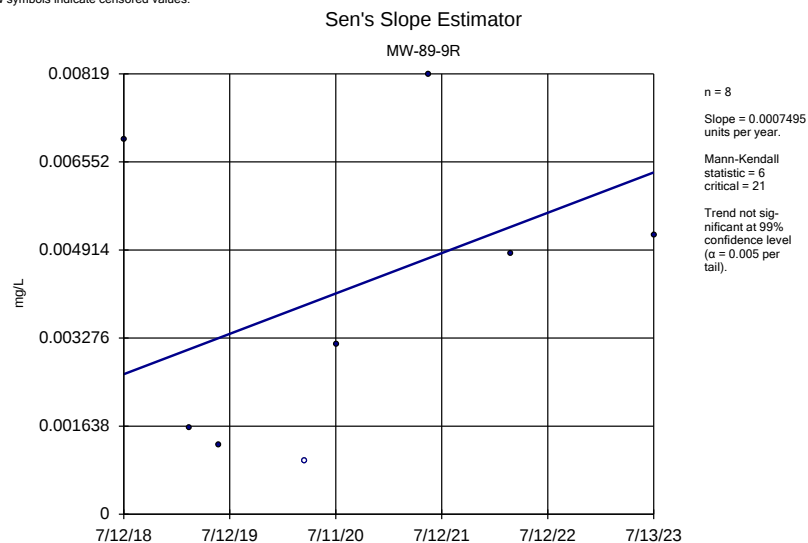
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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

### Sen's Slope Estimator

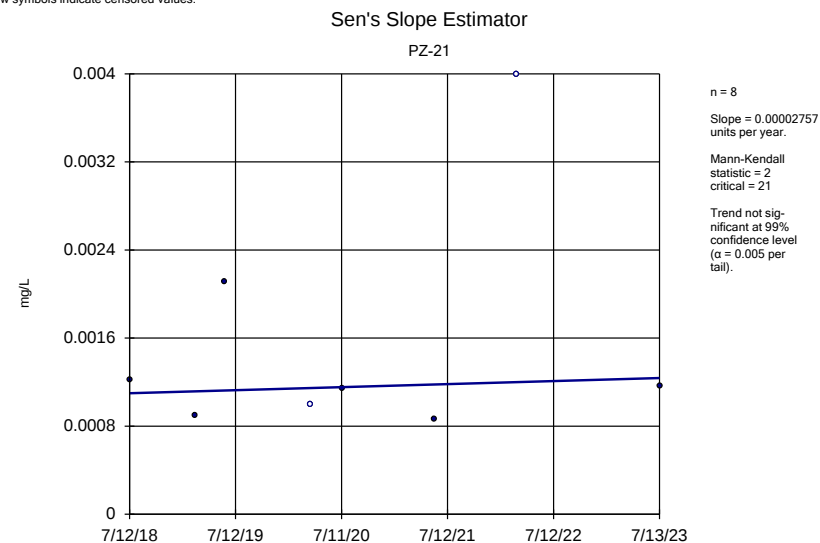
MW-89-7



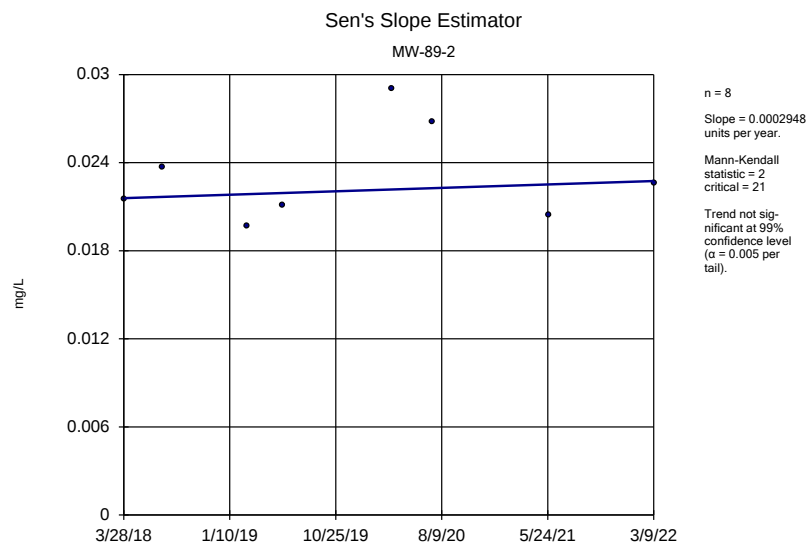
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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



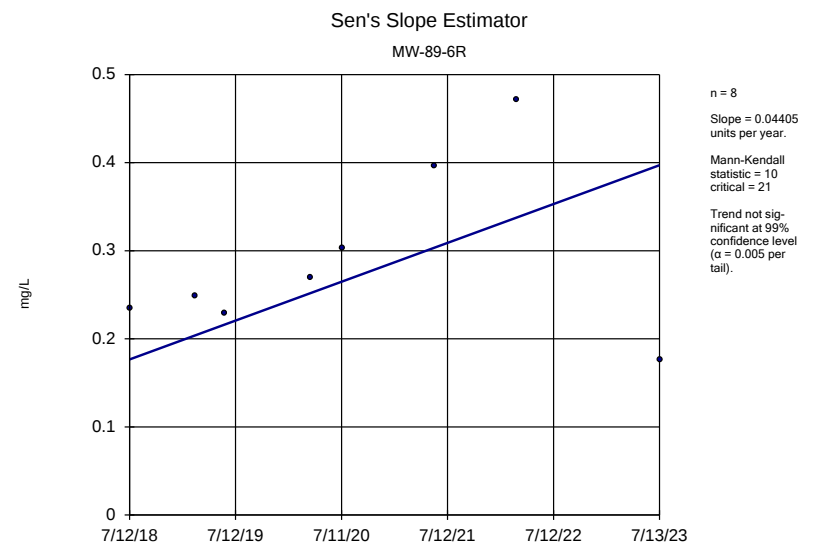
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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



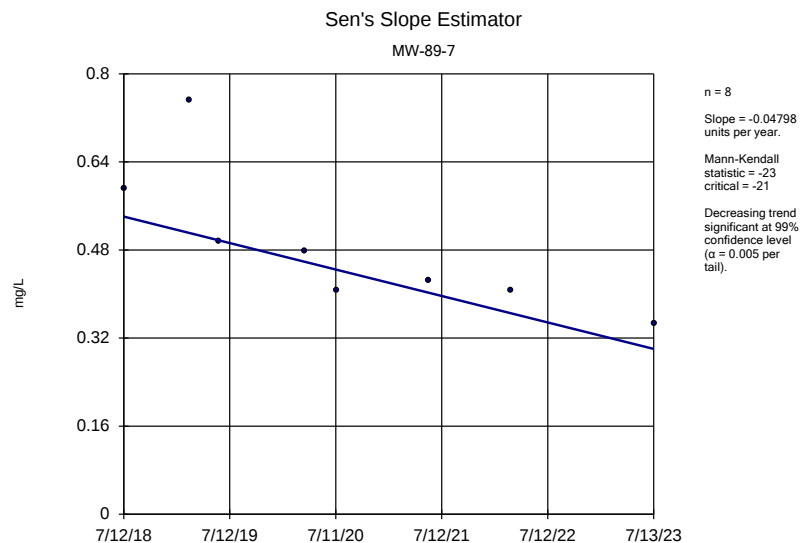
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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



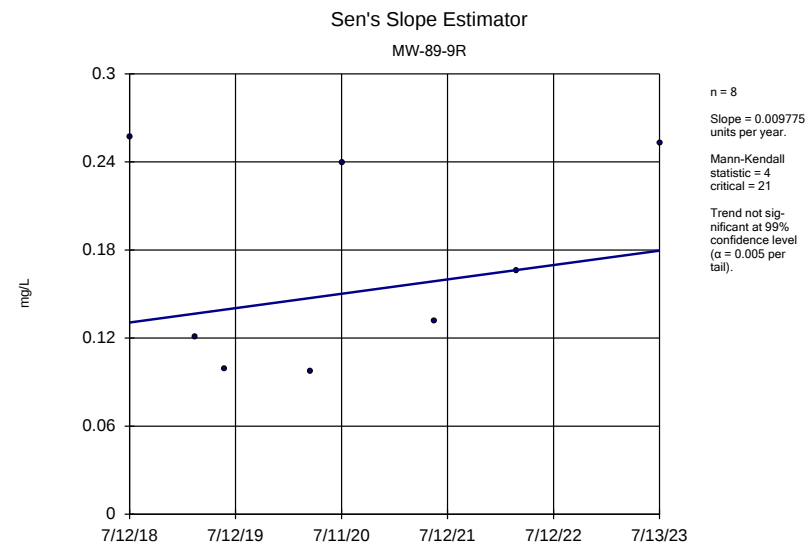
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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



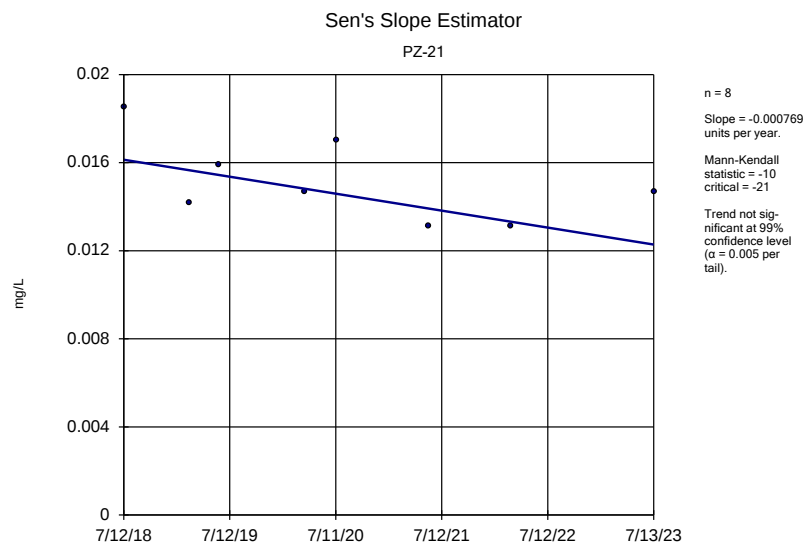
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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



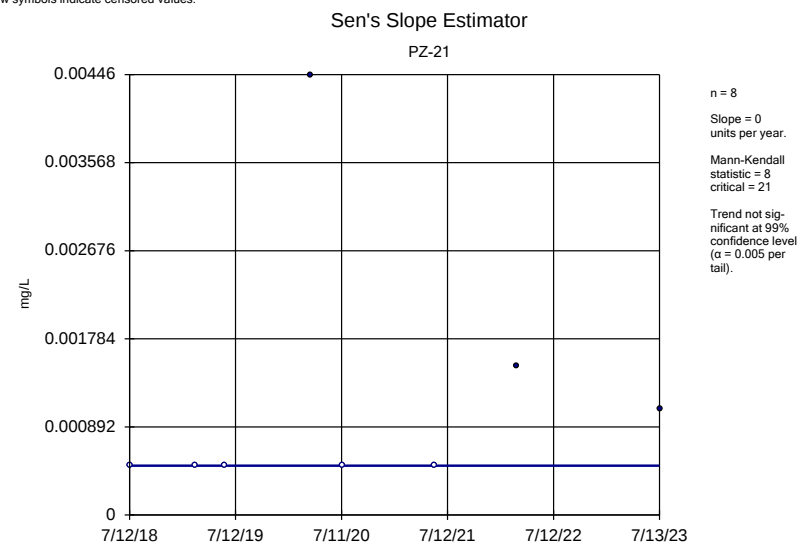
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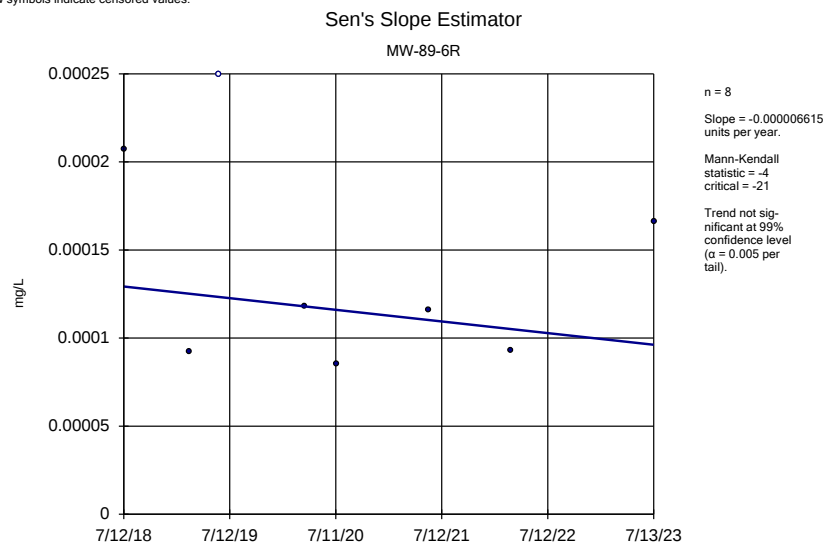
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Union County Sanitary Landfill    Client: SCS Engineers    Data: Union 2023AWQR-AM



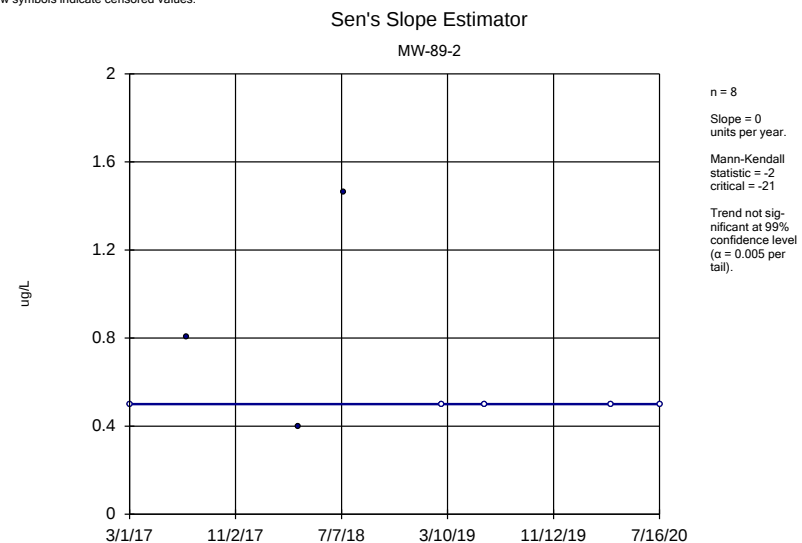
Constituent: Barium    Analysis Run 8/10/2023 10:04 AM    View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill    Client: SCS Engineers    Data: Union 2023AWQR-AM



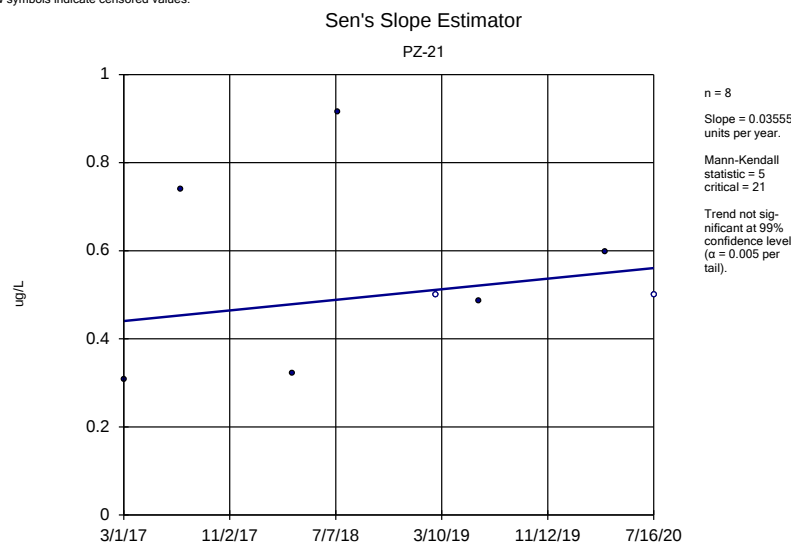
Constituent: Beryllium    Analysis Run 8/10/2023 10:04 AM    View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill    Client: SCS Engineers    Data: Union 2023AWQR-AM



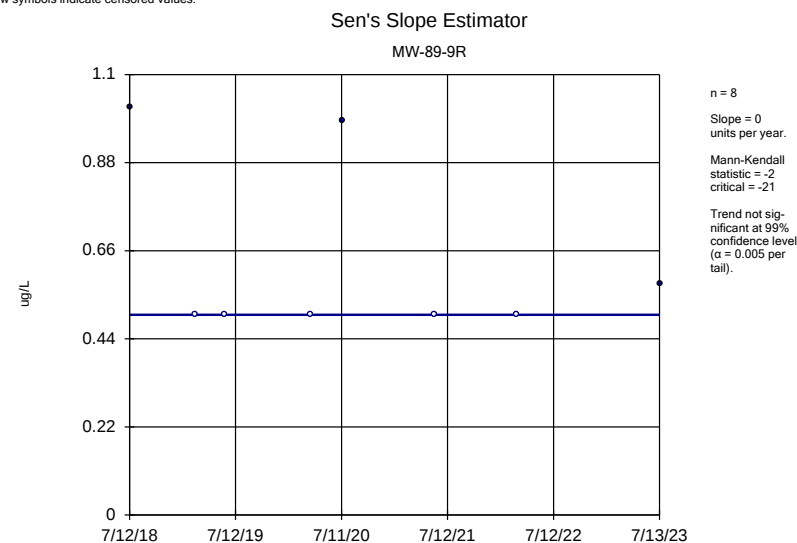
Constituent: Cadmium Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



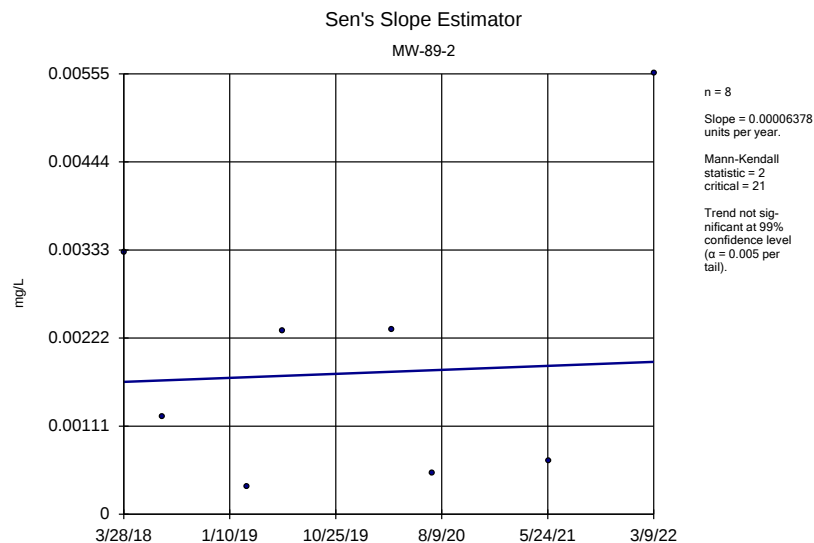
Constituent: Carbon disulfide Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



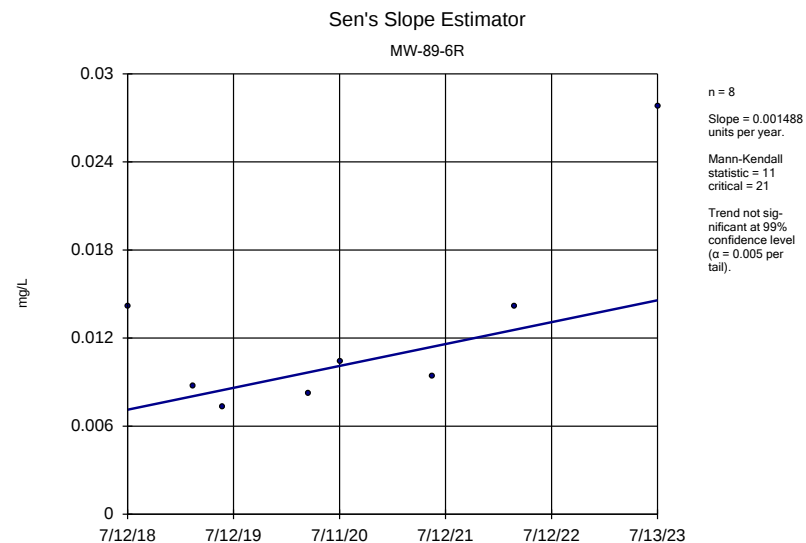
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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



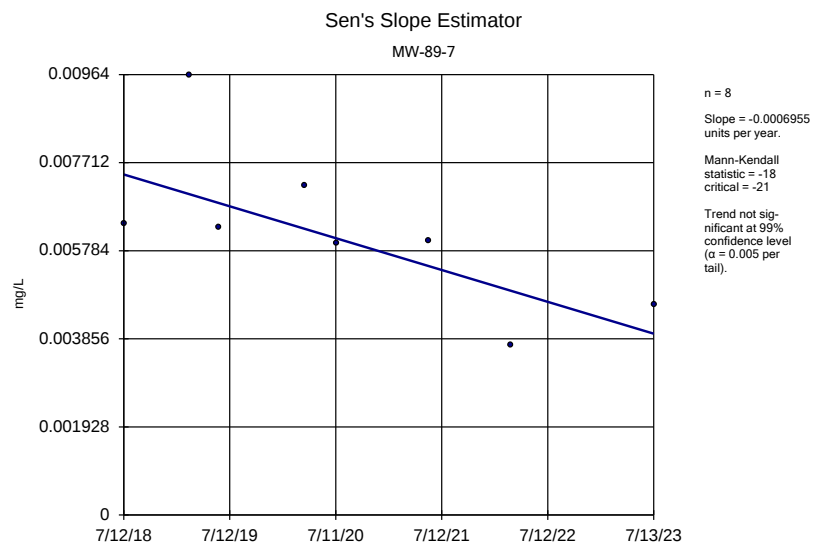
Constituent: cis-1,2-Dichloroethene Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



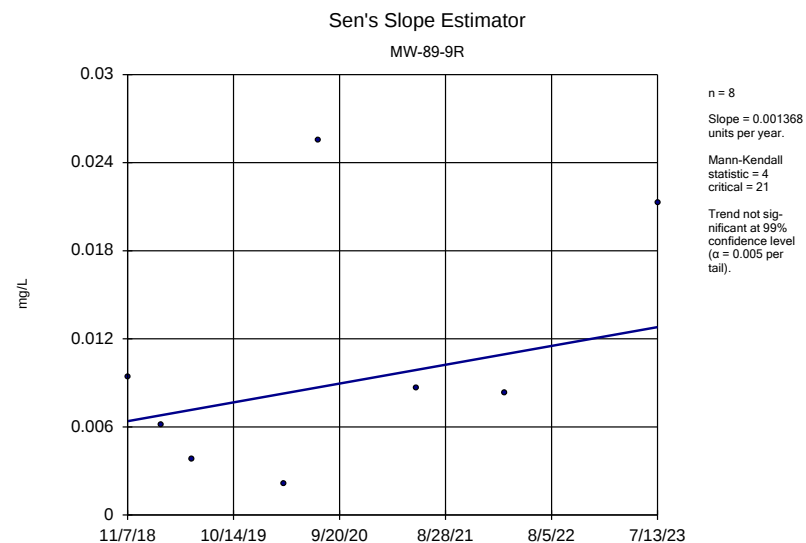
Constituent: Cobalt Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



Constituent: Cobalt Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



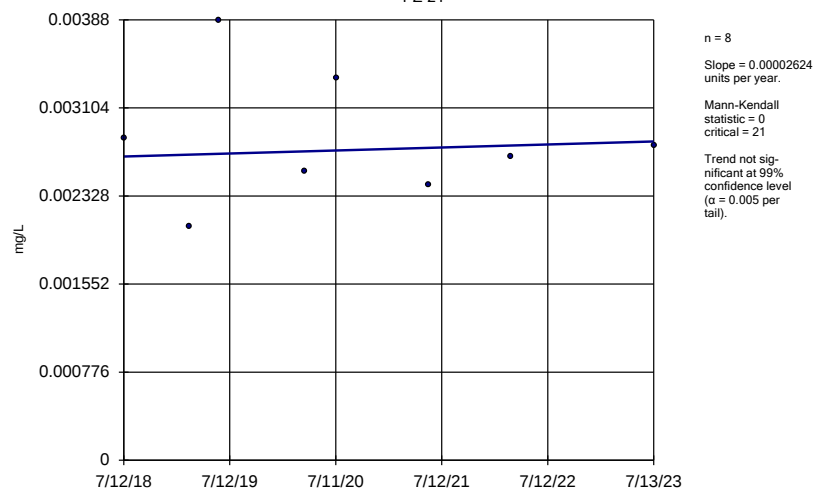
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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



Constituent: Cobalt Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Sen's Slope Estimator

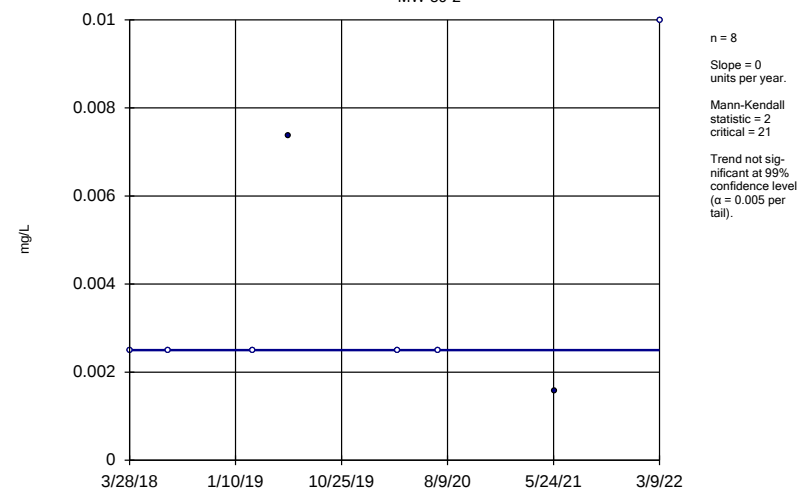
PZ-21



Constituent: Cobalt Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Sen's Slope Estimator

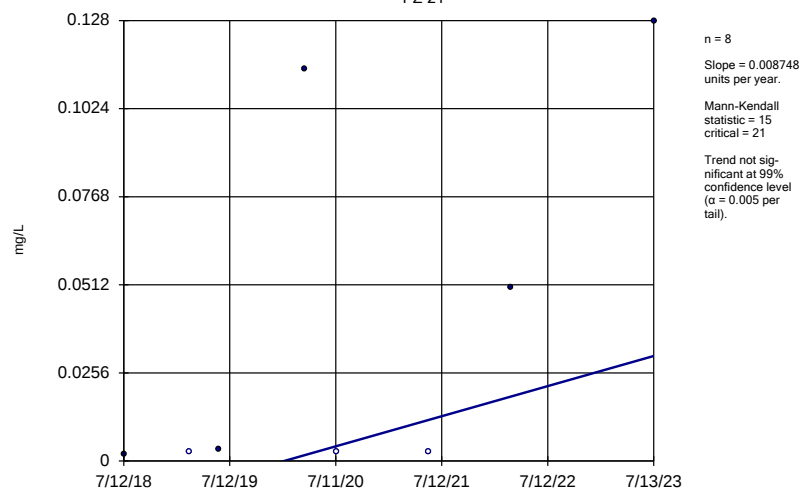
MW-89-2



Constituent: Copper Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Sen's Slope Estimator

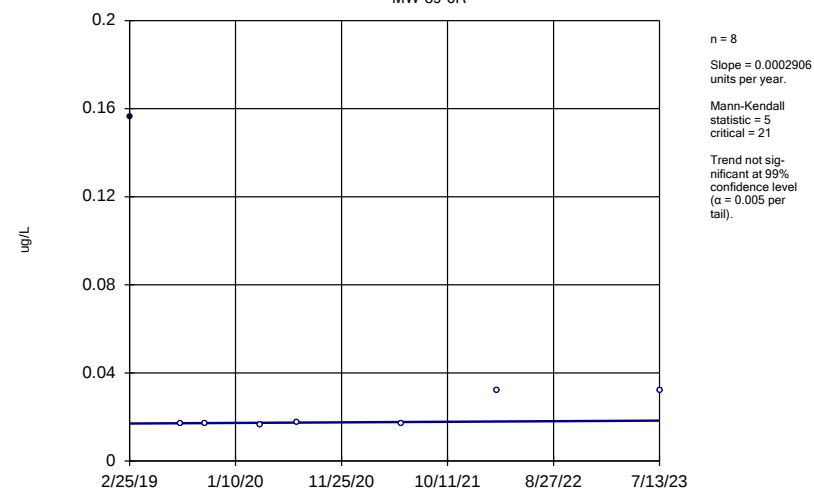
PZ-21



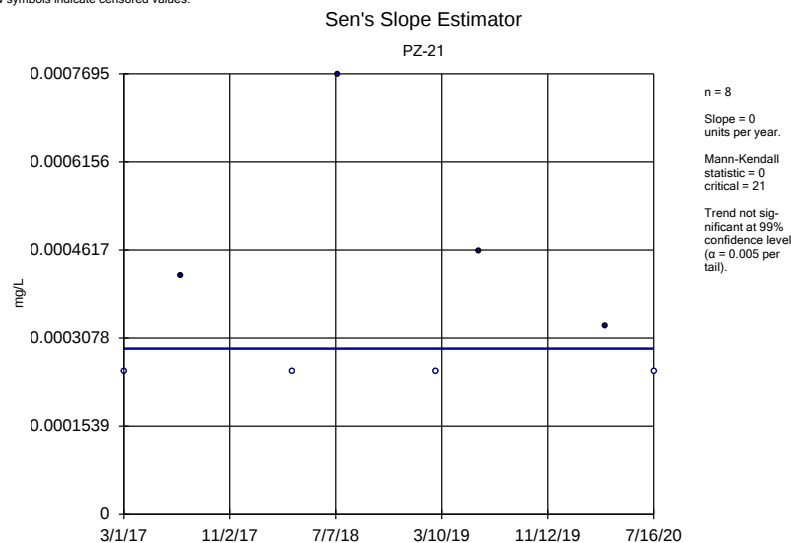
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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Sen's Slope Estimator

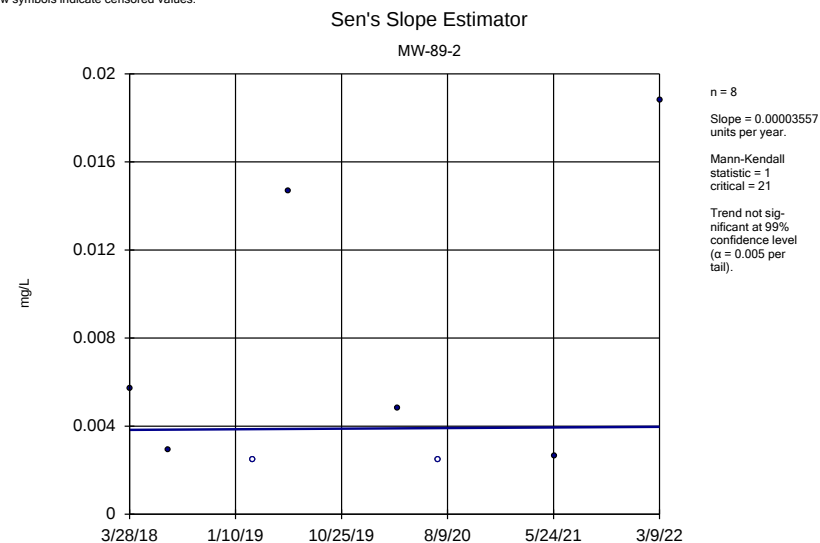
MW-89-6R



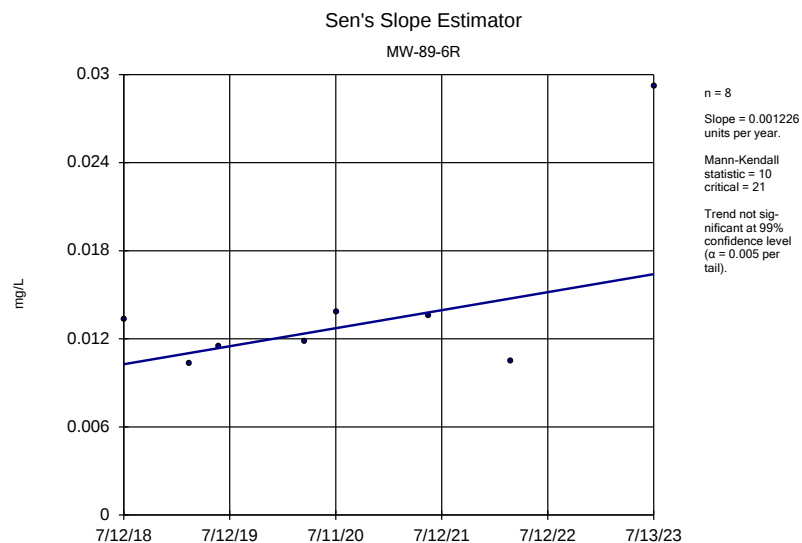
Constituent: Endrin aldehyde Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



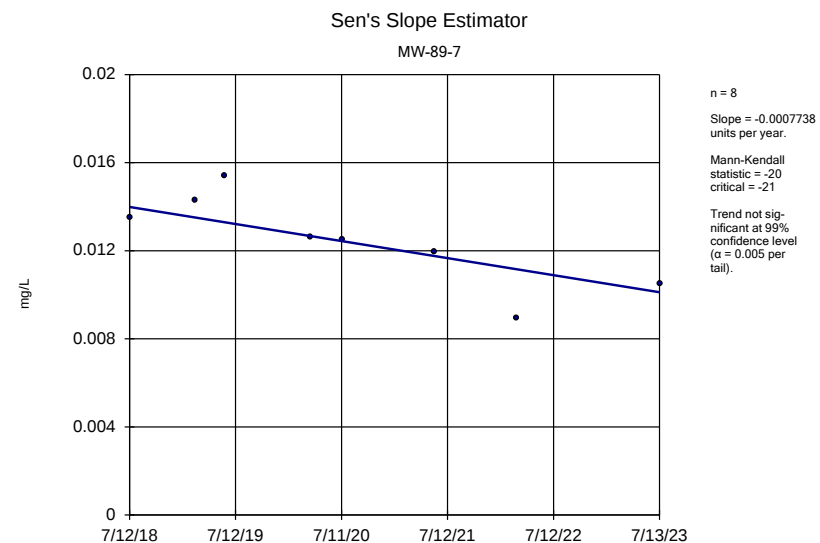
Constituent: Lead Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



Constituent: Nickel Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



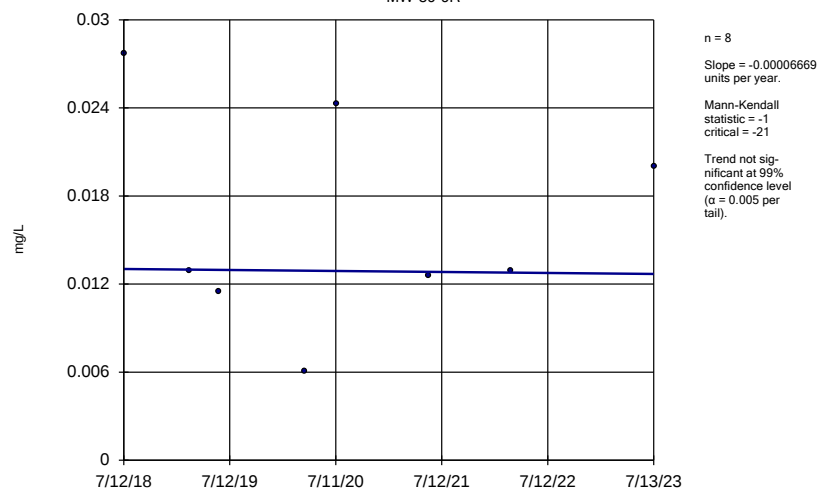
Constituent: Nickel Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



Constituent: Nickel Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Sen's Slope Estimator

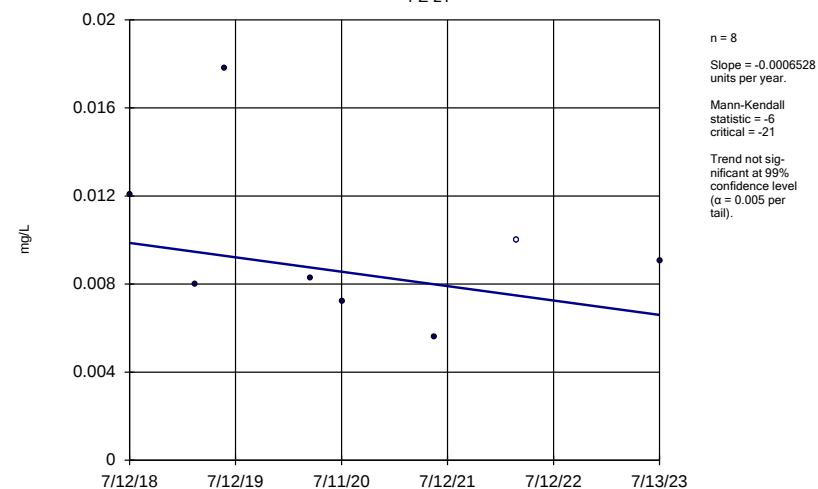
MW-89-9R



Constituent: Nickel Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Sen's Slope Estimator

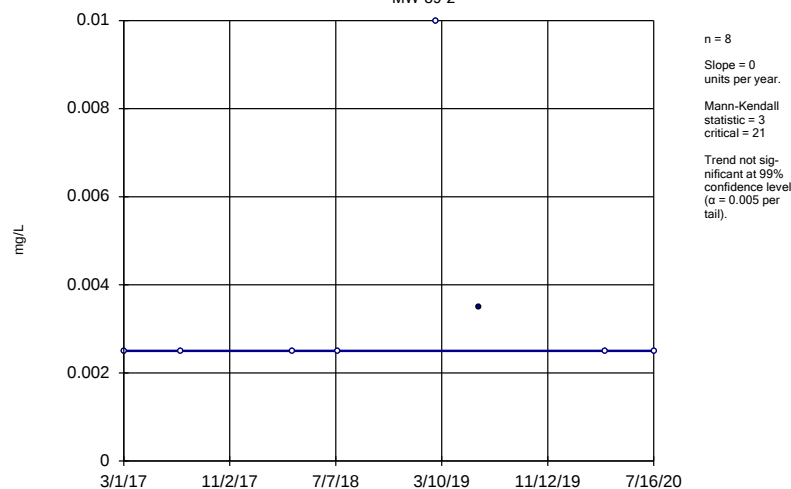
PZ-21



Constituent: Nickel Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Sen's Slope Estimator

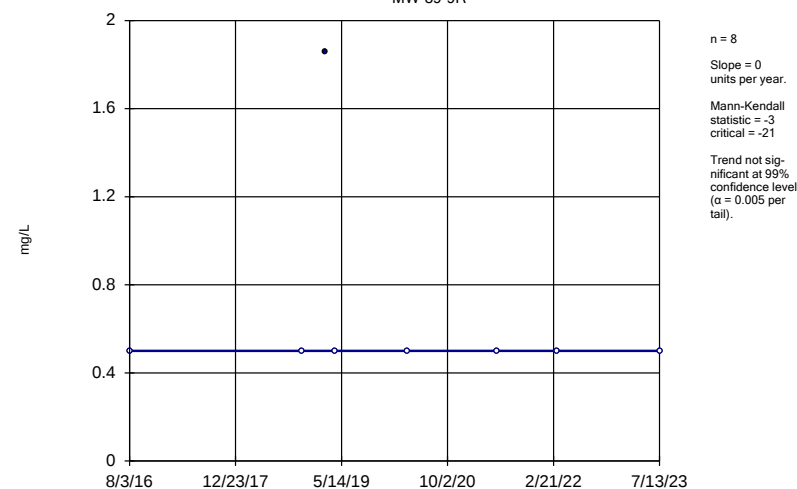
MW-89-2



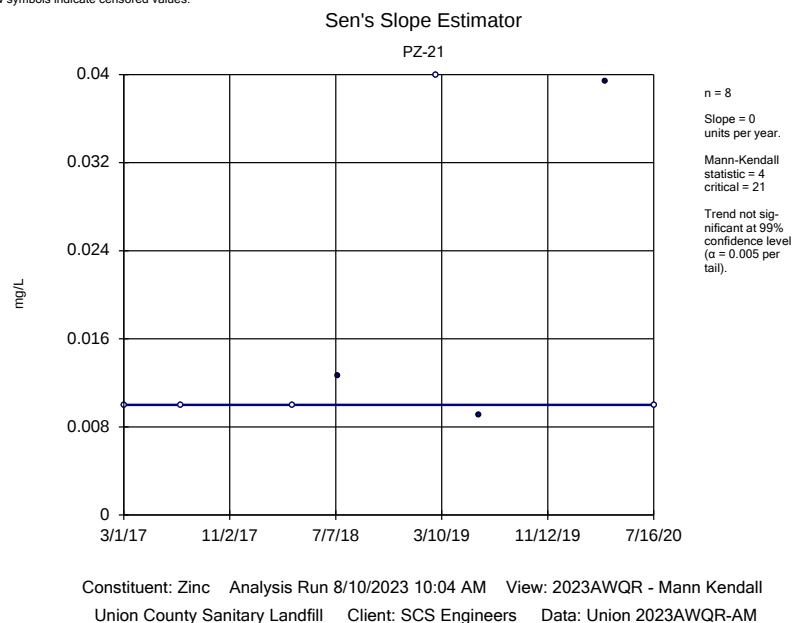
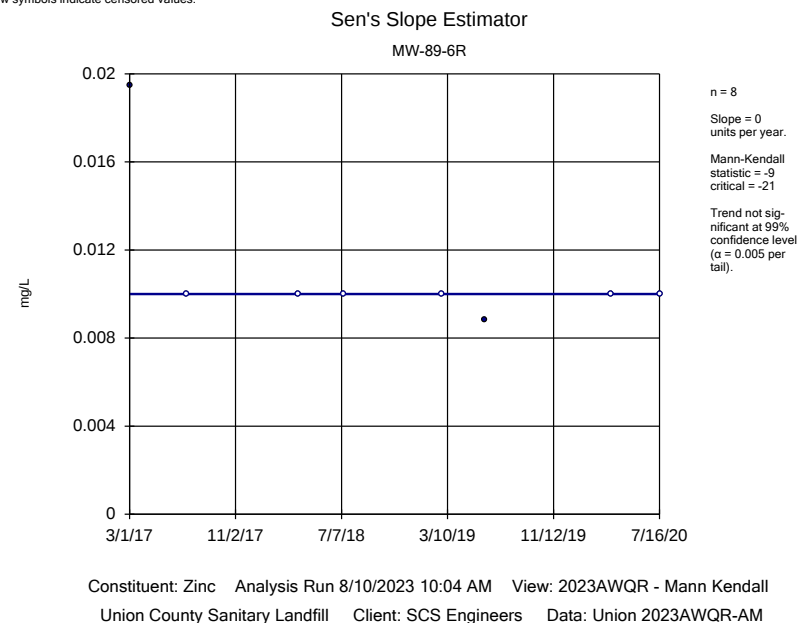
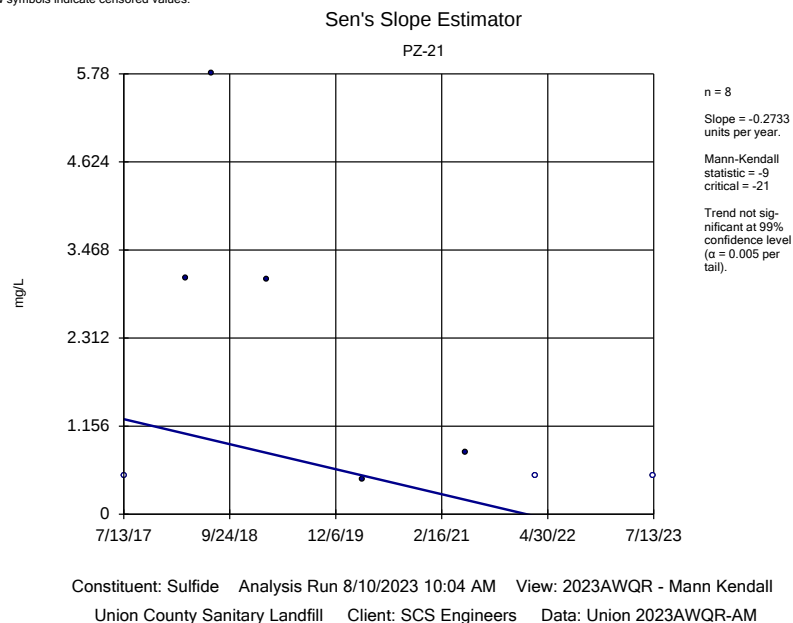
Constituent: Selenium Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Sen's Slope Estimator

MW-89-9R



Constituent: Sulfide Analysis Run 8/10/2023 10:04 AM View: 2023AWQR - Mann Kendall  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM





## Confidence Interval Summary Table and Graphs



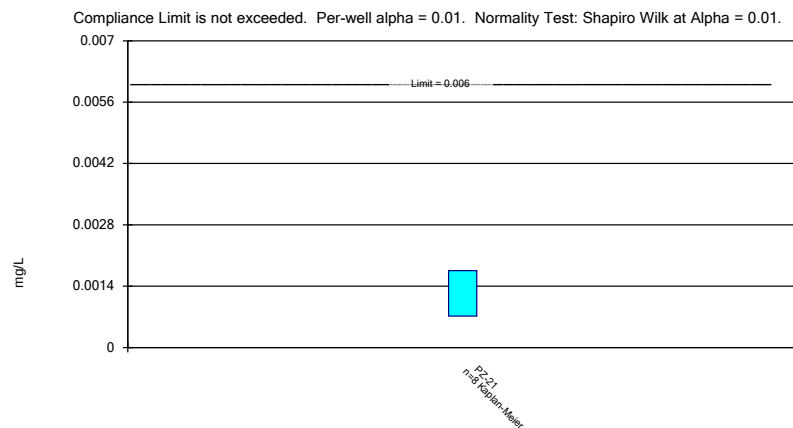
# Confidence Interval

Union County Sanitary Landfill   Client: SCS Engineers   Data: Union 2023AWQR-AM   Printed 8/10/2023, 10:18 AM

| <u>Constituent</u>            | <u>Well</u> | <u>Upper Lim.</u> | <u>Lower Lim.</u> | <u>Compliance</u> | <u>Sig.</u> | <u>N</u> | <u>%NDs</u> | <u>Transform</u> | <u>Alpha</u> | <u>Method</u>  |
|-------------------------------|-------------|-------------------|-------------------|-------------------|-------------|----------|-------------|------------------|--------------|----------------|
| Antimony (mg/L)               | PZ-21       | 0.001756          | 0.0007185         | 0.006             | No          | 8        | 37.5        | No               | 0.01         | Param.         |
| Arsenic (mg/L)                | MW-89-2     | 0.004             | 0.000767          | 0.01              | No          | 8        | 12.5        | No               | 0.004        | NP (normality) |
| Arsenic (mg/L)                | MW-89-6R    | 0.0212            | 0.000902          | 0.01              | No          | 8        | 37.5        | No               | 0.004        | NP (normality) |
| Arsenic (mg/L)                | MW-89-7     | 0.01215           | 0.004874          | 0.01              | No          | 8        | 0           | No               | 0.01         | Param.         |
| Arsenic (mg/L)                | MW-89-9R    | 0.006902          | 0.001164          | 0.01              | No          | 8        | 12.5        | No               | 0.01         | Param.         |
| Arsenic (mg/L)                | PZ-21       | 0.004             | 0.00086           | 0.01              | No          | 8        | 25          | No               | 0.004        | NP (normality) |
| Barium (mg/L)                 | MW-89-2     | 0.02656           | 0.01964           | 2                 | No          | 8        | 0           | No               | 0.01         | Param.         |
| Barium (mg/L)                 | MW-89-6R    | 0.3938            | 0.1877            | 2                 | No          | 8        | 0           | No               | 0.01         | Param.         |
| Barium (mg/L)                 | MW-89-9R    | 0.2437            | 0.09739           | 2                 | No          | 8        | 0           | No               | 0.01         | Param.         |
| Barium (mg/L)                 | PZ-21       | 0.01717           | 0.01314           | 2                 | No          | 8        | 0           | No               | 0.01         | Param.         |
| Beryllium (mg/L)              | PZ-21       | 0.00446           | 0.0005            | 0.004             | No          | 8        | 62.5        | No               | 0.004        | NP (NDs)       |
| Cadmium (mg/L)                | MW-89-6R    | 0.0002053         | 0.00007646        | 0.005             | No          | 8        | 12.5        | No               | 0.01         | Param.         |
| Carbon disulfide (ug/L)       | MW-89-2     | 1.46              | 0.401             | 700               | No          | 8        | 62.5        | No               | 0.004        | NP (NDs)       |
| Carbon disulfide (ug/L)       | PZ-21       | 0.7925            | 0.3301            | 700               | No          | 8        | 25          | No               | 0.01         | Param.         |
| cis-1,2-Dichloroethene (ug/L) | MW-89-9R    | 1.02              | 0.5               | 70                | No          | 8        | 62.5        | No               | 0.004        | NP (NDs)       |
| Cobalt (mg/L)                 | MW-89-2     | 0.0039            | 0.0001643         | 0.01651           | No          | 8        | 0           | No               | 0.01         | Param.         |
| Cobalt (mg/L)                 | MW-89-6R    | 0.0278            | 0.00728           | 0.01651           | No          | 8        | 0           | No               | 0.004        | NP (normality) |
| Cobalt (mg/L)                 | MW-89-7     | 0.008097          | 0.004363          | 0.01651           | No          | 8        | 0           | No               | 0.01         | Param.         |
| Cobalt (mg/L)                 | MW-89-9R    | 0.01948           | 0.001845          | 0.01651           | No          | 8        | 0           | No               | 0.01         | Param.         |
| Cobalt (mg/L)                 | PZ-21       | 0.003424          | 0.002221          | 0.01651           | No          | 8        | 0           | No               | 0.01         | Param.         |
| Copper (mg/L)                 | MW-89-2     | 0.01              | 0.00158           | 1.3               | No          | 8        | 75          | No               | 0.004        | NP (NDs)       |
| Copper (mg/L)                 | PZ-21       | 0.128             | 0.00208           | 1.3               | No          | 8        | 37.5        | No               | 0.004        | NP (normality) |
| Endrin aldehyde (ug/L)        | MW-89-6R    | 0.156             | 0.0165            | 2.1               | No          | 8        | 87.5        | No               | 0.004        | NP (NDs)       |
| Lead (mg/L)                   | PZ-21       | 0.0007695         | 0.00025           | 0.015             | No          | 8        | 50          | No               | 0.004        | NP (normality) |
| Nickel (mg/L)                 | MW-89-2     | 0.0188            | 0.0025            | 0.1               | No          | 8        | 25          | No               | 0.004        | NP (normality) |
| Nickel (mg/L)                 | MW-89-6R    | 0.0292            | 0.0103            | 0.1               | No          | 8        | 0           | No               | 0.004        | NP (normality) |
| Nickel (mg/L)                 | MW-89-7     | 0.01464           | 0.01028           | 0.1               | No          | 8        | 0           | No               | 0.01         | Param.         |
| Nickel (mg/L)                 | MW-89-9R    | 0.02371           | 0.008285          | 0.1               | No          | 8        | 0           | No               | 0.01         | Param.         |
| Nickel (mg/L)                 | PZ-21       | 0.01375           | 0.005756          | 0.1               | No          | 8        | 12.5        | No               | 0.01         | Param.         |
| Selenium (mg/L)               | MW-89-2     | 0.01              | 0.0025            | 0.05              | No          | 8        | 87.5        | No               | 0.004        | NP (NDs)       |
| Sulfide (mg/L)                | MW-89-9R    | 1.86              | 0.5               | 1                 | No          | 8        | 87.5        | No               | 0.004        | NP (NDs)       |
| Sulfide (mg/L)                | PZ-21       | 3.805             | -0.01553          | 1                 | No          | 8        | 37.5        | No               | 0.01         | Param.         |
| Zinc (mg/L)                   | MW-89-6R    | 0.01945           | 0.008845          | 2                 | No          | 8        | 75          | No               | 0.004        | NP (NDs)       |
| Zinc (mg/L)                   | PZ-21       | 0.04              | 0.00913           | 2                 | No          | 8        | 62.5        | No               | 0.004        | NP (NDs)       |

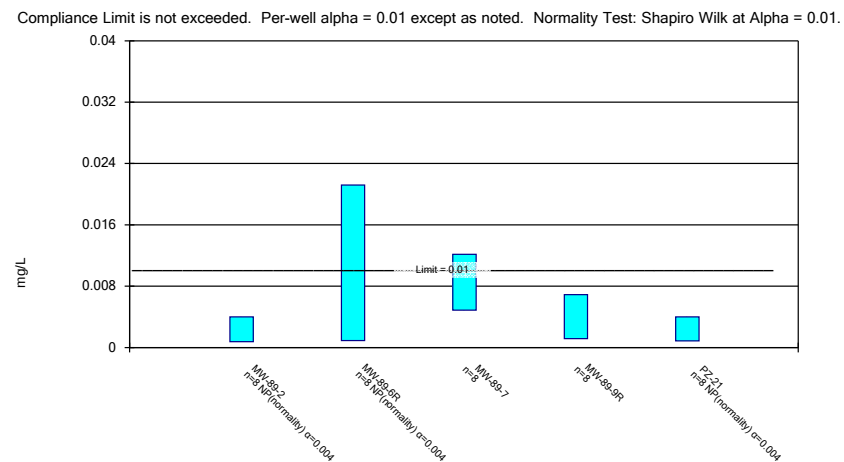


## Parametric Confidence Interval



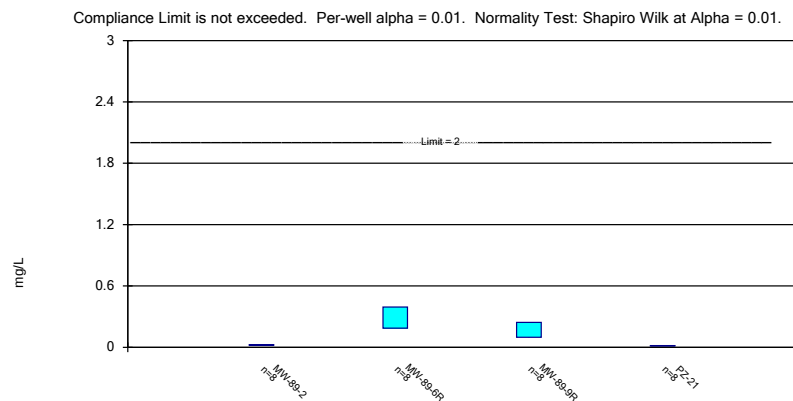
Constituent: Antimony Analysis Run 8/10/2023 10:17 AM View: 2023AWQR - Confidence Interval  
 Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Parametric and Non-Parametric (NP) Confidence Interval



Constituent: Arsenic Analysis Run 8/10/2023 10:17 AM View: 2023AWQR - Confidence Interval  
 Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Parametric Confidence Interval



Constituent: Barium Analysis Run 8/10/2023 10:17 AM View: 2023AWQR - Confidence Interval  
 Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Non-Parametric Confidence Interval



Constituent: Beryllium Analysis Run 8/10/2023 10:17 AM View: 2023AWQR - Confidence Interval  
 Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Parametric Confidence Interval

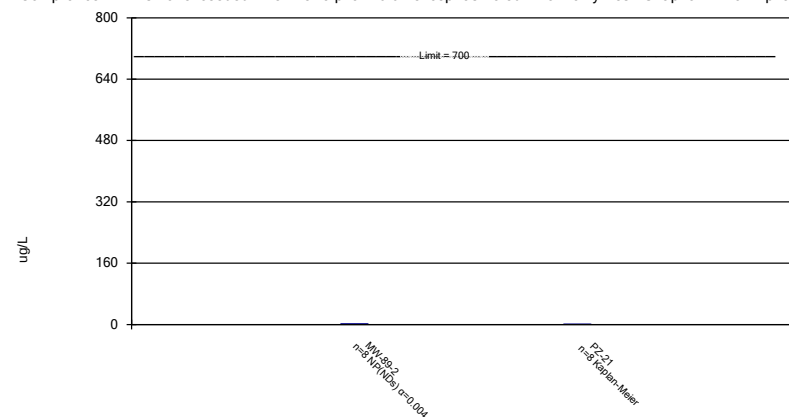
Compliance Limit is not exceeded. Per-well alpha = 0.01. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Cadmium Analysis Run 8/10/2023 10:17 AM View: 2023AWQR - Confidence Interval  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Parametric and Non-Parametric (NP) Confidence Interval

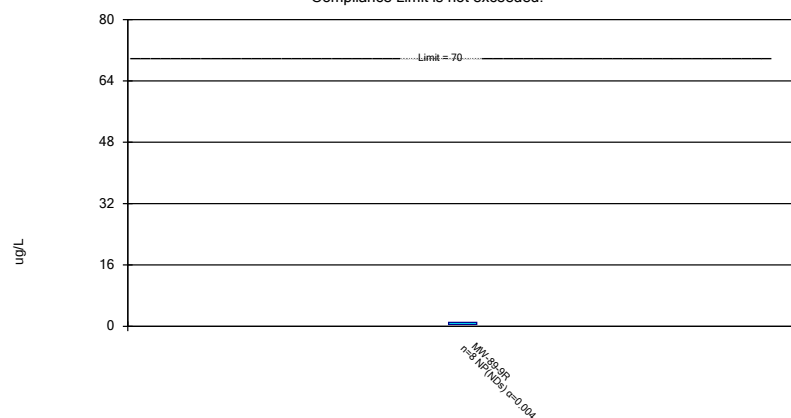
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Carbon disulfide Analysis Run 8/10/2023 10:17 AM View: 2023AWQR - Confidence Interval  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Non-Parametric Confidence Interval

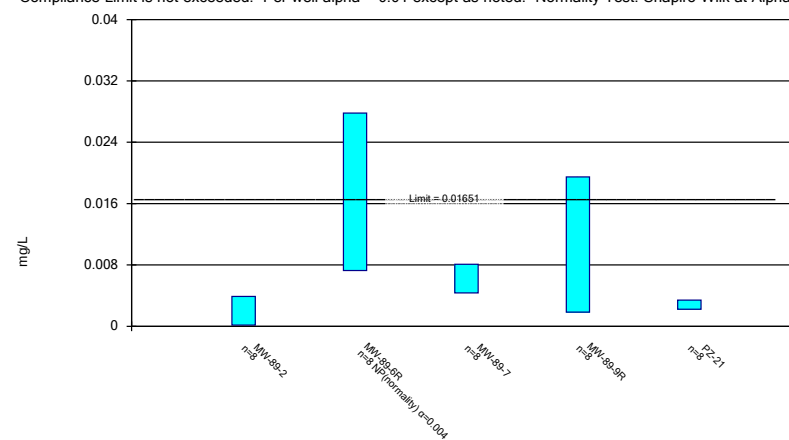
Compliance Limit is not exceeded.



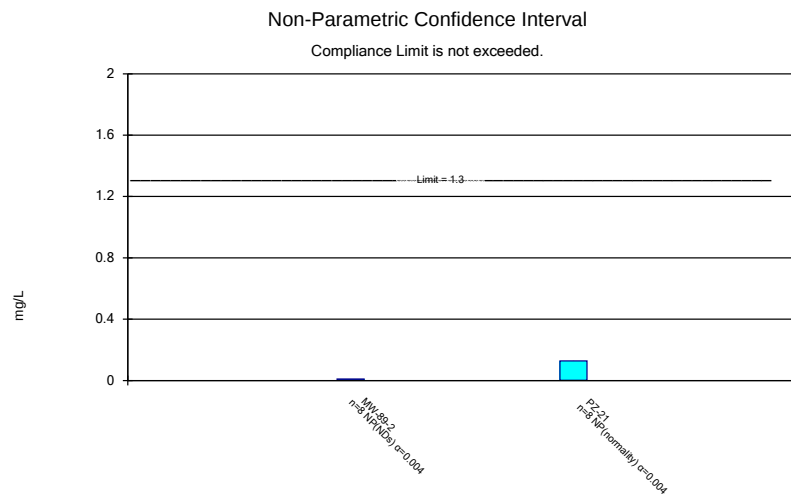
Constituent: cis-1,2-Dichloroethene Analysis Run 8/10/2023 10:17 AM View: 2023AWQR - Confidence Int  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Parametric and Non-Parametric (NP) Confidence Interval

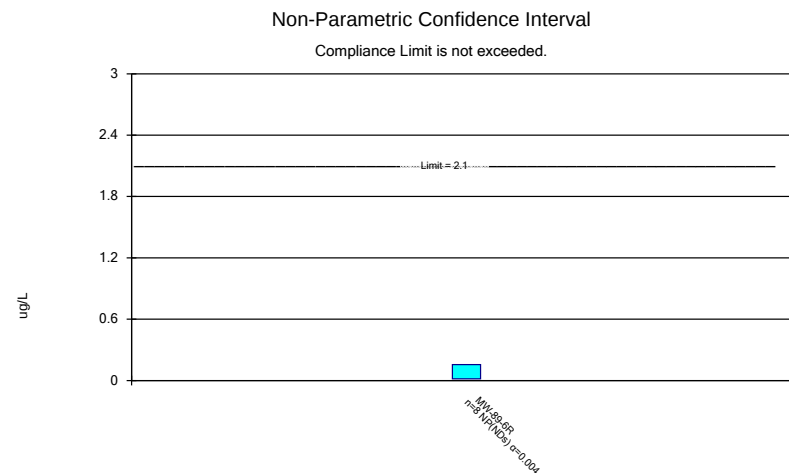
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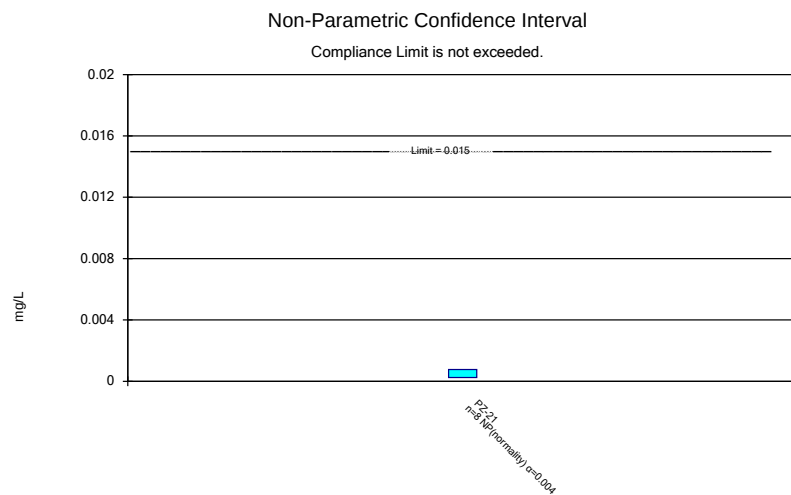
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Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM



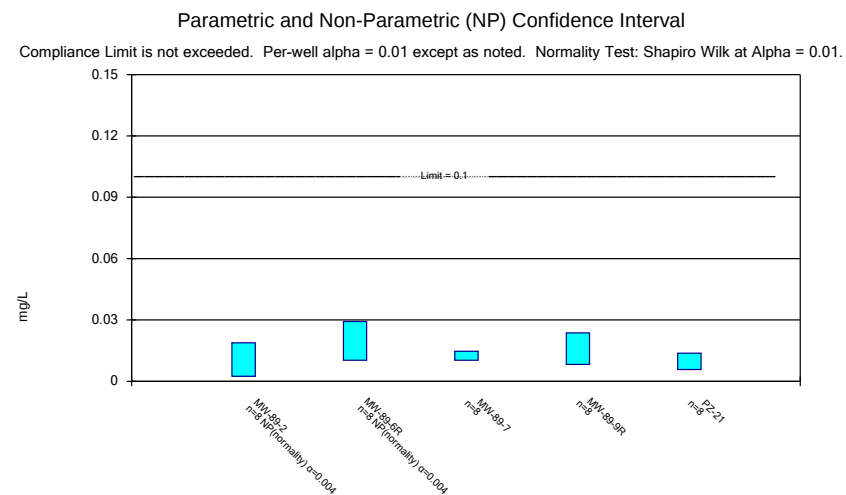
Constituent: Copper    Analysis Run 8/10/2023 10:17 AM    View: 2023AWQR - Confidence Interval  
Union County Sanitary Landfill    Client: SCS Engineers    Data: Union 2023AWQR-AM



Constituent: Endrin aldehyde    Analysis Run 8/10/2023 10:17 AM    View: 2023AWQR - Confidence Interval  
Union County Sanitary Landfill    Client: SCS Engineers    Data: Union 2023AWQR-AM



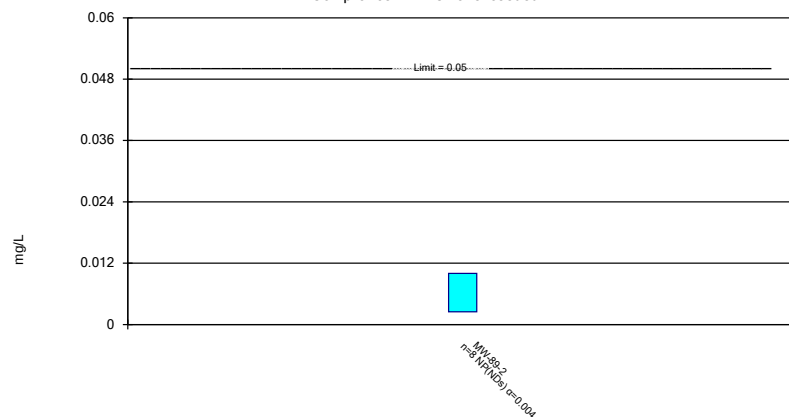
Constituent: Lead    Analysis Run 8/10/2023 10:17 AM    View: 2023AWQR - Confidence Interval  
Union County Sanitary Landfill    Client: SCS Engineers    Data: Union 2023AWQR-AM



Constituent: Nickel    Analysis Run 8/10/2023 10:17 AM    View: 2023AWQR - Confidence Interval  
Union County Sanitary Landfill    Client: SCS Engineers    Data: Union 2023AWQR-AM

## Non-Parametric Confidence Interval

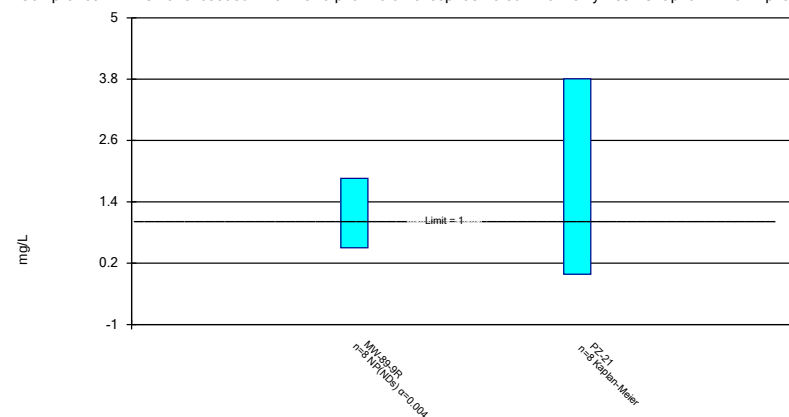
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Constituent: Selenium Analysis Run 8/10/2023 10:17 AM View: 2023AWQR - Confidence Interval  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Parametric and Non-Parametric (NP) Confidence Interval

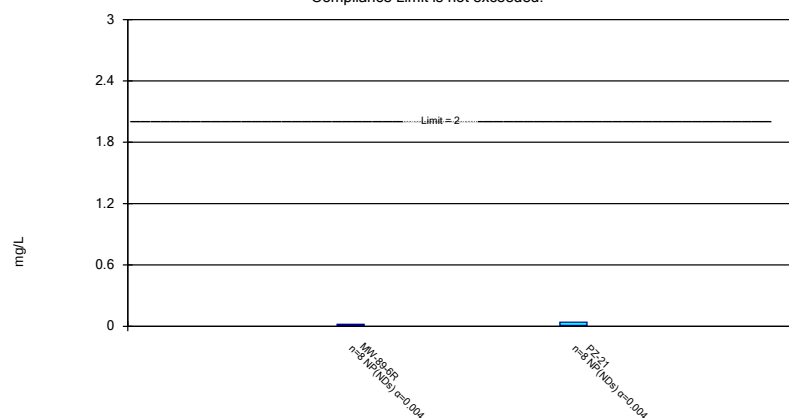
Compliance Limit is not exceeded. Per-well alpha = 0.01 except as noted. Normality Test: Shapiro Wilk at Alpha = 0.01.



Constituent: Sulfide Analysis Run 8/10/2023 10:17 AM View: 2023AWQR - Confidence Interval  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## Non-Parametric Confidence Interval

Compliance Limit is not exceeded.



Constituent: Zinc Analysis Run 8/10/2023 10:17 AM View: 2023AWQR - Confidence Interval  
Union County Sanitary Landfill Client: SCS Engineers Data: Union 2023AWQR-AM

## **Theil-Sen Confidence Bands Summary Table and Graphs**

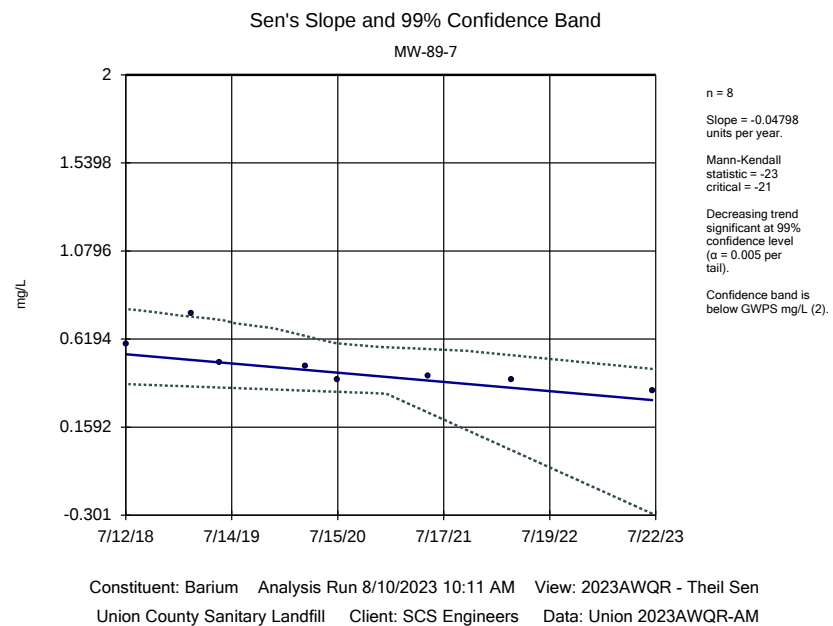


# Theil Sen/Trend Test

Union County Sanitary Landfill    Client: SCS Engineers    Data: Union 2023AWQR-AM    Printed 8/10/2023, 10:12 AM

| <u>Constituent</u> | <u>Well</u> | <u>Slope</u> | <u>Calc.</u> | <u>Critical</u> | <u>Sig.</u> | <u>N</u> | <u>%NDs</u> | <u>Alpha</u> | <u>Method</u> |
|--------------------|-------------|--------------|--------------|-----------------|-------------|----------|-------------|--------------|---------------|
| Barium (mg/L)      | MW-89-7     | -0.04798     | -23          | -21             | Yes         | 8        | 0           | 0.01         | NP            |

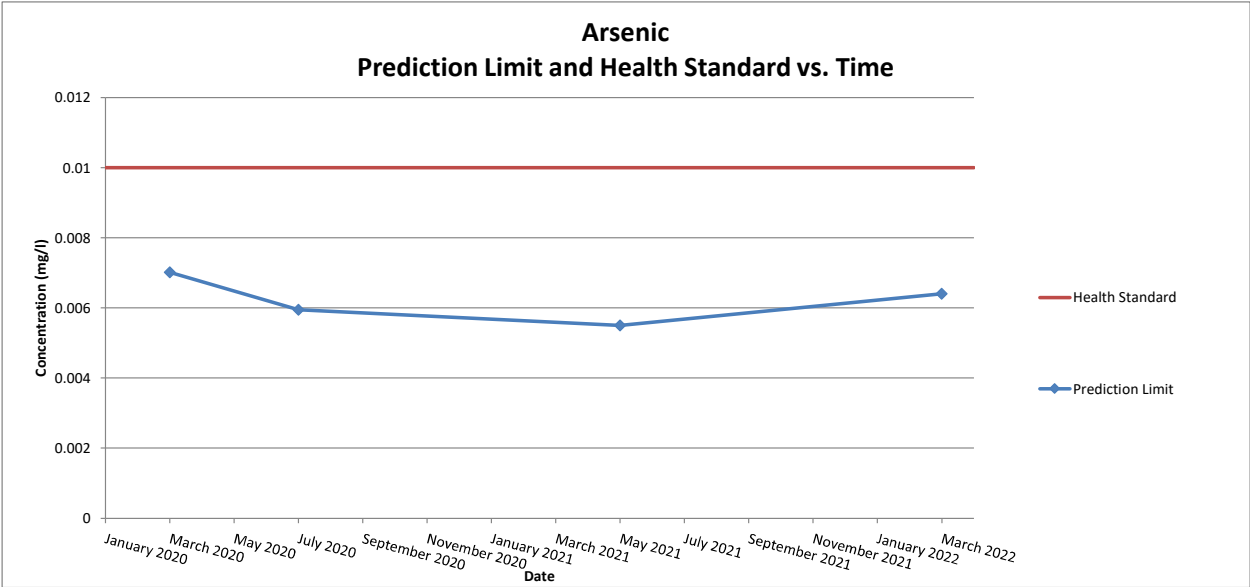
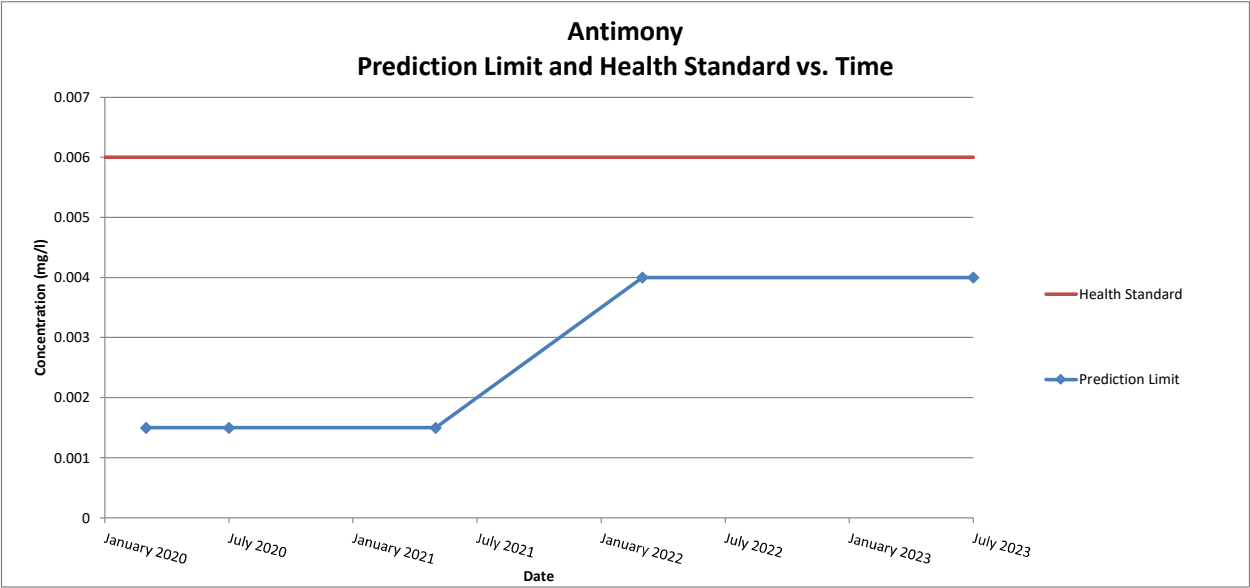


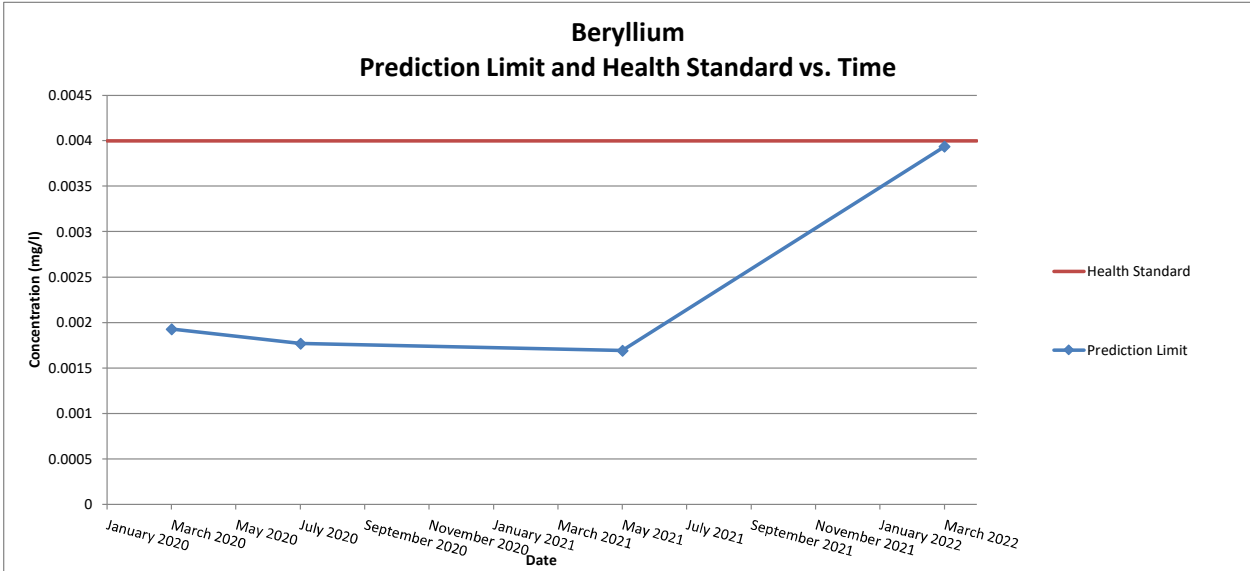
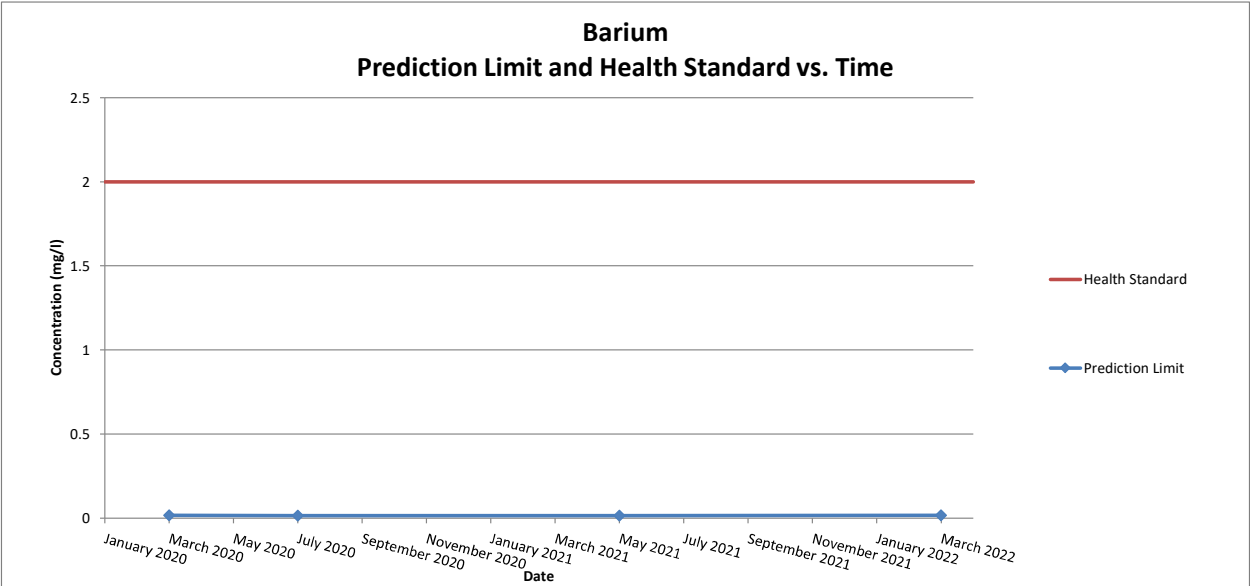




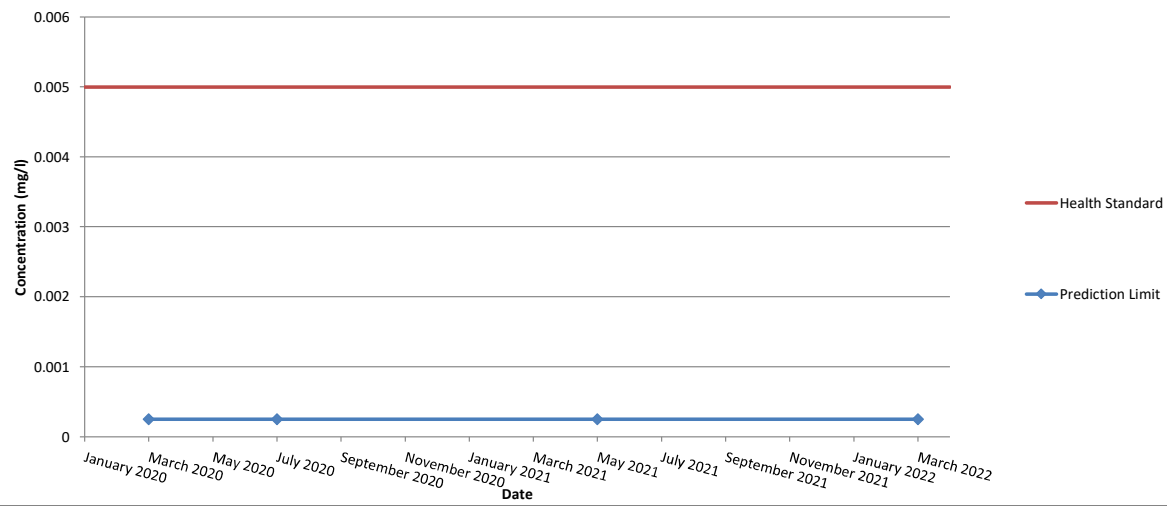
**Appendix E**  
**Standards History Graphs**



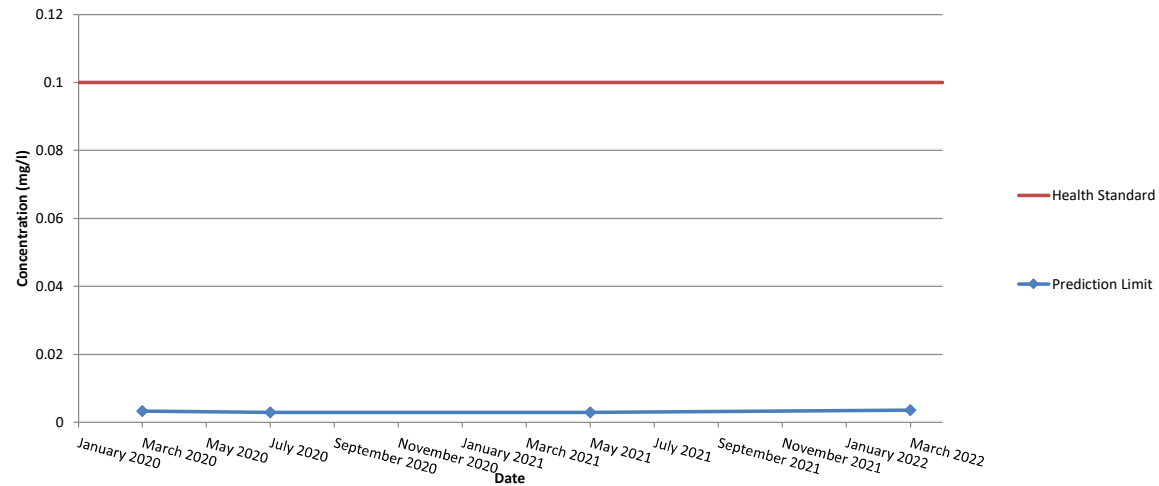


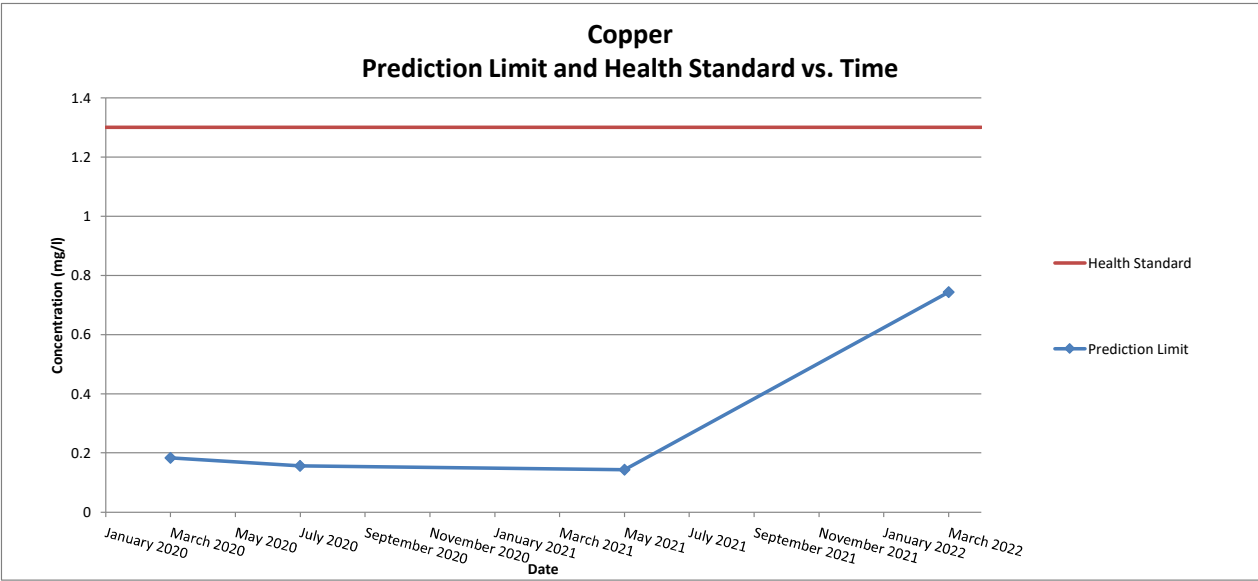
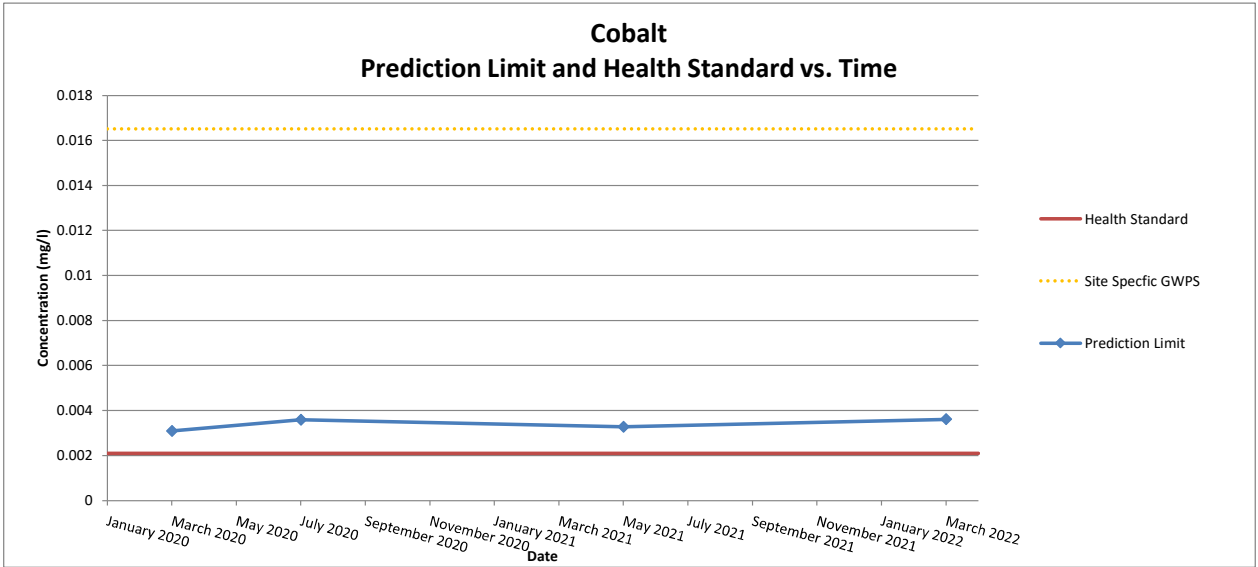


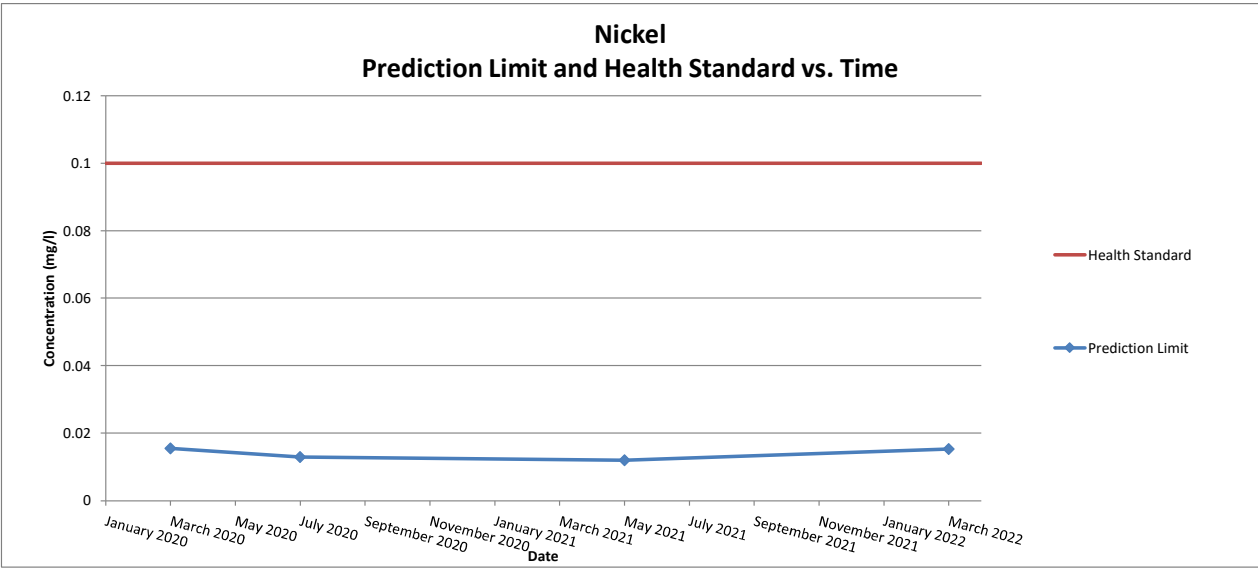
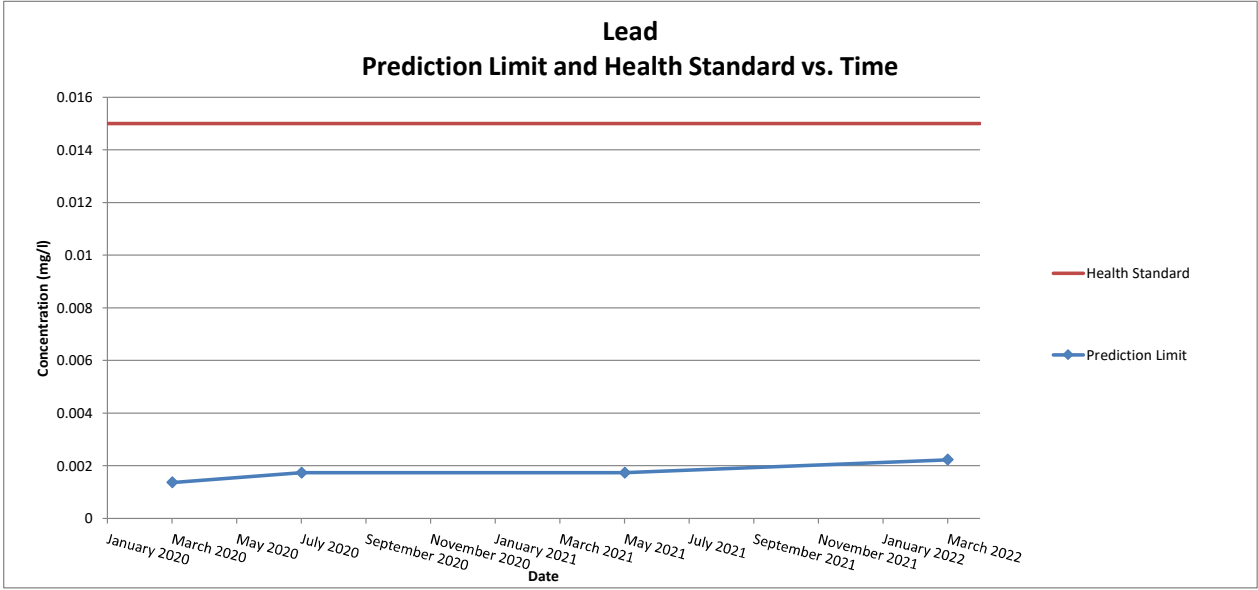
**Cadmium**  
**Prediction Limit and Health Standard vs. Time**

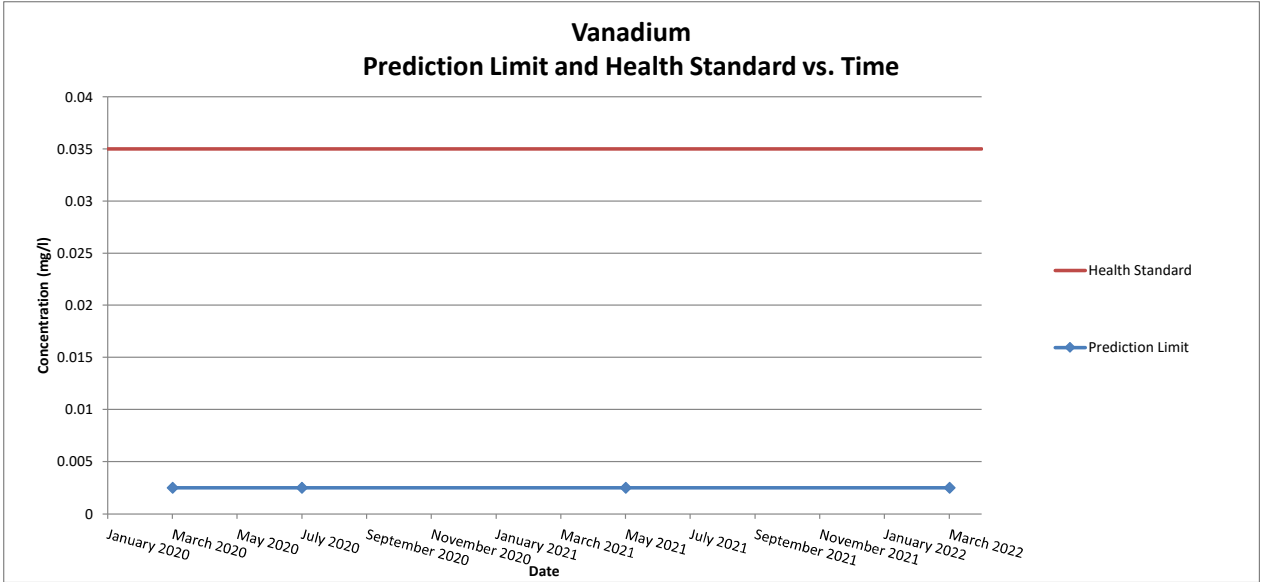
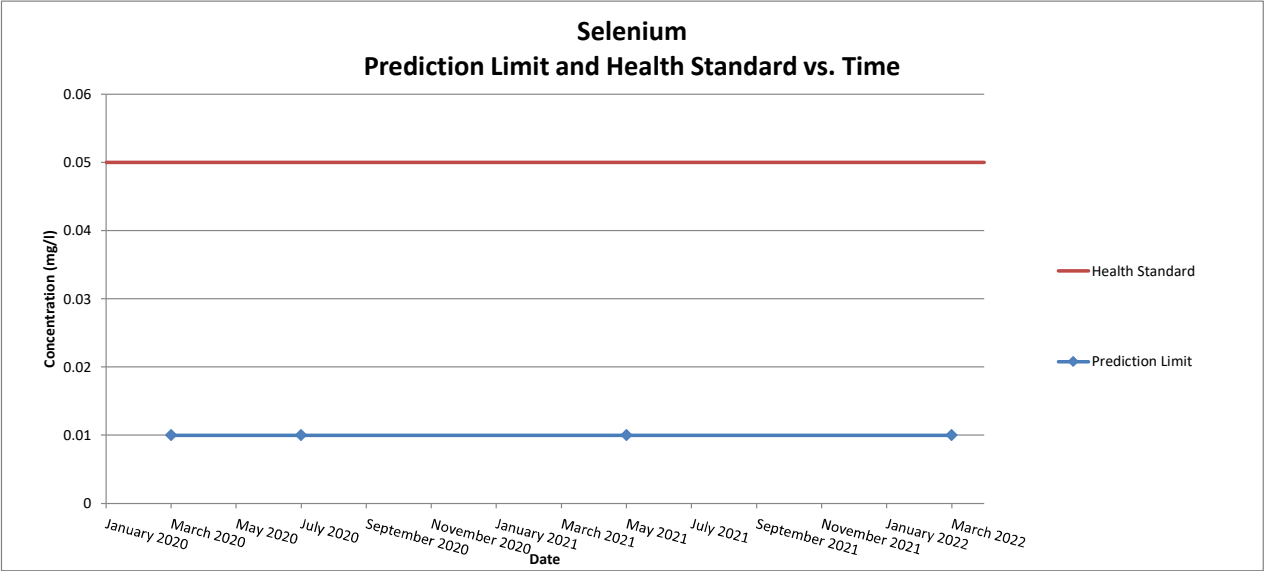


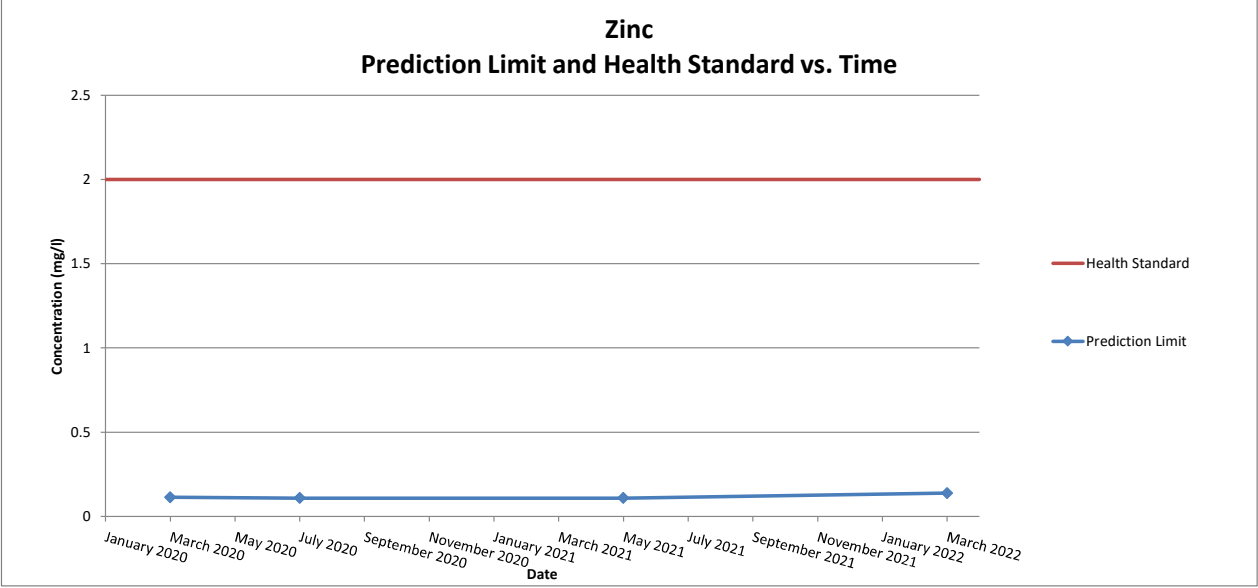
**Chromium**  
**Prediction Limit and Health Standard vs. Time**













**Appendix F**  
**Leachate Control System Performance Evaluation Report**





**Leachate Management Summary**  
**2023 Leachate Control System Performance Evaluation Report**  
**Union County Sanitary Landfill**  
**Permit No. 88-SDP-01-79C**

| Date                               | Column Thickness (ft) |        |        |       | Discharged to<br>Corning POTW (gal) | Precipitation<br>(in) |
|------------------------------------|-----------------------|--------|--------|-------|-------------------------------------|-----------------------|
|                                    | LPZ-2R                | LPZ-4R | LPZ-5R | LPZ-6 |                                     |                       |
| 4/2022                             |                       |        |        |       |                                     | 2.25                  |
| 5/2022                             |                       |        |        |       |                                     | 2.75                  |
| 6/2022                             |                       |        |        |       | 40,228                              | 1.31                  |
| 7/2022                             |                       |        |        |       | 563,339                             | 1.87                  |
| 8/2022                             | 8.1                   | 10.5   | 19.3   | 24.9  |                                     | 0.06                  |
| 9/2022                             |                       |        |        |       |                                     | 0.1                   |
| 10/2022                            |                       |        |        |       |                                     | NA                    |
| 11/2022                            |                       |        |        |       |                                     | 0.16                  |
| 12/2022                            |                       |        |        |       |                                     | 1.23                  |
| 1/2023                             |                       |        |        |       |                                     | 0.87                  |
| 2/2023                             |                       |        |        |       |                                     | 2.18                  |
| 3/2023                             |                       |        |        |       |                                     | 0.76                  |
| 4/2023                             |                       |        |        |       |                                     | 3.67                  |
| 5/2023                             |                       |        |        |       |                                     | 0.81                  |
| 6/2023                             |                       |        |        |       | 279,115                             | NA                    |
| 7/2023                             | 8.1                   | 10.5   | 19.3   | 24.9  | 259,294                             | 0.62                  |
| 8/2023                             |                       |        |        |       |                                     | 5.58                  |
| 9/2023                             |                       |        |        |       |                                     | 0.8                   |
| 10/2023                            |                       |        |        |       |                                     | 2.91                  |
| 11/2023                            | 9.7                   | 10.3   | 19.4   | 24.5  |                                     | NA                    |
| <b>2023 Reporting Period Total</b> |                       |        |        |       | <b>1,141,976</b>                    | <b>27.93</b>          |

NA - Not available.

**Comments:**

**Reporting Period:** April 2022 - November 2023

**Recommended Changes to Leachate Collection System:** None.

**Maintenance Performed on Leachate Collection System:** None.

**Last Date of Cleaning and Inspection:** October 2021.

**Date for Next Cleaning and Inspection:** Leachate line cleaning and inspection will be performed next in 2024.

**Volume of Leachate Recirculated:** Leachate is not recirculated.

**Volume of Leachate Treated On-Site:** Leachate is not treated on-site.

**Volume of Leachate Treated Off-Site:** 1,141,976 gallons of leachate were hauled to the City of Corning POTW during this reporting period.

**Leachate Quality Testing Results:** Leachate sampling results are attached.

Precipitation data from the Iowa State University Iowa Environmental Mesonet ([https://mesonet.agron.iastate.edu/ASOS/reports/mon\\_prec.php?](https://mesonet.agron.iastate.edu/ASOS/reports/mon_prec.php?))

Historical leachate levels and graphs are available in Attachment A.

**Notes:**

- 1) The closure permit issued July 2, 2008 (Document #25637) requires semi-annual leachate measurements of leachate head levels and elevations.
- 2) Thicknesses remained generally stable and consistent with historical measurements, although an increase in column thickness was noted in LPZ-6.

ATTACHMENT A  
UNION COUNTY SANITARY LANDFILL (CLOSED)  
HISTORICAL LEACHATE COLUMN THICKNESSES

| Piezometer  | LPZ-2                                         |                   |                     | LPZ-4                |                   |                     | LPZ-5                |                   |                     | LPZ-6                |                   |                     |
|-------------|-----------------------------------------------|-------------------|---------------------|----------------------|-------------------|---------------------|----------------------|-------------------|---------------------|----------------------|-------------------|---------------------|
| Total Depth | 46.1                                          |                   |                     | 29.9                 |                   |                     | 42.7                 |                   |                     | 44.2                 |                   |                     |
|             | DEPTH TO<br>LEACHATE                          | MEASURED<br>DEPTH | COLUMN<br>THICKNESS | DEPTH TO<br>LEACHATE | MEASURED<br>DEPTH | COLUMN<br>THICKNESS | DEPTH TO<br>LEACHATE | MEASURED<br>DEPTH | COLUMN<br>THICKNESS | DEPTH TO<br>LEACHATE | MEASURED<br>DEPTH | COLUMN<br>THICKNESS |
| 11/19/2003  | 12.60                                         | NA                | 33.5                | 4.80                 | NA                | 25.1                | 11.15                | NA                | 31.6                | 31.60                | NA                | 12.6                |
| 12/31/2003  | 11.66                                         | 42.5              | 34.4                | 4.40                 | 30.0              | 25.5                | 17.60                | 42.1              | 25.1                | 28.75                | 44.0              | 15.5                |
| 2/10/2004   | 13.10                                         | 44.2              | 33.0                | NA                   | NA                | NA                  | NA                   | NA                | NA                  | NA                   | NA                | NA                  |
| 3/9/2004    | 12.80                                         | 43.0              | 33.3                | 4.90                 | 29.8              | 25.0                | 18.80                | 43.0              | 23.9                | 26.30                | 44.5              | 17.9                |
| 4/8/2004    | NA                                            | NA                | NA                  | 4.70                 | 29.6              | 25.2                | 19.50                | 43.2              | 23.2                | 25.10                | 44.2              | 19.1                |
| 5/11/2004   | NA                                            | NA                | NA                  | 5.00                 | 29.6              | 24.9                | 19.50                | 43.3              | 23.2                | 25.80                | 44.3              | 18.4                |
| 6/3/2004    | NA                                            | NA                | NA                  | 4.70                 | 29.6              | 25.2                | 19.50                | 43.0              | 23.2                | 28.30                | 44.3              | 15.9                |
| 7/6/2004    | NA                                            | NA                | NA                  | 4.70                 | 29.6              | 25.2                | 17.70                | 42.5              | 25.0                | 29.00                | 44.2              | 15.2                |
| 8/11/2004   | 10.80                                         | 48.9              | 35.3                | 4.60                 | 29.9              | 25.3                | 19.20                | 42.5              | 23.5                | 26.00                | 44.3              | 18.2                |
| 9/21/2004   | 18.40                                         | 48.8              | 27.7                | 2.50                 | 31.8              | 27.4                | 19.60                | 42.8              | 23.1                | 24.90                | 44.0              | 19.3                |
| 10/22/2004  | 18.20                                         | 49.0              | 27.9                | 4.80                 | 29.9              | 25.1                | 19.20                | 42.5              | 23.5                | 22.80                | 44.3              | 21.4                |
| 1/31/2005   | 16.10                                         | NA                | 30.0                | 4.50                 | NA                | 25.4                | 20.20                | NA                | 22.5                | 19.20                | NA                | NA                  |
| 9/20/2005   | 11.93                                         | 16.7              | 34.2                | 11.93                | 16.7              | 18.0                | 11.93                | 16.7              | 30.8                | 11.93                | 16.7              | 32.3                |
| 3/7/2006    | 9.25                                          | 17.3              | 36.9                | 9.25                 | 17.3              | 20.7                | 9.25                 | 17.3              | 33.5                | 9.25                 | 17.3              | 35.0                |
| 9/20/2006   | 8.80                                          | 17.8              | 37.3                | 8.80                 | 17.8              | 21.1                | 8.80                 | 17.8              | 33.9                | 8.80                 | 17.8              | 35.4                |
| 3/20/2007   | 6.80                                          | 17.8              | 39.3                | 6.80                 | 17.8              | 23.1                | 6.80                 | 17.8              | 35.9                | 6.80                 | 17.8              | 37.4                |
| 9/7/2007    | 7.10                                          | 17.8              | 39.0                | 7.10                 | 17.8              | 22.8                | 7.10                 | 17.8              | 35.6                | 7.10                 | 17.8              | 37.1                |
| 3/4/2008    | NA                                            | 25.9              | NA                  | NA                   | 4.9               | NA                  | NA                   | 14.5              | NA                  | 21.85                | 43.9              | 22.4                |
| 9/15/2008   | NA                                            | 25.6              | NA                  | NA                   | 4.7               | NA                  | NA                   | 14.0              | NA                  | 26.60                | 34.3              | 17.6                |
| 3/24/2009   | NA                                            | 25.8              | NA                  | NA                   | 5.0               | NA                  | NA                   | 14.4              | NA                  | 23.00                | 34.3              | 21.2                |
| 9/9/2009    | Dry                                           | 25.6              | NA                  | Dry                  | 5.1               | NA                  | Dry                  | 14.4              | NA                  | 24.22                | 38.6              | 20.0                |
| 3/3/2010    | Dry                                           | 25.0              | NA                  | NA                   | NA                | NA                  | Dry                  | 14.7              | NA                  | 29.64                | 38.2              | 14.6                |
| 9/29/2010   | Dry                                           | 25.0              | NA                  | Dry                  | 5.9               | NA                  | Dry                  | 14.0              | NA                  | 28.11                | 38.2              | 16.1                |
| 3/25/2011   | NM                                            | NM                | NA                  | NM                   | NM                | NA                  | NM                   | NM                | NA                  | NM                   | NM                | NA                  |
| 9/1/2011    | NM                                            | NM                | NA                  | NM                   | NM                | NA                  | NM                   | NM                | NA                  | 24.31                | 34.2              | 19.9                |
| 11/1/2011   | LPZ-1R, LPZ-2R, LPZ-4R, and LPZ-5R installed. |                   |                     |                      |                   |                     |                      |                   |                     |                      |                   |                     |
| Piezometer  | LPZ-2R                                        |                   |                     | LPZ-4R               |                   |                     | LPZ-5R               |                   |                     | LPZ-6                |                   |                     |
| Total Depth | 49.9                                          |                   |                     | 38.0                 |                   |                     | 44.8                 |                   |                     | 44.2                 |                   |                     |
|             | DEPTH TO<br>LEACHATE                          | MEASURED<br>DEPTH | COLUMN<br>THICKNESS | DEPTH TO<br>LEACHATE | MEASURED<br>DEPTH | COLUMN<br>THICKNESS | DEPTH TO<br>LEACHATE | MEASURED<br>DEPTH | COLUMN<br>THICKNESS | DEPTH TO<br>LEACHATE | MEASURED<br>DEPTH | COLUMN<br>THICKNESS |
| 2/27/2012   | 20.00                                         | 49.8              | 29.9                | 21.89                | 40.1              | 16.1                | 18.59                | 43.5              | 26.2                | 14.57                | 44.0              | 29.6                |
| 10/18/2012  | 22.71                                         | 49.7              | 27.2                | 23.75                | 38.1              | 14.3                | 23.75                | 44.6              | 21.1                | 20.00                | 44.1              | 24.2                |
| 4/24/2013   | 42.06                                         | 49.7              | 7.8                 | 27.25                | 38.0              | 10.8                | 27.75                | 44.4              | 17.1                | 28.70                | 43.9              | 15.5                |
| 10/2/2013   | NA                                            | NA                | NA                  | 29.73                | 38.3              | 8.3                 | 27.85                | 44.4              | 17.0                | 30.15                | 43.9              | 14.1                |
| 9/22/2014   | 43.25                                         | 49.5              | 6.7                 | NM                   | NM                | NA                  | 26.12                | 44.3              | 18.7                | NM                   | NM                | NA                  |
| 11/13/2014  | 43.10                                         | 49.6              | 6.8                 | 28.70                | 38.7              | 9.3                 | 26.90                | 44.2              | 17.9                | 25.90                | 34.3              | 18.3                |
| 4/6/2015    | 42.25                                         | 49.7              | 7.7                 | 28.20                | 37.7              | 9.8                 | 26.80                | 44.4              | 18.0                | 25.50                | 34.4              | 18.7                |
| 9/3/2015    | 42.60                                         | 49.7              | 7.3                 | 27.49                | 37.7              | 10.5                | 26.04                | 44.3              | 18.8                | 25.68                | 34.3              | 18.5                |
| 2/18/2016   | 42.62                                         | 49.8              | 7.3                 | 27.81                | 37.8              | 10.2                | 26.71                | 44.4              | 18.1                | 25.80                | 34.3              | 18.4                |
| 8/3/2016    | 42.80                                         | 49.9              | 7.1                 | 26.90                | 37.7              | 11.1                | 25.95                | 44.3              | 18.9                | 25.35                | 44.3              | 18.9                |
| 6/29/2017   | 43.02                                         | 49.7              | 6.9                 | 28.32                | 37.7              | 9.7                 | 25.40                | 44.4              | 19.4                | 26.42                | 44.3              | 17.8                |
| 9/5/2017    | 43.47                                         | 49.7              | 6.4                 | 28.72                | 37.7              | 9.3                 | 27.14                | 44.4              | 17.7                | 25.87                | 44.3              | 18.3                |
| 3/28/2018   | 40.92                                         | 49.7              | 9.0                 | 28.21                | 37.6              | 9.8                 | 27.50                | 44.4              | 17.3                | 27.05                | 34.3              | 17.2                |
| 7/12/2018   | 41.07                                         | 49.7              | 8.8                 | 28.34                | 37.6              | 9.7                 | 27.20                | 44.4              | 17.6                | 27.18                | 34.3              | 17.0                |
| 2/25/2019   | 41.30                                         | 49.7              | 8.6                 | 27.50                | 37.6              | 10.5                | 26.20                | 44.4              | 18.6                | 27.50                | 34.3              | 16.7                |
| 6/4/2019    | 40.70                                         | 49.7              | 9.2                 | 26.33                | 37.6              | 11.7                | 24.93                | 44.4              | 19.8                | 25.73                | 34.3              | 18.5                |
| 3/25/2020   | 40.45                                         | 49.6              | 9.5                 | 27.74                | 37.7              | 10.3                | 25.86                | 44.3              | 18.9                | 27.59                | 34.3              | 16.6                |
| 7/16/2020   | 41.53                                         | 50.6              | 8.4                 | 27.87                | 37.6              | 10.1                | 25.79                | 44.3              | 19.0                | 26.64                | 34.3              | 17.6                |
| 5/26/2021   | 41.05                                         | 49.4              | 8.9                 | 27.93                | 34.6              | 10.1                | 24.04                | 24.8              | 20.8                | 27.12                | 34.3              | 17.1                |
| 8/3/2021    | 41.28                                         | 49.5              | 8.6                 | 27.71                | 37.6              | 10.3                | 25.21                | 44.3              | 19.6                | 25.37                | 34.3              | 18.8                |
| 3/9/2022    | 42.08                                         | 49.5              | 7.8                 | 28.10                | 37.6              | 9.9                 | 27.00                | 44.2              | 17.8                | 23.77                | 34.3              | 20.4                |
| 8/2/2022    | 41.79                                         | 49.4              | 8.1                 | 27.50                | 37.6              | 10.5                | 25.51                | 44.3              | 19.3                | 19.31                | 34.3              | 24.9                |
| 7/13/2023   | 41.88                                         | 49.5              | 8.0                 | 27.95                | 37.6              | 10.1                | 26.95                | 44.3              | 17.9                | 23.70                | 34.3              | 20.5                |
| 11/1/2023   | 40.23                                         | 49.3              | 9.7                 | 27.75                | 37.6              | 10.3                | 25.42                | 44.2              | 19.4                | 19.71                | 34.3              | 24.5                |

Notes:

All measurements in feet.

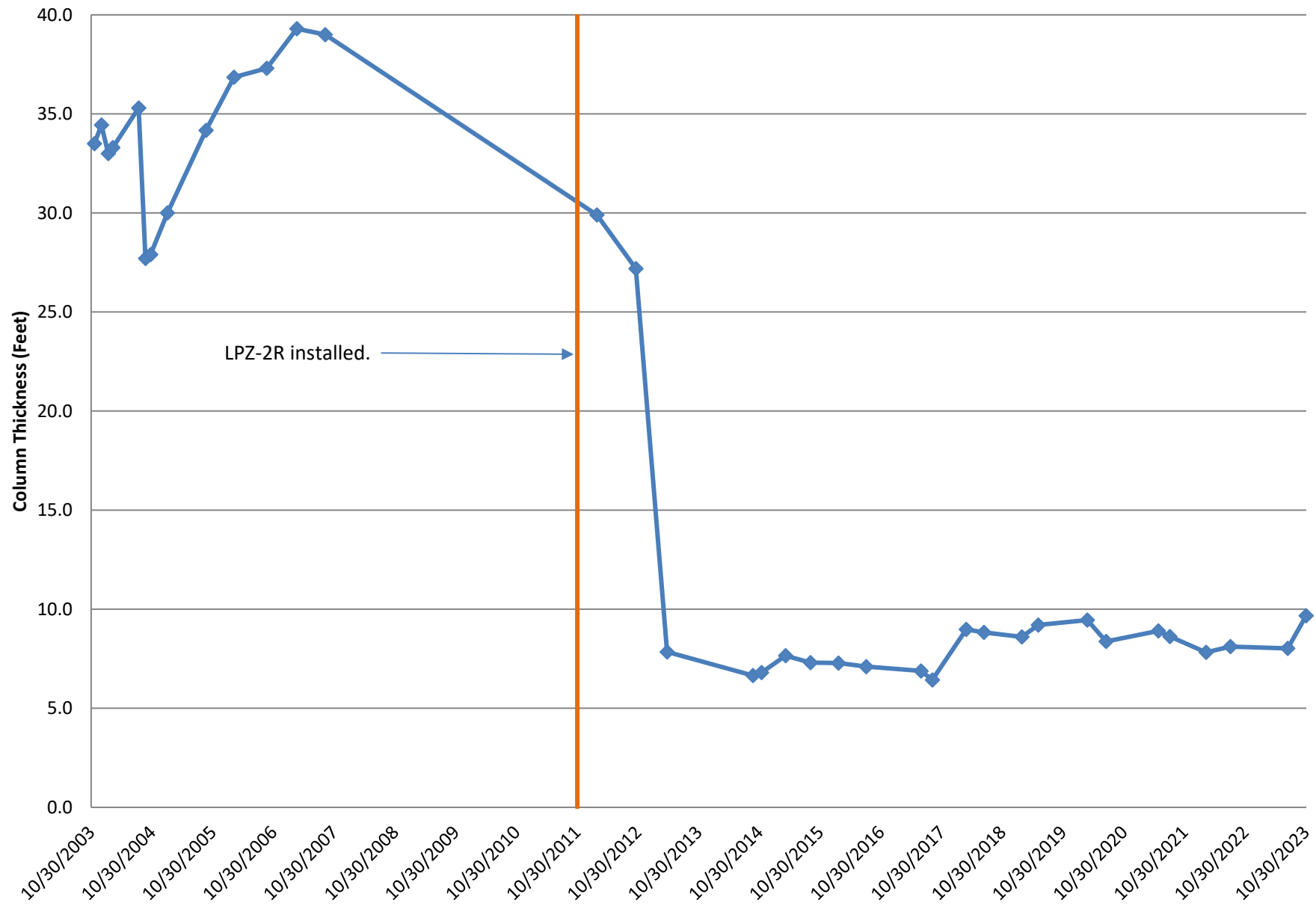
NA - Piezometer was not found/measured.

NM - Not measured

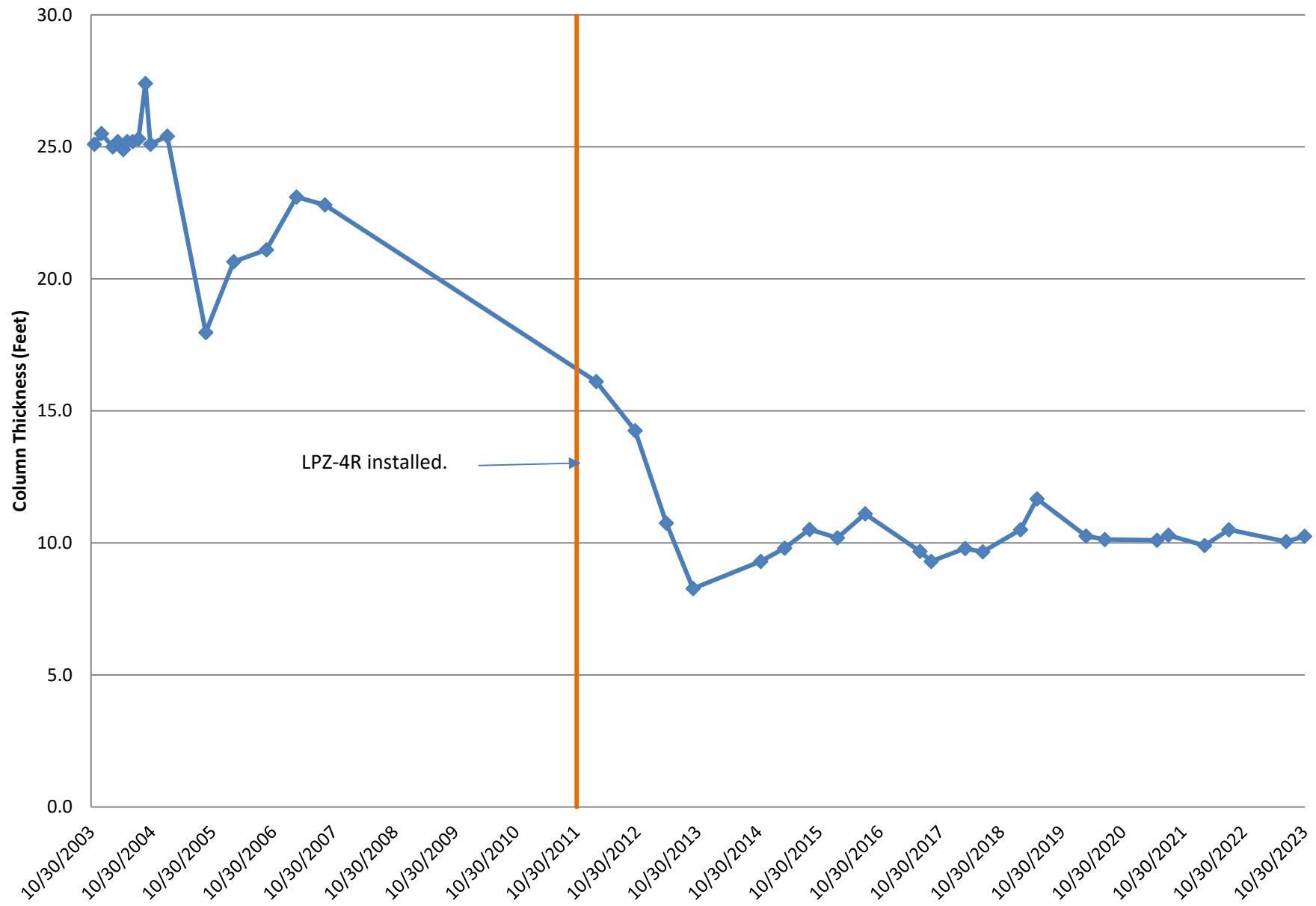
\* Replacement piezometers LPZ-2R, LPZ-4R, and LPZ-5R installed in November 2011. TD represents total depths of replacement piezometers.



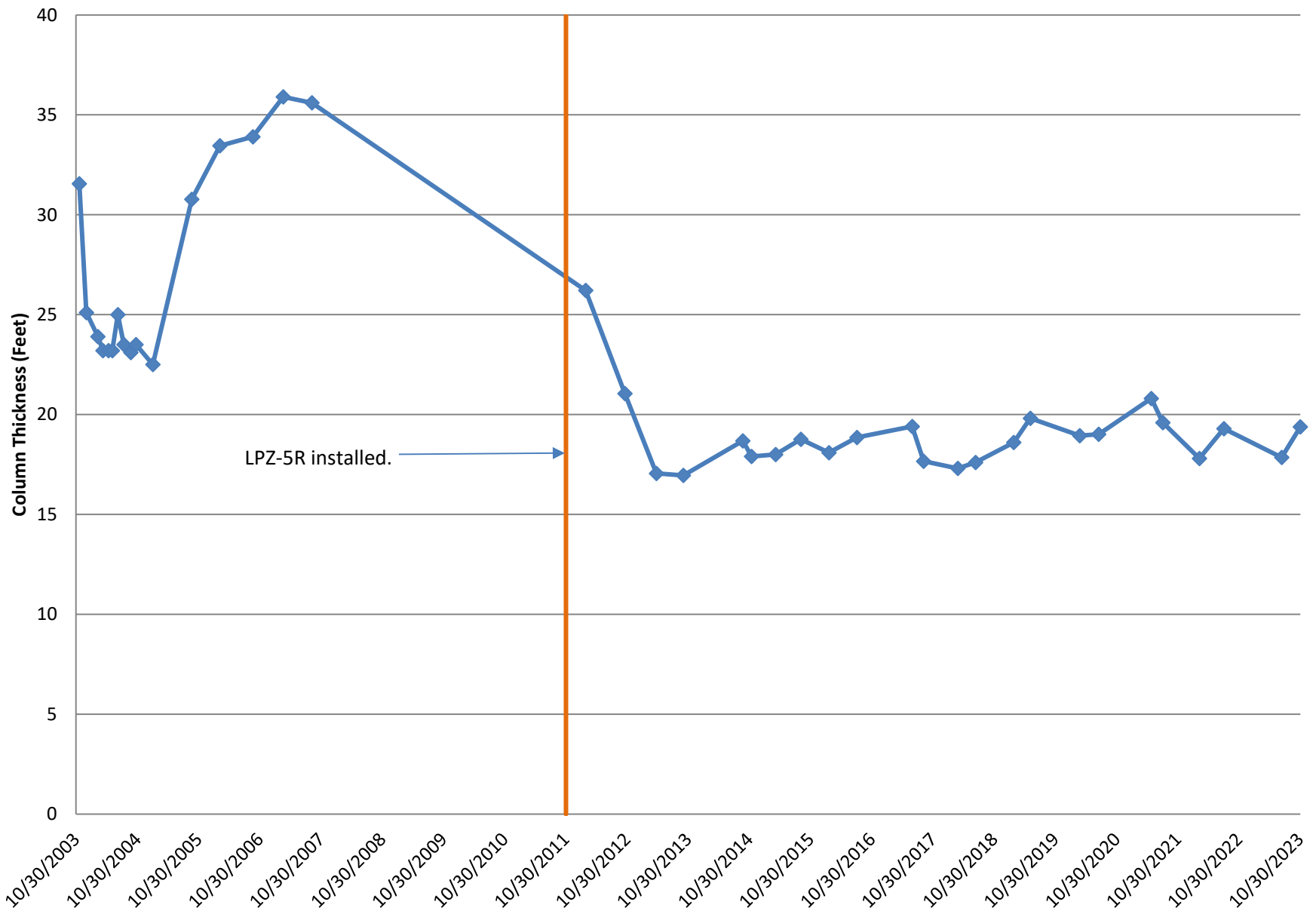
## LPZ-2/LPZ-2R



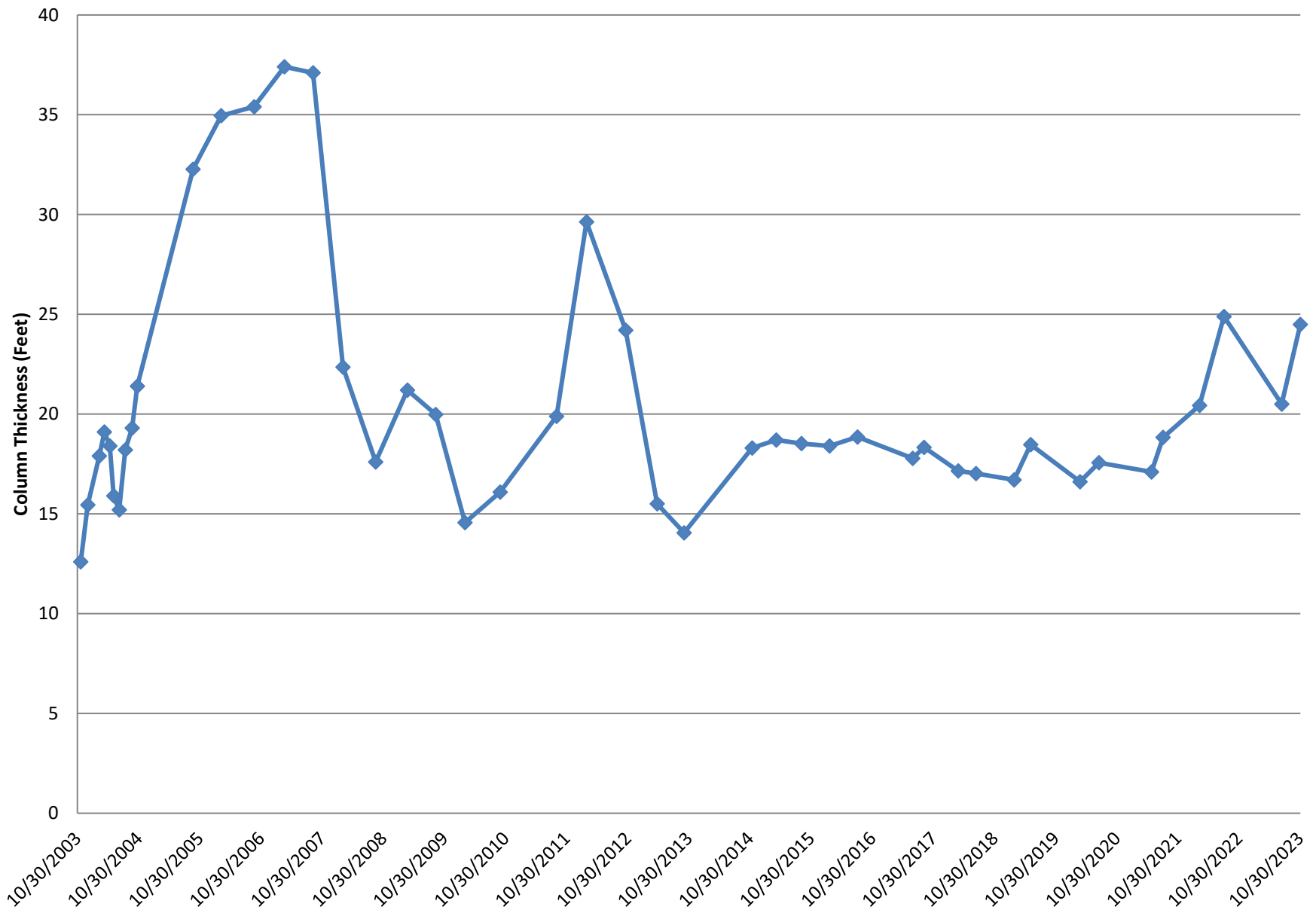
## LPZ-4/LPZ-4R



## LPZ-5/LPZ-5R



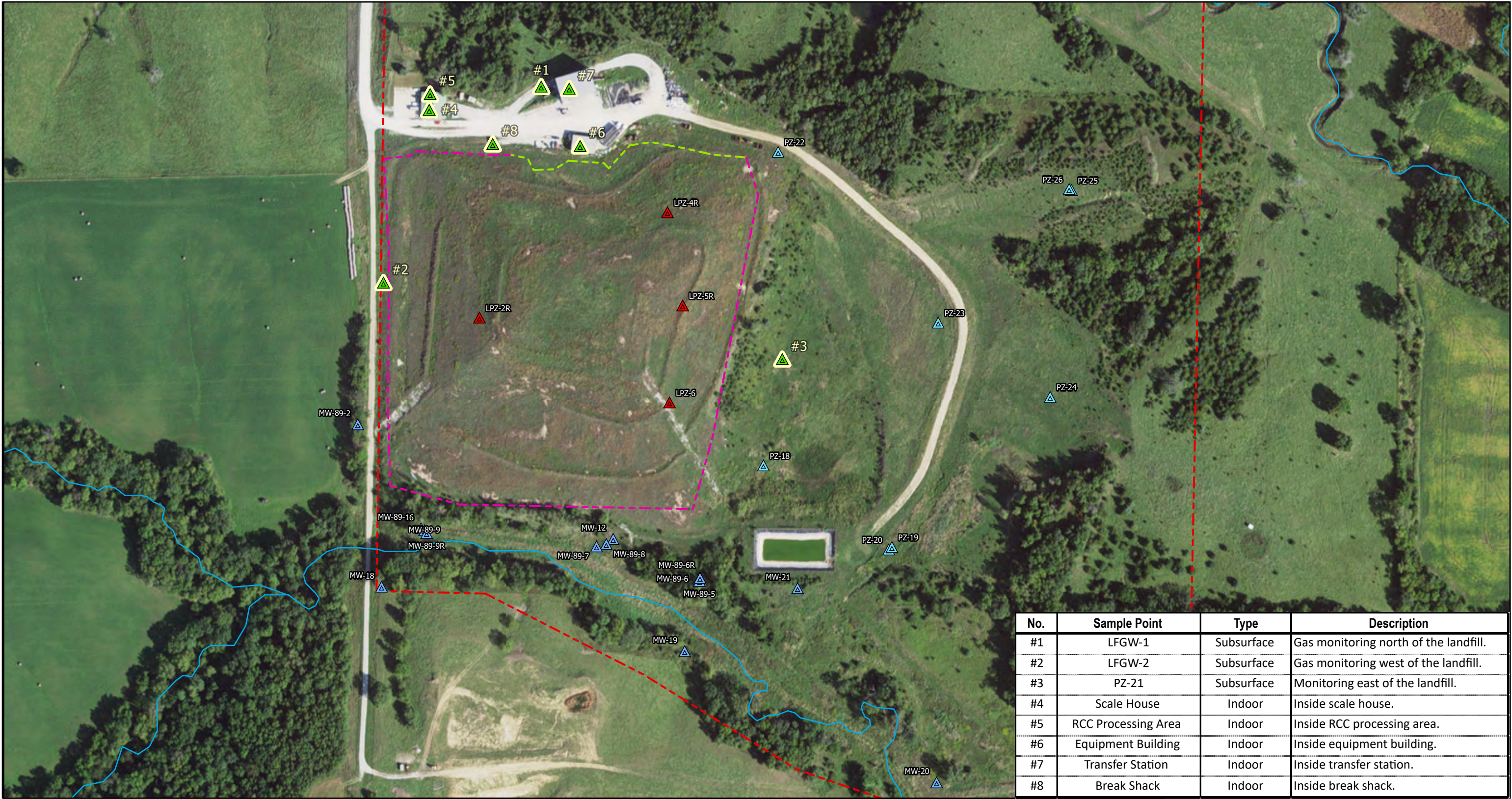
## LPZ-6



**Appendix G**  
**Landfill Gas Annual Report**



Path: C:\Users\hmadison\OneDrive - SCS Engineers\Desktop\GIS\Map\Site Map\UICSWC 2022\AWOP.aprx  
User: hmadison  
Date Saved: 10/31/2023 2:51 PM



| No. | Sample Point        | Type       | Description                           |
|-----|---------------------|------------|---------------------------------------|
| #1  | LFGW-1              | Subsurface | Gas monitoring north of the landfill. |
| #2  | LFGW-2              | Subsurface | Gas monitoring west of the landfill.  |
| #3  | PZ-21               | Subsurface | Monitoring east of the landfill.      |
| #4  | Scale House         | Indoor     | Inside scale house.                   |
| #5  | RCC Processing Area | Indoor     | Inside RCC processing area.           |
| #6  | Equipment Building  | Indoor     | Inside equipment building.            |
| #7  | Transfer Station    | Indoor     | Inside transfer station.              |
| #8  | Break Shack         | Indoor     | Inside break shack.                   |



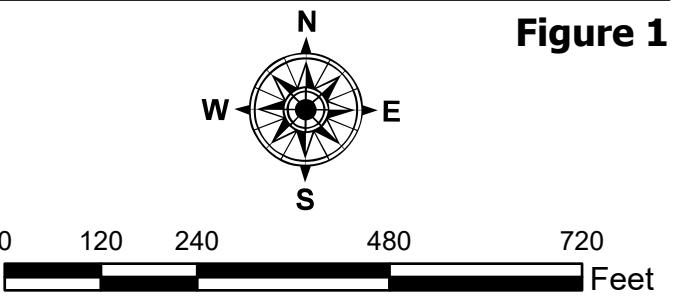
### Methane Monitoring Network

**Legend**

- Methane Monitoring Point
- Approximate Monitoring Well Location
- Approximate Groundwater Piezometer Location
- Approximate Leachate Monitoring Location

- Approximate Property Boundary
- Approximate Waste Boundary
- Located Waste Boundary
- Stream

Union County Sanitary  
Landfill  
Creston, Iowa  
Project No: 27223188.00  
Drawing Date: October 2023



**Gas Monitoring Summary**  
**2023 Landfill Gas Annual Report**  
**Union County Landfill**  
**Permit No. 88-SDP-01-79C**

| ID | Name                | Type       | Description                        | Methane Results (% LEL) |         |          |         |           |         |           |         |
|----|---------------------|------------|------------------------------------|-------------------------|---------|----------|---------|-----------|---------|-----------|---------|
|    |                     |            |                                    | 3/28/2023               | S (Y/N) | 6/1/2023 | S (Y/N) | 7/13/2023 | S (Y/N) | 11/1/2023 | S (Y/N) |
| #1 | LFGW-1              | Subsurface | Vadose zone north of the landfill. | 0%                      | Y       | NM*      |         | 0%        | N       | NM*       |         |
| #2 | LFGW-2              | Subsurface | Vadose zone west of the landfill.  | 0%                      | N       | NM*      |         | 0%        | N       | NM*       |         |
| #3 | PZ-21               | Subsurface | Vadose zone east of the landfill.  | 0%                      | Y       | NM*      |         | 0%        | N       | NM*       |         |
| #4 | Scale House         | Indoor     | Inside scale house.                | 0%                      | X       | 0%       | X       | 0%        | X       | 0%        | X       |
| #5 | RCC Processing Area | Indoor     | Inside RCC processing area.        | 0%                      | X       | 0%       | X       | 0%        | X       | 0%        | X       |
| #6 | Equipment Building  | Indoor     | Inside equipment building.         | 0%                      | X       | 0%       | X       | 0%        | X       | 0%        | X       |
| #7 | Transfer Station    | Indoor     | Inside transfer station.           | 0%                      | X       | 0%       | X       | 0%        | X       | 0%        | X       |
| #8 | Break Shack         | Indoor     | Inside break shack.                | 0%                      | X       | 0%       | X       | 0%        | X       | 0%        | X       |

S(Y/N) - Was screen submerged, yes or no.

\* - NM indicates not measured. Monitoring points #1, #2, and #3 are measured semi-annually.

There were no action levels exceeded during this reporting period.