

April 15, 2020

Mr. Brian Sadowski New York State Department of Environmental Conservation 270 Michigan Ave. Buffalo, NY 14203

Re: 2019 Periodic Review Report Pfohl Brothers Landfill, Town of Cheektowaga, New York Site 915043

Dear Mr. Sadowski:

Enclosed is the 2019 Periodic Review Report (PRR) for the Pfohl Brothers Landfill in Cheektowaga, New York. URS has prepared this report on the behalf of the Town of Cheektowaga in accordance with Department correspondence to Jon Sundquist on April 15, 2014. Specifically, no separate Semi-Annual report for the July-December period is submitted. It is included only as an attachment to this report. Additionally, the Data Applicability Report for each semi-annual period is included.

If you have any questions on this report, please feel free to contact me.

Sincerely,

URS CORPORATION

Robert J. Murphy Robert J. Murphy, P.G.

Robert J. Murphy, P.G Project Manager

Enclosures

cc: Patrick Bowen, P.E. – Town of Cheektowaga (w/attachments) File 11172700 (C-1)

PERIODIC REVIEW REPORT 2019 PFOHL BROTHERS LANDFILL CHEEKTOWAGA, NY

Submitted to:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 270 MICHIGAN AVENUE BUFFALO, NEW YORK 14203

Prepared by:

URS CORPORATION 257 WEST GENESEE STREET, SUITE 400 BUFFALO, NEW YORK 14202

Prepared for:

TOWN OF CHEEKTOWAGA ENGINEERING DEPARTMENT 275 ALEXANDER AVE CHEEKTOWAGA, NEW YORK 14211

APRIL 2020

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Figure 2-1 Site Plan

ATTACHMENTS

Attachment A	January 2019 – June 2019 Semi Annual Report and Data Applicability Report
Attachment B	July 2019 – December 2019 Semi Annual Report and Data Applicability Report
Attachment C	IC/EC Certification

1.0 INTRODUCTION

This Periodic Review Report (PRR) is being submitted to document the implementation of, and compliance with, the site-specific site management requirements. The PRR was prepared using the guidance presented in of Section 6.3(b) of Division of Environmental Remediation (DER)-10 *Technical Guidance for Site Investigation and Remediation*.

1.1 Background

The Pfohl Brothers Landfill Site (No. 915043) is a 130 acre landfill located on the north and south sides of Aero Drive in the Town of Cheektowaga, Erie County. The site is located in a commercial area just west of Transit Road. The landfill was operated between 1940 and 1969 receiving household and industrial wastes. The industrial waste included paints, waste solvents, thinners, pine tar pitch, cellulose, rubber, scrap metal and phenolic tars. A Remedial Investigation and Feasibility Study was completed in 1991. The data showed that on-site soils, groundwater, seeps, and sediments were contaminated with volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals. The data did not show any significant off-site impact. A Record of Decision (ROD) was issued in 1992 requiring the landfill to be consolidated and closed. A second ROD was issued in 1994 which stipulated the removal of the northern portion of the site (located immediately south of Interstate 90) from the site description. The ROD also stated that there will be no action in regard to off-site groundwater.

The final remedial design for the site was completed in 2000. The remedial construction consisted of waste consolidation; capping of landfills on either side of Aero Drive; providing leachate collection around these areas; restoring wetlands; and fencing the landfill. Work commenced in 2001 and was completed in 2002. The consolidated landfill was reduced to 94 acres. Deed restrictions have been filed by the Potentially Responsible Parties (PRPs). The Operation and Maintenance (O&M) Plan was approved in March 2006 and is being implemented by the Town of Cheektowaga.

1.2 Effectiveness of Remedial Program

During 2019, the capping and remedial action remedy continued to successfully prevent exposure of buried waste to human health or environmental receptors. Effectiveness has been demonstrated through maintenance of the landfill cap, effective hydraulic control of groundwater beneath the cap, and regular semi-annual groundwater sampling.

1.3 Compliance

The management of the site is in compliance with the O&M Plan. Institutional controls in the form of deed restrictions remain in place.

1.4 <u>Recommendations</u>

No changes to the operation, maintenance and monitoring of the site are recommended.

2.0 SITE OVERVIEW

2.1 <u>Site Description</u>

The boundaries of the site are shown on Figure 2-1. The site is located immediately southwest of the intersection of Interstate 90 and Transit Road in the Town of Cheektowaga. The site is bisected by the east/west Aero Drive. Each of the two portions of the landfill are covered with a cap comprising a gas venting layer, a low permeability synthetic membrane, and a barrier protection fill layer. Surrounding the entire site is a groundwater/leachate collection system consisting of a collection trench that drains into six wet wells. Leachate and groundwater collected in the wet wells is pumped via submersible pumps in the wet wells to a 15-inch sanitary sewer line on the south side of Aero Drive. This sanitary sewer, installed as part of the remedy, connects to the existing 15-inch sanitary sewer on Rein Road south of Aero Drive. The collected groundwater/leachate discharges to the sanitary sewer under a permit from the Buffalo Sewer Authority (BSA).

2.2 <u>Chronology</u>

The principal elements of the remedy were consolidation of waste materials, construction of a landfill cap and construction of a perimeter leachate collection system. Construction of the remedy was completed in 2002.

O&M commenced in 2002 upon completion of construction. These efforts are performed in accordance with the O&M plan issued as draft in 2002 and approved as final in 2006. Based upon the results of the first three years of surface water, sediment and groundwater monitoring results, the surface water/sediment sampling was discontinued in 2008, and the list of parameters evaluated during groundwater sampling was reduced in 2006 (limiting the list of VOC and SVOC parameters and metals) and 2007 (discontinuing dioxin and radionuclide analyses).

3.0 REMEDY PERFORMANCE, EFFECTIVENESS AND PROTECTIVENESS

The principal elements of the O&M are:

- Groundwater Monitoring
- Effluent Monitoring
- Hydraulic Monitoring
- Wetlands Monitoring
- General physical and mechanical maintenance.

The Town of Cheektowaga submits O&M reports to NYSDEC twice per year reporting on the performance, effectiveness, and protectiveness of each of these elements. The two reports covering the calendar year of 2019 are attached to this PRR. A summary of the findings of performance, effectiveness, and protectiveness for 2019 is presented in the sections below.

3.1 Groundwater Monitoring

As the O&M contractor for the Town of Cheektowaga, URS Corporation (URS) has performed 32 rounds of semi-annual groundwater sampling. The most recent sampling was conducted in May and November 2019. Results of this sampling continue to show no impacts to groundwater from the landfill. In brief, no VOCs or SVOCs were detected above Class GA water quality standards, with one exception for SVOCs during the November event. The SVOC 1,4dichlorobenzene was detected in well GW-03D at an estimated concentration of 3.6 micrograms per liter (μ g/L), slightly exceeding its standard of 3.0 μ g/L.

The metals, iron, magnesium, manganese, and sodium exceeded Class GA standards in most site wells. Other metals detected above Class GA standards in 2019 were cadmium, chromium, lead, and nickel in well GW-07D during both sampling events. In addition, antimony was above Class GA standards in well GW-07D during the May event. Chromium was above Class GA standards in well GW-01D during the May event. No significant changes in metals concentrations were observed when compared to previous analytical results. Results were within the historical range of concentrations observed for these metals with the following two exceptions at well GW-07D:

• Chromium was detected at its highest concentration to date at the site during the May 2019 event, and

• Nickel was detected at its highest concentration to date at the site during the May 2019 event.

Concentrations for both metals returned to within typical levels at GW-07D during the November 2019 event. The attached semi-annual reports present the 2019 data in tables, graphs, and charts.

3.2 Surface Water/Sediment Sampling

Surface water and sediment sampling was discontinued in 2008 after three years of sampling showed that no site-related contaminants were present in these media. This sampling was eliminated in accordance with the O&M plan as approved by NYSDEC.

3.3 <u>Effluent Monitoring</u>

URS performed effluent monitoring on a quarterly basis during 2019. The permit requires quarterly sampling and analysis of metals (barium, cadmium, chromium, copper, lead, nickel, and zinc) and total suspended solids. The September 2019 event included the analysis of additional parameters required once per permit period (i.e., once every three years). The additional parameters included VOCs by Method 624.1, SVOCs by Method 625.1, pesticides and polychlorinated biphenyls (PCBs) by Method 608.3 and Total Mercury by Method 245.1. All additional parameters were non-detect except for the VOCs ethylbenzene and toluene, which were detected in the effluent at 0.56 μ g/L and 1.2 μ g/L respectively. The parameter values in the effluent were well below the discharge criteria for all quarterly sampling events conducted in 2019. The results of the sampling are reported in the attached semi-annual reports.

3.4 <u>Hydraulic Monitoring</u>

URS performed hydraulic monitoring on a quarterly basis during 2019. Hydraulic monitoring is performed through measuring the water elevation in each of the six wet wells and in nine manholes associated with the perimeter collection system and comparing each of these elevations with the groundwater elevations in paired monitoring wells adjacent to each wet well or manhole. Hydraulic control is demonstrated by an inward hydraulic gradient from the monitoring wells to the collection system. The hydraulic gradient was towards the groundwater collection system for every quarterly measurement taken during 2019. Therefore, these data demonstrate that the collection system is operating as designed.

3.5 <u>Wetlands Monitoring</u>

The monitoring of wetlands mitigation measures has not been performed as originally planned in the O&M manual. Initially, the wetlands species planted for mitigation fared poorly due to trampling from geese and deer. Fences were erected in 2004 to keep this wildlife out. Some wetland vegetation was also lost during landfill cap mowing in 2005 when the mowing contractor mowed a greater area than had been specified. The wetland vegetation species were replanted in 2005. However, in the time since construction ended in 2002, the *Phragmites sp.* vegetation that is quite abundant in this area has spread and established itself throughout the areas formerly disturbed during construction. *Phragmites sp.* does not provide robust food source for wildlife but does act to stabilize soil in the interface zone between the landfill and the existing pond and wetland. As such, monitoring of the planted wetland mitigation species is no longer performed.

3.6 General Physical and Mechanical Maintenance

The Town of Cheektowaga performs general physical and mechanical maintenance as needed. Example maintenance items are routine maintenance and replacement of pumps and instrumentation used for groundwater/leachate collection, annual cap mowing, snow plowing, etc. A summary of the general maintenance activities performed during 2019 is provided in the attached semi-annual reports.

4.0 IC/EC PLAN COMPLIANCE

There is no formal Institutional Control/Engineering Control (IC/EC) plan for this site. However, there are institutional and engineering controls in place, and they are functioning as intended. These are discussed below.

4.1 <u>Institutional Controls</u>

Institutional controls (ICs) consist of restrictions on land use for the various parcels that comprise this site. The parcels and their restrictions are listed on the attached Site Management PRR Notice Institutional and Engineering Controls Certification Form. The restrictions address building use, groundwater use, and land use. Compliance with these ICs is evaluated by observation to see if any infringing activities are occurring on these parcels. These ICs remain in effect, as certified in Attachment C.

4.2 Engineering Controls

Engineering controls (ECs) consist of the landfill cap, fencing and access control, collection of the groundwater/leachate, and vapor mitigation. Compliance with these ECs is evaluated at a minimum through inspection of these elements during each semi-annual monitoring event. In most cases, inspection is more frequent. For example, collection of the groundwater/leachate is monitored continuously by Town of Cheektowaga personnel and effluent compliance reports are submitted quarterly. These ECs remain in effect, as certified in Attachment C.

5.0 OPERATION & MAINTENANCE AND MONITORING PLAN COMPLIANCE

The components of the O&M Plan are discussed above in Section 3.0. Summaries of O&M activities performed during 2019 are provided in the attached semi-annual reports. The O&M activities show that the landfill and its groundwater/leachate collection system are operating as intended and receive repairs and maintenance as needed in a timely fashion. Analysis of the groundwater in monitoring wells and the effluent generated by the groundwater/leachate collection system show that no landfill contamination is migrating to these media, and therefore the wastes remain effectively contained. No changes to the O&M for this site are recommended.

6.0 CONCLUSIONS AND RECOMMENDATIONS

The remedy at the Pfohl Brothers Site Landfill is operating as designed and remains protective of human health and the environment. No changes to the O&M for this site are recommended.

FIGURES



ATTACHMENTS

ATTACHMENT A

January 2019 – June 2019

Semi Annual Report

And

Data Applicability Report



January 31, 2020

Mr. Brian Sadowski New York State Department of Environmental Conservation 270 Michigan Ave. Buffalo, NY 14203

Via Email: brian.sadowski@dec.ny.gov

Re: Semi-Annual Report January 2019 – June 2019 Pfohl Brothers Landfill, Town of Cheektowaga, New York

Dear Mr. Sadowski:

Enclosed is one copy of the January 2019 – June 2019 Semi-Annual Report for the Pfohl Brothers Landfill in Cheektowaga, New York. A hard copy has also been sent to Ms. Pamela Tames, P.E. of the United States Environmental Protection Agency.

If you have any questions on this report, please feel free to contact me.

Sincerely,

URS CORPORATION

Robert & Murphy

Robert J. Murphy, P.G. Project Manager

Enclosures

cc: Pamela Tames, P.E. - USEPA (w/attachments) Patrick Bowen, P.E. – Town of Cheektowaga (w/attachments) SEMI ANNUAL REPORT OPERATION AND MAINTENANCE JANUARY 2019 TO JUNE 2019 PFOHL BROTHERS LANDFILL CHEEKTOWAGA, NY

Submitted to:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 270 MICHIGAN AVENUE BUFFALO, NEW YORK 14203

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> JANUARY 2020

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Table 3-2	Groundwater Sample Analytical Results

FIGURES

Figure 1-1Site Location MapFigure 3-1Monitoring Locations

APPENDICES

- Appendix A Example Daily Inspection Sheets
- Appendix B Monthly Flow Summaries (January 2019 June 2019)
- Appendix C Hydraulic Monitoring Tables
- Appendix D Groundwater Purge and Sample Collection Logs
- Appendix E Groundwater Trend Analysis
- Appendix F BSA Permits 16-04-CH016 and 19-04-CH016
- Appendix G Discharge Report Summary Tables
- Appendix H Monitoring Well Inspection Logs

1.0 INTRODUCTION

1.1 Background

The Pfohl Brothers Landfill is located on Aero Drive in the Town of Cheektowaga, New York (Figure 1-1). The site is listed as site No. 915043 on the New York State Department of Environmental Conservation's (NYSDEC's) Registry of Inactive Hazardous Waste Disposal Sites. A Consent Order between NYSDEC and potentially responsible parties (PRPs) for closure of the site was signed in 2001 and remedial construction commenced in 2001. The remedy included consolidation of waste material, capping of the waste disposal and consolidation areas, and encircling the landfill areas with a groundwater collection system to prevent off-site migration. The remedial action was completed in 2002.

Responsibility for implementing the remedy was divided between a "steering committee" of industrial PRPs and the Town of Cheektowaga. The steering committee responsibilities lay generally with the capital construction activities of the remedy including waste consolidation, cap and drainage system installation, etc. The Town of Cheektowaga, which was named as a PRP for disposal of municipal waste at the Pfohl Brothers Landfill when it was operating, is performing the operation and maintenance (O&M) activities at the landfill, pursuant to a settlement agreement between the Town and the steering committee.

1.2 **Operation and Maintenance Activities**

While construction of the remedy was substantially complete by late 2002, the final O&M manual was not approved by the NYSDEC until March 10, 2006. However, the Town of Cheektowaga and its consultant (URS Corporation – New York) assumed most of the operational responsibilities since 2002. This includes a variety of general maintenance activities as outlined in Section 2 and sampling and other monitoring activities outlined in Section 3.

Beginning in 2004, the Town and URS assumed all of the O&M activities described in the O&M plan. This is the semi-annual report as called for by Section 3.6 of the O&M plan.

2.0 GENERAL MAINTENANCE ACTIVITIES

Since completion of construction activities in 2002, personnel from the Town of Cheektowaga Engineering Department have performed general activities to ensure the physical operation of the landfill as intended by the design. The various O&M activities performed by the Town from January 2019 through June 2019 included the following actions:

- The amount of groundwater discharged through the collection system was recorded daily. The flow rate displayed by each wet well pump at the time of daily inspection and the total cumulative volume of flow was recorded for each wet well on daily inspection sheets. Examples of the daily inspection sheet for this reporting period are attached in Appendix A.
- Total cumulative effluent flow rates and volumes were summarized on a monthly basis. The monthly totals for the period, including graphs showing daily total discharge (gallons) as a function of calendar day, are presented in Appendix B.
- The wet well pumps were shut down during wet weather flow conditions as necessary at various times throughout the year. Such actions were only taken upon request of the Buffalo Sewer Authority (BSA) during heavy storm events in order to reduce the hydraulic load on the BSA treatment system during such events. Shutdown events are recorded and included with the monthly flow data in Appendix B as previously requested by NYSDEC.
- Plowed snow to access the Control Building when necessary.
- Cleaned/replaced check valves as necessary at all six (6) wet wells and replaced surge suppressors and fuses as needed for pump station instrumentation equipment.
- Cleaned upper level equipment and applied corrosion inhibitor fluid.
- Inspected wet wells for excessive corrosion to critical equipment.
- Replaced security lock at WW-06.
- Replaced lower coupling on discharge hose at WW-03.
- A power auger was used by JW Danforth technicians to clean the upper portion of the discharge pipe at WW-05. This cleaning increased the discharge rate by 10 to 15 gallons per minute.

• Removed roadside litter/debris on the north and south sides of Aero Drive.

3.0 MONITORING ACTIVITIES

The Town of Cheektowaga retained URS Corporation to perform monitoring activities as outlined in Section 3.1 of the O&M plan. During the period of January 2004 through the present, URS performed groundwater hydraulic monitoring (Section 3.1.1.2 of the O&M plan) and effluent monitoring (Section 3.1.4 of the O&M plan) on a quarterly basis. URS also performed the semi-annual groundwater quality monitoring (Section 3.1.1.3 of the O&M plan) during this period. A summary of the monitoring activities is presented in the following subsections. Hydraulic and groundwater sampling locations are shown on Figure 3-1.

3.1 Groundwater Hydraulic Monitoring

Groundwater and surface water elevations were monitored on a quarterly basis at all locations listed in Table 3.1 of the O&M Plan. The hydraulic monitoring data tables showing groundwater elevations are presented in Appendix C. In Appendix C, Table C-1 lists the measured elevations and Table C-2 provides a comparison of the measured levels in the wells and corresponding manholes/wet wells.

The data presented in Appendix C indicate that groundwater levels outside the collection system were higher than the levels measured in the corresponding wet well or manhole for each measurement date. Therefore, these data demonstrate that the collection system is operating as designed.

3.2 Groundwater Quality Monitoring

This semi-annual round of groundwater sampling was conducted between May 22 and 24, 2019. All overburden and bedrock wells listed in Table 3.2 of the O&M plan were purged and sampled using dedicated/disposable equipment. Figure 3-1 shows the well locations. Low flow sampling techniques were used at most monitoring well locations with the exceptions noted below.

Passive diffusion bags (PDBs) were placed in three monitoring wells with low recharge rates (GW-04S, GW-07S, and GW-07D) on March 21, 2019. The PDBs were removed from the wells during the May 2019 sampling event, poured into the appropriate sample containers for analysis of volatile organic compounds (VOCs). Following removal of the PDBs, the three wells

were purged dry and sampled for field water quality parameters. The other required analytical parameters (i.e., semivolatile organic compounds [SVOCs] and metals) were collected after water levels recovered (the next day for GW-07D and GW-07S and later the same day for GW-04S).

Purge logs and sampling summary sheets are provided in Appendix D. Measurements of pH, specific conductivity, temperature, dissolved oxygen, oxidation reduction potential, and turbidity taken during purging are included in Appendix D. Following collection, the samples were packed with ice in coolers and transported under chain-of-custody (CoC) control to Test America Laboratories of Amherst, New York.

Groundwater samples were analyzed for the parameters listed in Table 3.2 of the O&M plan as revised in accordance with Table 3-6 in the Semi Annual Report dated September 2007 (January through June 2007) and as approved by the December 6, 2006 and November 29, 2007 correspondence from the NYSDEC authorizing a reduction in the parameters list (included as Table 3-1 in this report). Table 3-2 of this report presents the groundwater sample results compared with NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Class GA water quality standards.

Laboratory Report

The groundwater analytical data package was prepared by Test America in accordance with NYSDEC Category A deliverable requirements. It was reviewed by a URS chemist for compliance with analytical method requirements and the following guidelines: *National Functional Guidelines for Superfund Organic Methods Data Review*, EPA-540-R-2017-002, January 2017; and *National Functional Guidelines for Inorganic Superfund Data Review*, EPA-540-R-2017-001, January 2017. Qualifications applied to the data include "J/UJ" (estimated concentration/estimated quantitation limit), "J+" (estimated concentration with possible high bias), and "U" (not detected).

URS prepared Data Applicability Report (DAR) following the guidelines provided in NYSDEC Division of Environmental Remediation (DER-10) *Technical Guidance for Site Investigation and Remediation, Appendix 2B*, dated May 2010. The DAR dated July 2019 is submitted separately from this report.

Results

No SVOCs or VOCs were detected at concentrations above the Class GA water quality standards at any location.

Among the metals, iron, magnesium, manganese, and sodium routinely exceeded Class GA standards in most site wells. In addition, chromium was detected at concentrations exceeding its respective Class GA standard in wells GW-01D and GW-07D. Antimony, cadmium, lead, and nickel were also detected at concentrations exceeding their respective Class GA standards in well GW-07D.

Comparison to Historical Results

Organics

Results are consistent with historical results; there have been very few and infrequent detections of VOCs/SVOCs.

Metals

No significant changes in metals concentrations were observed when compared to previous analytical results. The concentrations of iron, magnesium, manganese, and sodium in most site wells were similar to the concentrations found during previous sampling events.

Sodium concentrations were generally elevated in bedrock wells (GW-01D, GW-03D, GW-08D, and GW-26D) and shallow wells adjacent to roads (GW-01S). The sodium concentrations were also elevated in GW-03S and GW-08SR. The higher sodium concentrations in the bedrock wells may be attributed to the bedrock composition and the elevated concentrations in the shallow wells may be the result of seasonal road de-icing activities.

Trend Analysis

Organics

There is an insufficient number and frequency of detections to define trends.

Metals

A trend analysis of groundwater parameters that routinely exceed Class GA groundwater standards was performed and is presented in Figures E-1 through E-19 of Appendix E. A review of the trend analysis indicated that no significant changes or trends in concentrations of any of the parameters exceeding groundwater standards have occurred over the semi-annual sampling events. Notable trends are summarized below ("--" indicates no discernable trend):

Figure	Monitoring Well	Parameters Routinely Exceeding Groundwater Standards and Trend							
	wen	Iron	Magnesium	Manganese	Sodium				
E-1	GW-01D				Upward				
E-2	GW-01S			Upward	Downward				
E-3	GW-03D	Downward		Downward	Downward				
E-4	GW-03S		Upward		Upward				
E-5	GW-04D		Upward						
E-6	GW-04S		Upward	Downward					
E-7	GW-07D		Upward						
E-8	GW-07S		Upward						
E-9	GW-08D	Downward		Downward					
E-10	GW-08S								
E-11	GW-26D	Downward		Downward	Upward				
E-12	GW-28S				Downward				
E-13	GW-29S				Downward				
		Downward	Downward	Downward	Downward				
E-14	GW-30S	(with seasonal	(with seasonal	(with seasonal	(with seasonal				
		variation)	variation)	variation)	variation)				
E-15	GW-31S								
F-16	16 CW 328		Downward		Seasonal				
E-10	011-525		Downward		Variation				
E-17	GW-33S								
E-18	GW-34S		Downward	Seasonal Variation	Downward				
E-19	GW-35S								

3.3 Groundwater Discharge Monitoring

URS completed two quarterly sampling events (March 2019 and June 2019) of the groundwater collection system discharge since the previous semi-annual report. The sampling

was performed in accordance with the requirements of Discharge Permit Nos. 16-04-CH016 and 19-04-CH016 between the Buffalo Sewer Authority (BSA) and the Town of Cheektowaga. A copy of the permits, which shows the monitoring parameters and associated discharge limits, is included as Appendix F.

During the sampling events in March 2019 and June 2019, each regulated parameter was below the limits set by the permits. Copies of the data summary tables that were included with the monitoring reports submitted to the BSA are included as Appendix G.

3.4 Monitoring Well Inspections

During the May 2019 groundwater sampling event, a well inspection was performed. All wells appeared to be in good condition with the exception of previously existing damage to the risers on GW-07D, GW-01S, and GW-01D. The monitoring well inspection logs may be found in Appendix H.

4.0 SUMMARY AND RECOMMENDATIONS

General Maintenance: The Town will continue to maintain mechanical equipment at the landfill on an as-needed basis and operate the groundwater collection and discharge system as designed. The Town will also continue regular inspections, mow the cap once per year, and plow snow to access the Control Building, as necessary.

Groundwater Hydraulic Monitoring: Hydraulic monitoring has been performed on a quarterly basis in conjunction with the discharge monitoring. Water level measurement data demonstrates that the hydraulic gradient is from outside the landfill towards the collection trench, as designed. Continued quarterly monitoring is recommended.

Groundwater Quality Monitoring: Groundwater sample results indicate that only low levels of SVOCs and metals are present. Similar concentrations of most parameters were found during previous sampling events. The next round of groundwater sampling will be conducted in November 2019. Low flow sampling techniques will be used. Passive diffusion bags will be used again for VOC analyses at the three wells (GW-04S, GW-07S, and GW-07D) that go dry when using low flow sampling.

Groundwater Discharge Monitoring: Groundwater discharges remain within permit limits. Continued quarterly monitoring is recommended.

TABLES

TABLE 3-1

APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

GROUNDWATER SAMPLING SUMMARY OPERATION AND MAINTENANCE PLAN PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK

LOCATIONS

GW-1D/1S GW- 3D/3S GW- 4D/4S GW- 7D/7S GW- 8D/8S(R) GW- 26D/35S GW- 28S GW- 28S GW- 29S GW- 30S GW- 31S GW- 31S GW- 32S GW- 33S GW- 34S

FREQUENCY

semi-annually for overburden and bedrock groundwater

PARAMETERS

Field	pH conductivity temperature turbidity
VOCs	Acetone Benzene 1,2-Dichloroethene (total) 1,1,2-Trichloroethane Vinyl chloride
<i>SVOCs</i>	Phenol 1,3-Dichlorobenzene 1,4-Dichlorobenzene

bis(2-Ethylhexyl)phthalate

TABLE 3-1 (continued)

APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

GROUNDWATER SAMPLING SUMMARY OPERATION AND MAINTENANCE PLAN PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK

PARAMETERS (cont'd)

Metals Antimony Arsenic Barium Cadmium Chromium Copper Iron Lead Magnesium Manganese Mercury Nickel Silver Sodium Zinc

Location ID			GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID			GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (f	Depth Interval (ft)			-	-	-	-
Date Sampled			05/22/19	05/22/19	05/23/19	05/23/19	05/22/19
Parameter	Units	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5					
Acetone	UG/L	50	4.5 J		3.8 J		3.5 J
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3			1.9 J		
1,4-Dichlorobenzene	UG/L	3			2.8 J		
bis(2-Ethylhexyl)phthalate	UG/L	5					
Metals							
Antimony	MG/L	0.003					
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.081	0.19	0.090	0.096	0.10
Cadmium	MG/L	0.005				0.0013	
Chromium	MG/L	0.05	0.058			0.0058	0.0026 J
Copper	MG/L	0.2	0.0031 J				
Iron	MG/L	0.3	2.4	7.7	1.2	0.69	0.20
Lead	MG/L	0.025			0.0031 J		
Magnesium	MG/L	35	35.2	24.3	17.2	83.0	81.0
Manganese	MG/L	0.3	0.045		0.27	0.88	0.022
Nickel	MG/L	0.1	0.013		0.0047 J	0.062	
Sodium	MG/L	20	98.8	177	187		95.3
Zinc	MG/L	2	0.012		0.0026 J	0.0082 J	0.035

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 and 6/2004 Addenda). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

J - The analyte was positively identified, the quantitation is an estimation. Empty cell - Not Detected.

NA - Not Analyzed.

Only Detected Results Reported.

Location ID			GW-04S	GW-07D	GW-07D	GW-07S	GW-07S
Sample ID	Sample ID			GW-07D	GW-07D	GW-07S	GW-07S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (f	Depth Interval (ft)				-	-	-
Date Sampled			05/22/19	05/22/19	05/23/19	05/22/19	05/23/19
Parameter	Units	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5			NA		NA
Acetone	UG/L	50	3.8 J	4.4 J	NA	3.7 J	NA
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3		NA		NA	
1,4-Dichlorobenzene	UG/L	3		NA		NA	
bis(2-Ethylhexyl)phthalate	UG/L	5	3.3 J	NA	3.4 J	NA	
Metals							
Antimony	MG/L	0.003		NA	0.010 J	NA	
Arsenic	MG/L	0.025		NA	0.0080 J	NA	
Barium	MG/L	1	0.12	NA	0.17	NA	0.39
Cadmium	MG/L	0.005	0.00052 J	NA	0.0054	NA	0.0040
Chromium	MG/L	0.05	0.0071	NA		NA	0.0092
Copper	MG/L	0.2	0.0031 J	NA	0.16	NA	0.0016 J
Iron	MG/L	0.3		NA	48.4	NA	0.40
Lead	MG/L	0.025		NA	0.68	NA	0.0036 J
Magnesium	MG/L	35	28.0	NA	39.0	NA	43.6
Manganese	MG/L	0.3	0.13	NA	0.36	NA	0.092
Nickel	MG/L	0.1	0.0056 J	NA	0.87	NA	0.078
Sodium	MG/L	20	31.2	NA	74.1	NA	57.7
Zinc	MG/L	2	0.0058 J	NA	0.33	NA	0.0032 J

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 and 6/2004 Addenda). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

J - The analyte was positively identified, the quantitation is an estimation. Empty cell - Not Detected.

NA - Not Analyzed.

Location ID			GW-08D	GW-08D	GW-08SR	GW-26D	GW-28S
Sample ID			FD-20190523	GW-08D	GW-08SR	GW-26D	GW-28S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/23/19	05/23/19	05/23/19	05/23/19	05/24/19
Parameter	Units	*	Field Duplicate (1-1)				
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5				1.0 J	
Acetone	UG/L	50	5.2 J	6.0 J	4.9 J	4.5 J	
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3					
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5					
Metals							
Antimony	MG/L	0.003					
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.071	0.070	0.083	0.13	0.080
Cadmium	MG/L	0.005					
Chromium	MG/L	0.05	0.042	0.046			
Copper	MG/L	0.2	0.0018 J	0.0019 J			
Iron	MG/L	0.3	0.63	0.62	6.4	2.4	0.20
Lead	MG/L	0.025					
Magnesium	MG/L	35	16.1	15.8	51.4	16.3	25.9
Manganese	MG/L	0.3	0.031	0.032	0.60	0.34	
Nickel	MG/L	0.1	0.011	0.010		0.0015 J	0.0019 J
Sodium	MG/L	20	203	200		351	12.3
Zinc	MG/L	2	0.0056 J	0.0060 J			

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 and 6/2004 Addenda). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

J - The analyte was positively identified, the quantitation is an estimation. Empty cell - Not Detected.

NA - Not Analyzed.

Only Detected Results Reported.

Location ID			GW-29S	GW-30S	GW-31S	GW-32S	GW-33S
Sample ID			GW-29S	GW-30S	GW-31S	GW-32S	GW-33S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (f	Depth Interval (ft)			-	-	-	-
Date Sampled			05/24/19	05/24/19	05/24/19	05/24/19	05/24/19
Parameter	Units	*					
Volatile Organic Compounds							
1,2-Dichloroethene (total)	UG/L	5					
Acetone	UG/L	50		4.1 J	4.2 J	3.3 J	5.5 J
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3					
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5					
Metals							
Antimony	MG/L	0.003					
Arsenic	MG/L	0.025	0.025				
Barium	MG/L	1	0.16	0.098	0.081	0.050	0.038
Cadmium	MG/L	0.005					
Chromium	MG/L	0.05					
Copper	MG/L	0.2					
Iron	MG/L	0.3	14.6	4.6	2.2		
Lead	MG/L	0.025					
Magnesium	MG/L	35	55.1	28.9	25.9	26.5	24.9
Manganese	MG/L	0.3	0.66	0.63	0.86	0.67	0.025
Nickel	MG/L	0.1			0.0026 J	0.0020 J	
Sodium	MG/L	20	7.7	26.4	3.0	2.7	2.4
Zinc	MG/L	2					0.0017 J

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 and 6/2004 Addenda). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

J - The analyte was positively identified, the quantitation is an estimation. Empty cell - Not Detected.

NA - Not Analyzed.

Location ID	GW-34S	GW-35S		
Sample ID	GW-34S	GW-35S Groundwater		
Matrix	Groundwater			
Depth Interval (f	-	-		
Date Sampled			05/23/19	05/23/19
Parameter	Units	*		
Volatile Organic Compounds				
1,2-Dichloroethene (total)	UG/L	5		
Acetone	UG/L	50	3.6 J	4.8 J
Semivolatile Organic Compounds				
1,3-Dichlorobenzene	UG/L	3		
1,4-Dichlorobenzene	UG/L	3		
bis(2-Ethylhexyl)phthalate	UG/L	5		
Metals				
Antimony	MG/L	0.003		
Arsenic	MG/L	0.025		
Barium	MG/L	1	0.13	0.091
Cadmium	MG/L	0.005		
Chromium	MG/L	0.05		
Copper	MG/L	0.2		
Iron	MG/L	0.3	0.095	
Lead	MG/L	0.025		
Magnesium	MG/L	35	36.6	23.0
Manganese	MG/L	0.3	0.35	0.091
Nickel	MG/L	0.1	0.0065 J	
Sodium	MG/L	20	17.2	2.2
Zinc	MG/L	2		

*- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 and 6/2004 Addenda). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds

J - The analyte was positively identified, the quantitation is an estimation. Empty cell - Not Detected.

NA - Not Analyzed.

Only Detected Results Reported.

FIGURES




APPENDIX A

EXAMPLE DAILY INSPECTION SHEETS

J:\Projects\11172700.00000\WORD\DRAFT\Semi Annual Report Jan-Jun19\Semi Annual Report Jan-June19.docx

8	Pfc	hl Brothers	Landfill Site					
Daily Lo	gsheet		Town of Cheektowaga					
Date Time	2/5/19 1418		Weather conditions Read by:	Cldy - TWN				
WW-3 WW-2 WW-1 WW-6 WW-4 WW-5 Flow Tota	Level of Water from bottom (ft.) <u>99.0</u> <u>4.6</u> <u>5.1</u> <u>3.2</u> <u>8.7</u> <u>9.3</u>	Flow gallons / minute 0 25.2 47.0 24.4 15.3	Flow Totals gallons 0 126 9483 3083 480 508150 693 827 745 8871	Pump Run Time Hrs. 2792 162 7205 16870 7969 498				
Heat Trac	e Outside temp T = 34 Current A = 2.1		Set point SP = 40					
Surge Sup	opressor events	417486						
Motor Cor	Notes 480 Amps 19	volts amps	Which WW was running	?				
Filter	Checked	Changed	la della sitti sinte hu					
	s and/or Current Condition							

Pfohl Brothers Landfill Site

1

Daily Lo	ogsheet		Town of Cheektowaga					
Date Time	<u>5/10/19</u> 11:21	-	Weather conditions Read by:	Cldy TWN				
WW-3	Level of Water from bottom (ft.) 99. O	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs. 2792				
WW-2	4.7	0	0	11.2				
WW-1	4.9	0	173/0575	7501				
WW-6	7.4	57.2	4903537	17401				
WW-4	10.9	0	1297564	8396				
WW-5	10.10	31.3	1703203	1235				
Flow Tota	alizer at Meter chambe	ir						
Heat Trac	$\frac{\text{Outside temp T} = 5}{\text{Current A} = 2}$	4'	Set point SP = 40°					
Surge Su	ppressor events	417535	_					
Motor Col	ntrol Center 480 Volts 480 Amps 9	_volts _amps	Which WW was running 1 2 3 4 6 6	?				
Filter	Checked	Changed						
Comment	s and/or Current Conditio	ns	977					
				y - 1994				
	·······							
			2					
				l an a shirt a sa anara				
		tille ho	a la chandhailtean a' chandhailtean a' chandhailtean a' chandhailtean a' chandhailtean a' chandhailtean a' chan					
				n ni alt setter i ti				

	Pfc	hl Brothers I	_andfill Site	
Daily Lo	ogsheet		Town of Cheektowa	ga
Date	6/21/19		Weather conditions	Clearing
Time	1036		Read by:	THN
	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	.99.0	6	174	2792
WW-2	4.7	0	0	162
WW-1	4.8	23.4	1760789	7578
WW-6		48.8	5518056	17570
WW-4	8.6	21.8	1319 537	8413
WW-5	9.0	10.1	2177106	1491
Flow Tot	alizer at Meter chambe	r ee	12-68/1086	
1000 C				100
Surge Su Motor Co	ppressor events ntrol Center 480 Volts 480	417547 volts	- Which WW was running?	
Surge Su Motor Co	ppressor events ntrol Center 480 Volts 480 Amps 12	<u>4(7547</u> volts amps	Which WW was running	
Surge Su Motor Co Filter	ppressor events ntrol Center 480 <u>Volts 480</u> <u>Amps 12</u> Checked	417547 volts amps Changed	Which WW was running:	
Surge Su Motor Con Filter Comment	ppressor events ntrol Center 480 Volts 480 Amps 12 Checked s and/or Current Condition	<u>4(7547</u> volts amps Changed	Which WW was running?	
Surge Su Motor Con Filter Comment	ppressor events ntrol Center 480 <u>Volts 480</u> <u>Amps 12</u> Checked s and/or Current Condition	417547 volts amps Changed	Which WW was running	
Surge Su Motor Co Filter Comment	ppressor events ntrol Center <u>Volts</u> <u>Amps</u> <u>J2</u> Checked s and/or Current Condition	417547 volts amps Changed	Which WW was running	
Surge Su Motor Con Filter Comment	ppressor events ntrol Center <u>Volts</u> <u>Amps</u> <u>J2</u> Checked s and/or Current Condition	417547 volts amps Changed	Which WW was running	
Surge Su Motor Con Filter Comment	ppressor events ntrol Center <u>Volts</u> <u>Amps</u> <u>J2</u> Checked s and/or Current Condition	417547 volts amps Changed	Which WW was running	
Surge Su Motor Con Filter Comment	ppressor events ntrol Center 480 <u>Amps 12</u> Checked s and/or Current Condition	417547 volts amps Changed	Which WW was running	
Surge Su Motor Con Filter Comment	ppressor events ntrol Center 480 <u>Amps</u> 12 Checked s and/or Current Condition	417547 volts amps Changed	Which WW was running	
Surge Su Motor Col	ppressor events ntrol Center 480 <u>Amps</u> 12 Checked s and/or Current Condition	417547 volts amps Changed	Which WW was running	

APPENDIX B

MONTHLY FLOW SUMMARIES JANUARY 2019 – JUNE 2019

Direct Discharge Flow Data

	15,289	6174052	12/31/2018	
Notes	Daily Total Discharge (Gallons)	Totalizer Reading (Gallons)	Time; 11:58pm unless otherwise stated	Jan-19
09:57 enable	21,845	6,195,897		1
	55,440	6,251,337		2
	86,177	6,337,514		3
	113,207	6,450,722		4
	346	6,451,068		5
	2,751	6,453,819		6
	37,033	6,490,853		7
13:58 inhibit	20,732	6,511,585		8
10:39 enable	47,730	6,559,315		9
	86,400	6,645,715		10
	63,110	6,708,826		11
	47,780	6,756,606		12
	4,061	6,760,667		13
	35,713	6,796,381		14
	34,560	6,830,941		15
	6,209	6,837,150		16
	22,901	6,860,051		17
	6,642	6,866,693		18
	4,130	6,870,823		19
	33,774	6,904,597		20
	3,507	6,908,105		21
	25,097	6,933,202		22
15:02 inhibit	5,064	6,938,299		23
	o	6,938,266		24
06:05 enable	91,618	7,029,884		25
	149,683	7,179,567		26
	150,754	7,330,322		27
	34,280	7,364,602		28
	14,597	7,379,199		29
	22,104	7,401,303		30
	18507	7,419,811		31
	1,245.752	1.245.759		

January 2019



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Direct Discharge Flow Data

1/31/20	19	7419811	18,507	
Feb-19	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Notes
1		7,425,649	5,838	
2		7,456,436	24,661	
3		7,456,436	6,126	13:12 inhibit
4		7,456,436	0	
5		7,529,044	72,608	13:52 enable
6		7,617,712	88,668	12:06 inhibit
7		7,714,443	96,731	09:35 enable / 23:02 inhibit
8		7,835,344	120,901	07:09 enable
9		8,008,250	172,906	
10		8,091,983	83,732	
11		8,100,093	8,110	
12		8,126,329	26,236	21:27 inhibit
13		8,126,329	0	
14		8,126,329	0	
15		8,126,329	0	
16		8,170,536	44,206	15:03 enable
17		8,283,005	112,469	
18		8,345,937	62,931	
19		8,379,979	34,042	
20		8,379,979	0	
21		8,426,565	46,585	
22		8,549,900	123,335	
23		8,602,175	52,275	
24		8,605,709	3,534	10:12 inhibit
25		8,605,709	0	
26		8,605,709	O	
27		8,605,709	0	
28		8,605,709	o	
29				
30				
31				
		1,185,898	1,185,894	





Direct Discharge Flow Data

2/28/2019		8605709	0	
Mar-19	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Di s charge (Gallons)	Notes
1		8,605,709	0	
2		8,678,782	73,073	12:17 enable
3		8,828,542	149,760	
4		8,871,147	42,605	
5		8,876,874	5,727	
6		8,892,079	15,205	
7		8,905,051	12,972	
8		8,916,746	11,695	
9		8,947,532	30,786	
10		8,950,216	2,684	03:02 inhibit
11		8,950,216	0	
12		9,046,970	96,754	07:50 enable
13		9,177,733	130,763	
14	675	9,205,580	27,847	
15		9,254,291	48,711	
16		9,344,131	89,840	
17		9,346,792	2,661	
18		9,379,539	32,747	
19		9,408,339	28,800	
20		9,414,105	5,766	
21		9,439,202	25,097	
22		9,448,352	9,150	
23		9,551,066	102,714	
24		9,574,871	23,805	
25	201	9,590,948	16,077	
26		9,599,531	8,583	
27		9,610,071	10,540	
28		9,628,955	18,884	
29		9,628,955	0	
30		9,629,618	663	20:37 inhibit
31		9,629,618	0	
316 × 121014		1 023 909	1.023.909	



March 2019

Direct Discharge Flow Data

	0	9629618	3/31/2019		
Notes	Dally Total Discharge (Gallons)	Totalizer Reading (Gallons)	Time; 11:58pm unless otherwise stated	Apr-19	
20:39 enable	23,477	9,653,095	77 - 77 - 77	1	
	172,800	9,825,895		2	
	170,161	9,996,056		3	
	65,232	10,061,288		4	
	5,580	10,066,868		5	
	0	10,066,868		6	
	96,924	10,163,792		7	
05:18 inhibit 15:17 ena	76,626	10,240,418		8	
	33,734	10,274,152		9	
	18,139	10,292,291		10	
	13,669	10,305,960		11	
	12,867	10,318,827		12	
	8,082	10,326,909		13	
15:23 inhibit	15,084	10,341,993		14	
	0	10,341,993		15	
	o	10,341,993		16	
	o	10,341,993		17	
	o	10,341,993		18	
	0	10,341,993		19	
	٥	10,341,993		20	
	0	10,341,993		21	
18:58 enable	32,427	10,374,420		22	
	155,625	10,530,045		23	
	154,073	10,684,118		24	
	55,854	10,739,972		25	
13:37 inhibit	29,511	10,769,483		26	
	0	10,769,483		27	
07:24 enable	94,069	10,863,552		28	
	133,262	10,996,814		29	
	62,171	11,058,985		30	
				31	
	1,429,367	1,429,367		1998 March 1999 - Charlen and State 1999 - Charles and State	



April 2019

Direct Discharge Flow Data

4/30/20	019	11058985	62,171	
May-19	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Notes
1		11,103,742	44,757	20:41 inhibit
2		11,197,205	93,463	08:25 enable
3		11,345,852	148,647	
4		11,464,867	119,015	
5		11,468,883	4,016	
6		11,490,859	21,976	
7		11,504,742	13,883	
8		11,521,561	16,819	
9		11,543,884	22,323	
10		11,609,747	65,863	00:01 inhibit 11:28 enable
11		11,703,843	94,096	
12		11,754,470	50,627	
13		11,762,678	8,208	03:46 inhibit
14		11,847,195	84,517	08:24 enable
15		11,956,764	109,569	23:17 inhibit
16		11,999,363	42,599	04:10 enable
17		12,003,083	3,720	
18		12,003,083	0	
19		12,018,506	15,423	
20		12,047,914	29,408	
21		12,047,914	o	
22		12,047,914	0	
23		12,084,702	36,788	
24		12,092,830	8,128	
25		12,179,215	86,385	
26	C2.2	12,208,125	28,910	
27		12,250,565	42,440	
28		12,250,565	o	10:11 inhibit 10:34 enable
29		12,250,565	0	ikouti X
30		12,255,985	5,420	
31		12,298,953	42968	5 7.1932 - 9045 - 9
		1,239,968	1,239,968	



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May 2019

Direct Discharge Flow Data

5/31/2019		12298953	42,968	
Jun-19	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Notes
1		12,298,953	o	
2		12,300,236	1,283	
3		12,337,296	37,060	
4		12,342,311	5,015	
5		12,353,647	11,336	
6		12,369,273	15,626	16:57 inhibit
7		12,386,909	17,636	03:55 enable
8		12,400,486	13,577	
9		12,490,176	89,690	
10		12,529,193	39,017	19:42 inhibit
11		12,546,650	17,457	07:15 enable
12		12,565,393	18,743	
13		12,565,393	0	
14		12,566,256	863	00:29 inhibit
15		12,566,256	0	
16		12,566,256	0	
17		12,566,256	0	
18		12,566,256	0	
19		12,634,903	68,647	12:41 enable / 22:57 inhibit
20		12,658,982	24,079	
21		12,771,258	112,276	07:17 enable
22		12,932,538	161,280	
23		13,022,802	90,264	
24		13,034,864	12,062	
25	_	13,043,004	8,140	
26		13,056,450	13,446	
27		13,074,743	18,293	
28		13,089,569	14,826	······································
29		13,103,392	13,823	
30		13,116,300	12,908	
ui.				
		817,347	817,347	





APPENDIX C

HYDRAULIC MONITORING TABLES

J:\Projects\11172700.00000\WORD\DRAFT\Semi Annual Report Jan-Jun19\Semi Annual Report Jan-June19.docx

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-01D	1073088.634	1117968.213	694.41	NM	696.12	D	1						
MNW								3/21/2019 1218	2.41	693.71	0.00	693.71	
MNW								5/22/2019 1228	2.91	693.21	0.00	693.21	
MNW								6/19/2019 1531	2.48	693.64	0.00	693.64	
GW-01S	1073087.779	1117961.500	694.53	NM	696.19	S	1						
MNW								3/21/2019 1223	3.38	692.81	0.00	692.81	
MNW								5/22/2019 1227	4.02	692.17	0.00	692.17	
MNW								6/19/2019 1530	3.76	692.43	0.00	692.43	
GW-03D	1073819.106	1114602.426	692.35	NM	693.88	D	1						
MNW								3/21/2019 1033	1.55	692.33	0.00	692.33	
MNW								5/22/2019 0906	1.71	692.17	0.00	692.17	
MNW								6/19/2019 1430	1.66	692.22	0.00	692.22	
GW-03S	1073812.622	1114605.762	692.61	NM	693.80	S	1						
MNW							l	3/21/2019 1034	2.04	691.76	0.00	691.76	
MNW								5/22/2019 0907	2.56	691.24	0.00	691.24	
MNW								6/19/2019 1430	2.30	691.50	0.00	691.50	
GW-04D	1072289.432	1114685.625	690.89	NM	692.75	D	1						
MNW								3/21/2019 1232	11.45	681.30	0.00	681.30	
MNW								5/22/2019 1510	12.14	680.61	0.00	680.61	
MNW								6/19/2019 1518	11.91	680.84	0.00	680.84	
GW-04S	1072284.456	1114685.127	690.76	NM	692.72	S	1						
MNW								3/21/2019 1232	3.94	688.78	0.00	688.78	
MNW								5/22/2019 1509	4.24	688.48	0.00	688.48	
MNW								6/19/2019 1517	3.83	688.89	0.00	688.89	

NM - No Measurement

Filter = ([tblGWD].[LOGDATE]>=#1/1/2019#)

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.



MNW

SG

Manhole Monitoring Point Monitoring Well Staff Gauge

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-07D	1071242.458	1117669.925	697.15	NM	699.94	D	1						
MNW								3/21/2019 1140	47.34	652.60	0.00	652.60	
MNW								5/22/2019 1011	42.39	657.55	0.00	657.55	
MNW								6/19/2019 1525	56.58	643.36	0.00	643.36	
GW-07S	1071238.157	1117666.265	697.47	NM	699.51	S	1						
MNW								3/21/2019 1141	4.14	695.37	0.00	695.37	
MNW								5/22/2019 1012	4.75	694.76	0.00	694.76	
MNW								6/19/2019 1524	4.31	695.20	0.00	695.20	
GW-08D	1073713.617	1116795.328	695.28	NM	697.79	D	1						
MNW								3/21/2019 1044	5.52	692.27	0.00	692.27	
MNW								5/22/2019 0920	5.72	692.07	0.00	692.07	
MNW								6/19/2019 1442	5.64	692.15	0.00	692.15	
GW-08SR	1073714.172	1116786.343	695.08	NM	697.50	S	1						
MNW								3/21/2019 1044	5.02	692.48	0.00	692.48	
MNW								5/22/2019 0921	5.18	692.32	0.00	692.32	
MNW								6/19/2019 1441	5.13	692.37	0.00	692.37	
GW-26D	1071698.573	1115997.470	696.01	NM	698.50	D	1						
MNW								3/21/2019 1128	6.35	692.15	0.00	692.15	
MNW								5/22/2019 0957	6.55	691.95	0.00	691.95	
MNW								6/19/2019 1510	6.48	692.02	0.00	692.02	
GW-28S	1073129.479	1117648.927	698.60	NM	700.95	S	1						
MNW								3/21/2019 1054	8.66	692.29	0.00	692.29	
MNW								5/22/2019 0927	9.01	691.94	0.00	691.94	
MNW								6/19/2019 1448	8.60	692.35	0.00	692.35	

NM - No Measurement

Filter = ([tblGWD].[LOGDATE]>=#1/1/2019#)

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Manhole Monitoring Point

Monitoring Well

Staff Gauge



MNW

SG

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-29S	1072552.638	1117761.993	697.50	NM	699.63	S	1						
MNW								3/21/2019 1110	6.77	692.86	0.00	692.86	
MNW								5/22/2019 0942	8.02	691.61	0.00	691.61	
MNW								6/19/2019 1458	6.64	692.99	0.00	692.99	
GW-30S	1072096.109	1117743.563	693.67	NM	696.58	S	1						
MNW								3/21/2019 1115	7.50	689.08	0.00	689.08	
MNW								5/22/2019 0946	7.59	688.99	0.00	688.99	
MNW								6/19/2019 1501	7.48	689.10	0.00	689.10	
GW-31S	1071786.280	1117191.441	695.84	NM	698.62	S	1						
MNW								3/21/2019 1121	3.01	695.61	0.00	695.61	
MNW								5/22/2019 0950	3.04	695.58	0.00	695.58	
MNW								6/19/2019 1504	2.93	695.69	0.00	695.69	
GW-32S	1071613.793	1116364.200	696.19	NM	698.37	S	1						
MNW								3/21/2019 1125	2.71	695.66	0.00	695.66	
MNW								5/22/2019 0952	3.23	695.14	0.00	695.14	
MNW								6/19/2019 1507	3.01	695.36	0.00	695.36	
GW-33S	1072165.625	1115561.866	695.94	NM	698.24	S	1						
MNW								3/21/2019 1132	3.78	694.46	0.00	694.46	
MNW								5/22/2019 1001	4.92	693.32	0.00	693.32	
MNW								6/19/2019 1511	3.55	694.69	0.00	694.69	
GW-34S	1072979.205	1114730.200	692.51	NM	694.77	S	1						
MNW						ĺ	1	3/21/2019 1023	2.71	692.06	0.00	692.06	
MNW								5/22/2019 0851	2.84	691.93	0.00	691.93	
MNW								6/19/2019 1422	3.06	691.71	0.00	691.71	

NM - No Measurement

Filter = ([tblGWD].[LOGDATE]>=#1/1/2019#)

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type: MH

MNW

SG

Manhole Monitoring Point Monitoring Well Staff Gauge

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-355	1071701 925	1115985 585	696.19	NM	697 39	S	1						
GW-555	10/1/01.323	1113303.003	030.13		037.33	5	· ·						
MNW								3/21/2019 1120	3.67	693.72	0.00	693.72	
MNW								5/22/2019 0957	3.35	694.04	0.00	694.04	
MNW								6/19/2019 1513	4.77	692.62	0.00	692.62	
MH-01	1073806.665	1114810.501	698.62	NM	698.62	NA	1						
MH								3/21/2019 1028	10.12	688.50	0.00	688.50	
MH								5/22/2019 0857	9.87	688.75	0.00	688.75	
MH								6/19/2019 1426	9.26	689.36	0.00	689.36	
MH-03	1073736.789	1115259.334	699.40	NM	699.40	NA	1						
МН								3/21/2019 1038	11.00	688.40	0.00	688.40	
MH								5/22/2019 0914	10.91	688.49	0.00	688.49	
MH								6/19/2019 1436	10.12	689.28	0.00	689.28	
MH-07	1073838.229	1116243.757	696.82	NM	696.82	NA	1						
MH								3/21/2019 1040	9.22	687.60	0.00	687.60	
MH								5/22/2019 0917	8.95	687.87	0.00	687.87	
MH								6/19/2019 1438	8.37	688.45	0.00	688.45	
MH-10	1073540.729	1117381.524	703.01	NM	703.01	NA	1						
МН								3/21/2019 1052	14.43	688.58	0.00	688.58	
MH								5/22/2019 0924	14.42	688.59	0.00	688.59	
MH								6/19/2019 1446	14.43	688.58	0.00	688.58	
MH-15	1072531.567	1117761.125	699.02	NM	699.02	NA	1						
MH								3/21/2019 1110	14.79	684.23	0.00	684.23	
MH								5/22/2019 0941	14.54	684.48	0.00	684.48	
MH								6/19/2019 1457	12.86	686.16	0.00	686.16	

NM - No Measurement

Filter = ([tblGWD].[LOGDATE]>=#1/1/2019#)

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Manhole Monitoring Point

Monitoring Well

Staff Gauge



MNW

SG

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MH-16	1072133.714	1117748.238	698.57	NM	698.57	NA	1						
MF	1							3/21/2019 1114	14.53	684.04	0.00	684.04	
MH	1							5/22/2019 0945	14.24	684.33	0.00	684.33	
MH	ł							6/19/2019 1500	12.50	686.07	0.00	686.07	
MH-17	1071813.137	1117180.019	702.16	NM	702.16	NA	1						
MH	1							3/21/2019 1122	18.14	684.02	0.00	684.02	
MH	1							5/22/2019 0948	17.86	684.30	0.00	684.30	
MH	1							6/19/2019 1503	16.12	686.04	0.00	686.04	
MH-20	1071756.395	1115997.024	706.20	NM	706.20	NA	1						
MH	1							3/21/2019 1126	19.76	686.44	0.00	686.44	
MH	1							5/22/2019 0956	19.75	686.45	0.00	686.45	
MH	ł							6/19/2019 1509	19.70	686.50	0.00	686.50	
MH-22	1072158.023	1115589.309	698.05	NM	698.05	NA	1						
MH	1			-				3/21/2019 1131	9.02	689.03	0.00	689.03	
MH	1							5/22/2019 1000	9.00	689.05	0.00	689.05	
MH	ł							6/19/2019 1513	8.61	689.44	0.00	689.44	
MH-25	1072483.928	1114820.313	698.17	NM	698.17	NA	1						
MH	ł							3/21/2019 1006	9.71	688.46	0.00	688.46	
MH	1							5/22/2019 0847	9.47	688.70	0.00	688.70	
MH	ł							6/19/2019 1416	8.74	689.43	0.00	689.43	
SG-01	1073882.887	1114813.101	NM	NM	690.00	NA	1						
so	6				İ			3/21/2019 1030	-0.72	690.72	0.00	690.72	
SO	6							5/22/2019 0900	-0.70	690.70	0.00	690.70	
SG	6							6/19/2019 1427	Dry		NM		Dry

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type: MH MNW

SG

Manhole Monitoring Point Monitoring Well Staff Gauge

Location II	D/	Northing	Easting	Ground Flevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev (ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Fley (ft)	Product	Corrected Water	Remark
.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				Liovation (it)		(11001)21011(11)	20110	Cluvity		Trator (it)	2.017 (11)		2.001 (10)	
SG-02		1073738.27	1116805.85	NM	NM	690.00	NA	1						
	SG								3/21/2019 1046	-3.34	693.34	0.00	693.34	
5	SG								5/22/2019 0920	-3.23	693.23	0.00	693.23	
5	SG								6/19/2019 1443	-3.25	693.25	0.00	693.25	
WW-01	1	1073676.903	1115710.476	NM	NM	684.02	NA	1						
N	ИΗ								3/21/2019 0930	-4.2	688.22	0.00	688.22	
N	ИН								5/22/2019 0800	-4.5	688.52	0.00	688.52	
Ν	ИН								6/19/2019 1345	-5.2	689.22	0.00	689.22	
WW-02	1	1073684.724	1116792.311	NM	NM	684.18	NA	1						
n	ИН								3/21/2019 0930	-4.7	688.88	0.00	688.88	
N	ИН								5/22/2019 0800	-4.7	688.88	0.00	688.88	
Ν	ИН								6/19/2019 1345	-4.80	688.98	0.00	688.98	
WW-03	1	1073140.339	1117618.499	NM	NM	683.80	NA	1						
n	ИН			-					3/21/2019 1050	-5.03	688.83	0.00	688.83	
N	MН								5/22/2019 0928	-4.94	688.74	0.00	688.74	
Ν	ИН								6/19/2019 1450	-4.95	688.75	0.00	688.75	
WW-04	1	1072057.563	1117610.508	NM	NM	676.62	NA	1						
r.	мн								3/21/2019 0930	-6.9	683.52	0.00	683.52	
N	ИН								5/22/2019 0800	-7.1	683.72	0.00	683.72	
N	ИН								6/19/2019 1345	-9.1	685.72	0.00	685.72	
WW-05	1	1071661.368	1116370.876	NM	NM	676.14	NA	1						
N	мн								3/21/2019 0930	-5.8	681 94	0.00	681 94	
N	MH								5/22/2019 0800	-7.5	683.64	0.00	683.64	
	MH								6/19/2019 1345	-9.5	685.64	0.00	685.64	
									0,13/2013 1343	-3.5	000.04	0.00	000.04	

NM - No Measurement

Filter = ([tblGWD].[LOGDATE]>=#1/1/2019#)

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.



MNW

SG

Manhole Monitoring Point Monitoring Well Staff Gauge

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
WW-06	1072988.420	1114811.518	NM	NM	681.89	NA	1						
MH								3/21/2019 0930	-7.2	689.09	0.00	689.09	
MH								5/22/2019 0800	-7.3	689.19	0.00	689.19	
MH								6/19/2019 1345	-7.8	689.69	0.00	689.69	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

 Type:

 MH
 Manhole Monitoring Point

 MNW
 Monitoring Well

 SG
 Staff Gauge

TABLE C-2 PFOHL BROTHERS LANDFILL SITE OVERBURDEN HYDRAULIC GRADIENT

WELL PAIR:	WW-1	*	Level	WW-2	GW-8SR	Level	SG-02	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft)
3/21/2019	688.22			688.88	692.48	3.60	693.34	4.46
5/22/2019	688.52			688.88	692.32	3.44	693.23	4.35
6/19/2019	689.22			688.98	692.37	3.39	693.25	4.27
							_	
WELL PAIR:	WW-3	GW-28S	Level	WW-4	*	Level		
	Water Level	Water Level	Difference	Water Level	Water Level	Difference		
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)		
3/21/2019	688.83	692.29	3.46	683.52				
5/22/2019	688.74	691.94	3.20	683.72				
6/19/2019	688.75	692.35	3.60	685.72				
WELL PAIR:	WW-5	GW-32S	Level	WW-6	GW-34S	Level		
	Water Level	Water Level	Difference	Water Level	Water Level	Difference		
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)		
3/21/2019	681.94	695.66	13.72	689.09	692.06	2.97		
5/22/2019	683.64	695.14	11.50	689.19	691.93	2.74		
6/19/2019	685.64	695.36	9.72	689.69	691.71	2.02		
	-							
WELL PAIR:	MH-1	SG-1	Level	MH-15	GW-29S	Level		
	Water Level	Water Level	Difference	Water Level	Water Level	Difference		
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)		
3/21/2019	688.50	690.72	2.22	684.23	692.86	8.63		
5/22/2019	688.75	690.70	1.95	684.48	691.61	7.13		
6/19/2019	689.36	DRY	NA	686.16	692.99	6.83		
WELL PAIR:	MH-16	GW-30S	Level	MH-17	GW-31S	Level		
	Water Level	Water Level	Difference	Water Level	Water Level	Difference		
DATE	(ft amsl)	(ft omol)	(41)	(f) = = = = 1)	///	(51)		
	(it amor)	(it amsi)	(π)	(it amsi)	(ft amsi)	(π)		
3/21/2019	684.04	689.08	(π) 5.04	(ft amsl) 684.02	(ft amsl) 695.61	(π) 11.59		
3/21/2019 5/22/2019	684.04 684.33	689.08 688.99	(ft) 5.04 4.66	(ft amsi) 684.02 684.30	(ft amsi) 695.61 695.58	(π) 11.59 11.28		
3/21/2019 5/22/2019 6/19/2019	684.04 684.33 686.07	689.08 688.99 689.10	(ft) 5.04 4.66 3.03	(ft amsi) 684.02 684.30 686.04	(ft amsl) 695.61 695.58 695.69	(π) 11.59 11.28 9.65		
3/21/2019 5/22/2019 6/19/2019	684.04 684.33 686.07	689.08 688.99 689.10	(IT) 5.04 4.66 3.03	(ft amsi) 684.02 684.30 686.04	(ft amsi) 695.61 695.58 695.69	(π) 11.59 11.28 9.65		
3/21/2019 5/22/2019 6/19/2019 WELL PAIR:	684.04 684.33 686.07 MH-20	(it anis) 689.08 688.99 689.10 GW-35S	(IT) 5.04 4.66 3.03 Level	(ft amsi) 684.02 684.30 686.04 MH-22	(ft amsl) 695.61 695.58 695.69 GW-33S	(π) 11.59 11.28 9.65 Level		
3/21/2019 5/22/2019 6/19/2019 WELL PAIR:	684.04 684.33 686.07 MH-20 Water Level	(It anns)) 689.08 688.99 689.10 GW-35S Water Level	(II) 5.04 4.66 3.03 Level Difference	(ft amsi) 684.02 684.30 686.04 MH-22 Water Level	(ft amsi) 695.61 695.58 695.69 GW-33S Water Level	(ft) 11.59 11.28 9.65 Level Difference		
3/21/2019 5/22/2019 6/19/2019 WELL PAIR: DATE	(it dinisi) 684.04 684.33 686.07 MH-20 Water Level (ft amsl)	(It anis) 689.08 688.99 689.10 GW-35S Water Level (ft amsl)	(II) 5.04 4.66 3.03 Level Difference (ft)	(ft amsi) 684.02 684.30 686.04 MH-22 Water Level (ft amsl)	(ft amsl) 695.61 695.58 695.69 GW-33S Water Level (ft amsl)	(ft) 11.59 11.28 9.65 Level Difference (ft)		
3/21/2019 5/22/2019 6/19/2019 WELL PAIR: DATE 3/21/2019	(It dinisi) 684.04 684.33 686.07 Water Level (ft amsl) 686.44	(It anis) 689.08 688.99 689.10 GW-35S Water Level (ft amsl) 693.72	(It) 5.04 4.66 3.03 Level Difference (ft) 7.28	(ft amsi) 684.02 684.30 686.04 MH-22 Water Level (ft amsi) 689.03	(ft amsl) 695.61 695.58 695.69 GW-33S Water Level (ft amsl) 694.46	(ft) 11.59 11.28 9.65 Level Difference (ft) 5.43		
3/21/2019 5/22/2019 6/19/2019 WELL PAIR: DATE 3/21/2019 5/22/2019	(Refinition) 684.04 684.33 686.07 Water Level (ft amsl) 686.44 686.45	(It anis) 689.08 688.99 689.10 GW-35S Water Level (ft amsl) 693.72 694.04	(ft) 5.04 4.66 3.03 Level Difference (ft) 7.28 7.59	(ft amsi) 684.02 684.30 686.04 MH-22 Water Level (ft amsi) 689.03 689.05	(ft amsl) 695.61 695.58 695.69 GW-33S Water Level (ft amsl) 694.46 693.32	(ft) 11.59 11.28 9.65 Level Difference (ft) 5.43 4.27		

Notes:

* = No corresponding monitoring well.

NA = Not applicable

APPENDIX D

GROUNDWATER PURGE AND SAMPLE COLLECTION LOGS

Project:	60411174			Site: Pfohl Brothers			Well I.D.:	GW-01S
Date:	5/22/2019	Sampling F	Personnel:	Rob Mu	urphy, Tom I	Urban	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	4.02'	Depth to Well Bottom:	14.94'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	6.7	-	Estimated Purge Volume (liters): _	10.5
Sample ID:		GW-01S		Sample Time:	13	:25	QA/QC:	
Sample Othe	Parameters: r Information:	VOCs, SVOCs, a Riser pipe is bulg	nd TAL Meta ed inwards,	als could not remov	e stainless s	steel bailer fro	m within well, sa	mpled around it.

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:35	8.16	12.76	1.18	3.54	224	-87	210	4.02
12:40	7.88	10.24	1.24	2.88	210	-88	210	4.41
12:45	7.51	9.61	1.37	2.12	198	-89	210	4.88
12:50	7.41	9.47	1.55	1.58	132	-91	210	4.95
12:55	7.38	9.30	1.61	1.25	95.2	-90	210	5.00
13:00	7.37	9.15	1.63	1.03	135	-90	210	5.15
13:05	7.36	9.10	1.68	0.95	109	-90	210	5.15
13:15	7.36	9.12	1.73	0.88	64.9	-90	210	5.15
13:20	7.37	8.99	1.75	0.84	54.0	-91	210	5.20
13:25	7.37	9.06	1.76	0.80	60.9	-91	210	5.20
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174	Site:	Pfohl E	Brothers	Well I.D.:	GW-01D
Date:	5/22/2019	Sampling Persor	nnel: Rob M	urphy, Tom	Urban	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2	Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:2.91	Depth to Well Bottom: _	39.65'	Well Diameter:	4''	Screen Length:
Casing Type:	Stainle	ss Steel	Volume in 1 Well Casing (liters):	90.7	-	Estimated Purge Volume (liters): _	45.5
Sample ID: Sample	Parameters:	GW-01D VOCs, SVOCs, and TAL	Sample Time:		i:42	QA/QC:	MS/MSD
Othe	r Information:	· · ·					

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:37	7.65	11.20	1.23	3.35	50.9	-87	700	2.91
13:42	7.72	10.36	1.26	1.62	9.1	-110	700	2.96
13:47	7.73	10.24	1.26	1.24	12.2	-115	700	2.96
13:52	7.73	9.24	1.29	0.99	17.3	-120	700	2.96
13:57	7.73	9.23	1.30	0.89	14.7	-122	700	2.96
14:02	7.73	9.14	1.30	0.80	21.0	-124	700	2.96
14:07	7.71	9.10	1.30	0.74	23.1	-127	700	2.96
14:12	7.70	9.05	1.30	0.72	20.9	-130	700	2.96
14:17	7.69	9.00	1.30	0.67	17.8	-139	700	2.96
14:22	7.68	8.98	1.31	0.66	20.1	-148	700	2.96
14:27	7.64	8.95	1.31	0.65	13.0	-158	700	2.96
14:32	7.63	8.97	1.31	0.63	13.6	-163	700	2.96
14:37	7.61	8.96	1.31	0.62	12.6	-169	700	2.96
14:42	7.59	8.91	1.31	0.61	10.1	-173	700	2.96
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:	60411174			Site:	Pfohl E	Brothers	Well I.D.:	GW-03S
Date:	5/23/2019	Sampling Pe	rsonnel:	Rob Mu	Irphy, Tom	Urban	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		_Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	2.43'	Depth to Well Bottom:	13.22'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	6.7	-	Estimated Purge Volume (liters): _	4.6
Sample ID:	Parameters:	GW-03S VOCs, SVOCs, and	TAL Meta	Sample als	10	:10	QA/QC:	
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:45	7.50	15.82	1.69	2.53	15.0	-6	185	2.43
9:50	7.41	15.37	1.67	1.80	10.0	-31	185	4.33
9:55	7.43	14.29	1.68	1.44	7.7	-30	185	4.98
10:00	7.45	13.22	1.71	1.10	4.0	-27	185	5.64
10:05	7.45	13.55	1.69	0.96	1.9	-27	185	6.20
10:10	7.46	13.43	1.69	1.02	2.7	-29	185	6.71
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:	60411174			Site:	Pfohl E	Brothers	Well I.D.:	GW-03D
Date:	5/23/2019	Sampling Perso	onnel:	Rob Mu	urphy, Tom I	Urban	Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2	Tu	bing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:1.7	<u>1'</u> W	Depth to ell Bottom:	35.70'	Well Diameter:	4"	Screen Length:
Casing Type:	Stainle	ss Steel	Va W	olume in 1 ell Casing (liters):	84.0	-	Estimated Purge Volume (liters): _	36.0
Sample ID:	Parameters	GW-03D		Sample Time:	11	:23	QA/QC: _	
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:23	7.86	10.98	1.56	2.80	16.3	-19	600	1.71
10:28	7.58	9.69	1.60	0.89	1.3	-71	600	1.71
10:33	7.60	9.60	1.61	0.81	0.8	-72	600	1.71
10:38	7.56	9.49	1.61	0.72	0.9	-74	600	1.71
10:43	7.52	9.42	1.61	0.65	0.3	-75	600	1.71
10:48	7.51	9.54	1.61	0.62	0.4	-77	600	1.71
10:53	7.52	9.54	1.61	0.60	0.6	-79	600	1.71
10:58	7.53	9.51	1.61	0.60	0.4	-80	600	1.71
11:03	7.52	9.43	1.61	0.60	1.0	-80	600	1.71
11:08	7.69	9.27	1.62	0.83	1.0	-80	600	1.71
11:13	7.58	9.25	1.62	0.66	0.8	-80	600	1.71
11:18	7.55	9.21	1.62	0.63	0.5	-81	600	1.71
11:23	7.53	9.18	1.62	0.61	0.6	-81	600	1.71
Televene	0.1		20/	1.09/	109/	+ or 10		
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-04S		
Date:	5/22/2019	Sampling	Rob Murphy, Tom Urban			Company: _	URS Corporation			
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/S	Silicone	Pump/Tubing Inlet Location:	Screen midpoint		
Measuring Point:	Below Top of Riser	Initial Depth to Water:	4.24'	Depth to Well Bottom:	16.23'	Well Diameter:	2"	Screen Length:		
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	7.4		Estimated Purge Volume (liters): _	11.0		
Sample ID:		GW-4S		Sample Time:	VOC's- 15:15 Metals	/ SVOC's and - 16:50	QA/QC:			
Sample Parameters: VOCs, SVOCs, and TAL Metals Other Information: Placed passive diffusion bag (PDB) in well 3/21/19, sampled VOCs from PDB at 15:15 on 5/22/19 Well historically goes dry at very low purge rates (<75ml/min).										

PURGE PARAMETERS

ТІМЕ	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:25	8.55	11.77	0.548	6.96	3.7	-48	Initial	
15:27	8.69	9.68	0.531	7.27	22.8	-48	0.75 gallons	
15:28	8.00	8.90	0.540	6.43	151	-45	1.5 gallons	
15:29	8.19	8.53	0.538	6.76	367	-42	2.25 gallons	
	Allow Rechar	ge					3.0 gallons	Dry
16:50	8.64	10.09	0.572	5.22	273.0	-250.0		12.57
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	te: Pfohl Brothers		Well I.D.:	GW-04D		
Date:	5/22/2019	Sampling Personnel:			Rob Murphy, Tom Urban			URS Corporation		
Purging/ Sampling Device:		Geopump 2		_Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint		
Measuring Point:	Below Top of Riser	Initial Depth to Water:	12.14'	Depth to Well Bottom:	45.57'	Well Diameter:	4''	Screen Length:		
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	82.6	-	Estimated Purge Volume (liters): _	12.0		
Sample ID:	Parameters:	GW-4D VOCs, SVOCs, a	and TAL Meta	Sample Time: <u>16:40</u> Is		QA/QC:				
Other Information:										

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:40	7.67	12.77	1.82	2.97	18.8	-85	200	12.14
15:45	7.61	12.02	1.83	2.02	19.0	-120	200	12.42
15:50	7.50	11.72	1.85	1.50	19.2	-179	200	12.75
15:55	7.52	12.01	1.85	1.05	17.9	-198	200	12.91
16:00	7.53	11.35	1.89	0.96	13.2	-211	200	13.05
16:05	7.55	10.89	1.90	0.82	11.6	-227	200	13.22
16:10	7.55	11.01	1.89	0.75	10.1	-241	200	13.30
16:15	7.56	11.22	1.88	0.69	9.8	-258	200	13.45
16:20	7.57	11.09	1.90	0.67	8.2	-266	200	13.55
16:25	7.58	11.16	1.90	0.64	6.4	-277	200	13.62
16:30	7.59	10.55	1.94	0.65	4.3	-276	200	13.70
16:35	7.56	10.49	1.95	0.63	6.1	-279	200	13.75
16:40	7.57	10.48	1.96	0.61	3.7	-252	200	13.80
Tolerance:	0.1		3%	10%	10%	+ or - 10		

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl	WELL NO.:			GW-07S							
PROJECT NO.: 6041	1174										
STAFF: Rob N	/lurphy, Tom	n Urban									
DATE(S): 5/22/	19 and 5/23/	19									
1. TOTAL CASING AND S	CREEN LENG	TH (FT.)			=	35.3	3	WELL ID. 1"	VOL. (GAL/ 0.0-	/FT) 40	
2. WATER LEVEL BELOW	TOP OF CAS	ING (FT.)			=	4.75	5	2"	0.1	17	
3. NUMBER OF FEET STA		ER (#1 - #2	:)		=	30.5	8	3"	0.3	38	
4. VOLUME OF WATER/F	=	0.17	7	4"	0.6	36					
5. VOLUME OF WATER IN	5.2		5"	1.0)4						
6. VOLUME OF WATER T			6"	1.5	50						
7. VOLUME OF WATER A	=	8.0		8"	2.60						
	V=0.0408 x (CASING DIAMETER [INCHES]) ²										
PARAMETERS	Initial	2	4	6	8	Sample)			
рН	8.18	8.20	8.12	8.21	8.03	8.15					
SPEC. COND. (mS/cm)	0.737	0.736	0.741	0.741	0.736	0.784					
DO (mg/l)	3.60	5.52	4.49	6.68	9.33	8.36					
TEMPERATURE (⁰ C)	10.57	9.62	10.51	10.39	10.30	11.06					
TURBIDITY (NTU)	11.1	23.5	63.8	103	417	17.7					
ORP (millivolts)	-56	-50	-28	-16	-2	48					
TIME	11:52	11:54	12:00	12:05	12:10	7:55 on 5/23/19					
Image: Communication of the second											

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl	Brothers La	ndfill		WELL NO.:		GW-07D						
PROJECT NO.: 6041	1174											
STAFF: Rob I	Murphy, Tom	n Urban										
DATE(S): 5/22/	19 and 5/23/	19										
1. TOTAL CASING AND SCREEN LENGTH (FT.) = 60.83 WELL ID. VOL. (GAL/FT) 1. TOTAL CASING AND SCREEN LENGTH (FT.) = 60.83 1" 0.040												
2. WATER LEVEL BELOW	TOP OF CAS	ING (FT.)			=	42.39		2"	0.1	17		
3. NUMBER OF FEET STA	=	18.44		3"	0.3	38						
4. VOLUME OF WATER/F	0.66		4"	0.0	66							
5. VOLUME OF WATER IN	=	12.2		5"	1.0	04						
6. VOLUME OF WATER T	=			6"	1.9	50						
7. VOLUME OF WATER A	CTUALLY REM	GAL.)	=	12.2		8"	2.60					
	V=0.0408 x (CASING DIAMETER [INCHES]) ²											
ACCUMULATED VOLUME PURGED (GALLONS)												
PARAMETERS	Init	3	6	9	12.2	Sample						
рН	7.70	8.11	7.86	7.87	7.99	8.24						
SPEC. COND. (mS/cm)	0.795	0.745	0.789	0.838	0.869	0.930						
DO (mg/l)	3.61	6.36	8.04	9.31	8.16	9.83						
TEMPERATURE (⁰ C)	15.23	12.91	12.55	12.45	12.48	13.35						
TURBIDITY (NTU)	4.7	14.3	23.3	35.9	61.4	169						
ORP (millivolts)	-60	-63	-49	-63	-70	49						
TIME	11:10	11:15	11:25	11:30	11:40	7:45 on 5/23/19						
COMMENTS: 10:55 - Fill VOCs from passive diffusion bag (PDB), PDB was installed on 3/21/19 11:10 - Begin hand bailing well. 11:40 - Well dry after removing 12.2 gallons. 5/23/2019 07:40 - return to well, depth to water = 59.29 feet. 07:45 - Collect sample for SVOCs and Metals. Strong Sulfur Odor												

Project:		60411174		Site:	Site: Pfohl Brothers		Well I.D.:	GW-08SR
Date:	5/23/2019	5/23/2019 Sampling Personnel:			Rob Murphy, Tom Urban			URS Corporation
Purging/ Sampling Device:		Geopump 2		_Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	5.15'	Depth to Well Bottom:	13.02'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainless Steel			Volume in 1 Well Casing (liters):	4.9	-	Estimated Purge Volume (liters): _	9.8
Sample ID:	Parameters:	GW-8SR VOCs, SVOCs,	and TAL Met	Sample Time: <u>14:09</u>		QA/QC:		
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:20	7.32	11.83	1.45	3.21	70.8	-41	200	5.15
13:25	7.21	11.61	1.43	2.34	64.7	-48	200	6.10
13:30	7.24	11.55	1.36	1.42	64.0	-50	200	6.68
13:35	7.26	11.51	1.31	1.11	50.1	-51	200	7.01
13:40	7.28	11.46	1.26	0.93	31.9	-52	200	7.37
13:45	7.25	11.43	1.34	0.82	16.1	-55	200	7.68
13:50	7.23	11.59	1.41	0.78	14.7	-57	200	7.76
13:55	7.19	11.85	1.53	0.76	15.2	-60	200	7.82
14:00	7.18	11.84	1.57	0.74	13.2	-61	200	7.85
14:03	7.17	11.87	1.63	0.73	12.4	-62	200	7.90
14:06	7.16	11.86	1.66	0.70	11.5	-64	200	7.95
14:09	7.16	11.77	1.68	0.70	11.0	-65	200	8.04
Tolerance:	0.1		3%	10%	10%	+ or - 10		
Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-08D
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Date:	5/23/2019	Sampling	Personnel:	Rob Mu	urphy, Tom	Urban	_ Company:	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet _ Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	5.69'	Depth to Well Bottom:	36.54'	Well Diameter:	4"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	76.2	-	Estimated Purge Volume (liters):	43.2
Sample ID:		GW-8D		Sample Time:	13	3:10	_ QA/QC:	Field Dup. FD-20190523
Sample Othe	Parameters: r Information:	VOCs, SVOCs,	and TAL Meta	als				

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:10	7.62	9.91	1.81	4.56	70.6	-51	720	5.69
12:15	7.52	9.81	1.76	3.08	45.2	-29	720	5.69
12:20	7.49	9.61	1.71	1.83	21.0	-12	720	5.69
12:25	7.49	9.50	1.71	1.48	19.3	-6	720	5.69
12:30	7.49	9.52	1.71	1.33	11.8	-1	720	5.69
12:35	7.49	9.57	1.71	1.24	13.7	2	720	5.69
12:40	7.49	9.60	1.71	1.17	10.0	3	720	5.69
12:45	7.49	9.59	1.71	1.12	10.4	6	720	5.69
12:50	7.50	9.64	1.71	1.10	7.0	8	720	5.69
12:55	7.52	9.64	1.71	1.07	6.9	8	720	5.69
13:00	7.52	9.62	1.71	1.03	5.1	10	720	5.69
13:05	7.50	9.60	1.71	1.02	6.7	11	720	5.69
13:10	7.52	9.68	1.71	1.02	6.1	12	720	5.69
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174	Site:	Pfohl B	rothers	Well I.D.:	GW-26D
Date:	5/23/2019	Sampling Person	nel: Rob Mu	urphy, Tom L	Jrban	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2	Tubing Type:	LDPE/S	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:6.50'	Depth to Well Bottom:	40.70'	Well Diameter:	4''	Screen Length:
Casing Type:	Stainle	ss Steel	Volume in 1 Well Casing (liters):	84.5		Estimated Purge Volume (liters): _	45.6
Sample ID:	Parameters	GW-26D	Sample Time:	16	20	QA/QC:	
Othe	r Information:						

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:20	7.56	11.72	2.57	3.28	80.5	-66	760	6.50
15:25	7.42	11.34	2.59	2.12	79.4	-67	760	6.50
15:30	7.38	11.34	2.58	1.49	49.4	-66	760	6.50
15:35	7.38	11.41	2.58	1.06	77.9	-67	760	6.50
15:40	7.32	11.22	2.61	0.95	46.6	-69	760	6.50
15:45	7.31	11.24	2.61	0.74	7.7	-65	760	6.50
15:50	7.33	11.24	2.60	0.65	8.4	-66	760	6.50
15:55	7.36	11.12	2.61	0.61	7.6	-69	760	6.50
16:00	7.37	11.10	2.61	0.58	5.8	-70	760	6.50
16:05	7.37	11.10	2.61	0.55	4.8	-71	760	6.50
16:10	7.37	11.11	2.60	0.53	4.7	-71	760	6.50
16:15	7.37	11.04	2.61	0.52	4.4	-72	760	6.50
16:20	7.37	11.05	2.60	0.51	4.1	-72	760	6.50
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-28S
Date:	5/24/2019	Sampling	Personnel:	Rob Mu	Irphy, Tom	Urban	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		_Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location: _	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	9.12'	Depth to Well Bottom:	15.52'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	3.9	-	Estimated Purge Volume (liters): _	6.5
Sample ID:	Parameters:	GW-28S VOCs, SVOCs, a	and TAL Met	Sample _ Time:	8:	:11	QA/QC:	
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
7:35	6.57	13.57	0.540	4.04	4.2	195	180	9.12
7:40	7.51	9.70	0.625	3.02	8.4	122	180	10.06
7:45	7.67	9.38	0.616	2.29	5.2	82	180	10.44
7:50	7.68	10.64	0.589	1.90	8.5	66	180	10.63
7:55	7.69	11.14	0.579	1.77	7.5	56	180	10.77
8:00	7.68	11.44	0.577	1.65	5.6	51	180	10.86
8:05	7.68	11.65	0.578	1.46	5.5	48	180	10.88
8:08	7.68	10.96	0.592	1.46	7.0	46	180	10.91
8:11	7.67	11.16	0.590	1.34	6.9	44	180	10.94
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-29S
Date:	5/24/2019	Sampling P	ersonnel:	Rob Murphy, Tom Urban			Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	8.32'	Depth to Well Bottom:	20.04'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	7.2	-	Estimated Purge Volume (liters): _	8.6
Sample ID: _	Parameters:	GW-29S VOCs. SVOCs. ar	nd TAL Meta	Sample Time:	9	:10	QA/QC: _	
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:30	7.27	11.31	0.846	3.03	200	-71	270	8.32
8:35	7.18	10.43	0.858	1.84	358	-82	215	10.22
8:40	7.19	10.34	0.864	1.44	301	-83	215	10.65
8:45	7.20	10.22	0.877	1.20	251	-86	215	11.17
8:50	7.22	10.31	0.902	1.08	148	-88	200	11.31
8:55	7.24	10.48	0.936	0.95	81.8	-91	200	11.45
9:00	7.26	10.60	0.942	0.87	47.7	-94	200	11.56
9:05	7.28	10.80	0.945	0.82	51.2	-96	200	11.66
9:10	7.29	10.80	0.949	0.80	53.4	-97	200	11.75
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl B	Brothers	Well I.D.:	GW-30S
Date:	5/24/2019	Sampling Pers	onnel: _	Rob Mu	rphy, Tom l	Jrban	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/S	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:7.6	<u> 55' \</u>	Depth to Well Bottom:	17.97'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainle	ss Steel	,	Volume in 1 Well Casing (liters):	6.4		Estimated Purge Volume (liters): _	12.6
Sample ID:	Parameters:	GW-30S VOCs, SVOCs, and T.	Sample Time: s	10	:00	QA/QC:		
Othe	r Information:							

PURGE PARAMETERS

ТІМЕ	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:25	7.73	14.19	0.793	4.44	567	-36	360	7.65
9:30	7.55	9.16	0.813	2.33	314	-56	360	7.70
9:35	7.51	9.01	0.811	1.54	134	-73	360	7.71
9:40	7.48	8.97	0.822	1.27	88.2	-77	360	7.71
9:45	7.46	8.93	0.830	0.99	26.1	-80	360	7.71
9:50	7.45	8.92	0.851	0.89	15.6	-83	360	7.71
9:55	7.45	8.93	0.866	0.79	10.0	-85	360	7.71
10:00	7.45	8.97	0.871	0.74	7.7	-87	360	7.71
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-31S
Date:	5/24/2019	Sampling Pe	rsonnel:	Rob Mu	rphy, Tom	Urban	Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	3.20'	Depth to Well Bottom:	9.57'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	3.9	-	Estimated Purge Volume (liters): _	3.9
Sample ID:	Parameters:	GW-31S VOCs, SVOCs, and	TAL Meta	Sample Time:	10	1:45	QA/QC:	
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:15	7.13	13.30	0.609	3.20	19.5	-4	130	3.20
10:20	7.45	13.29	0.630	1.40	10.3	-43	130	3.84
10:25	7.41	13.75	0.625	1.09	3.1	-37	130	4.00
10:30	7.41	14.04	0.614	0.84	5.0	-43	130	4.26
10:35	7.42	14.12	0.614	0.75	3.5	-53	130	4.48
10:40	7.43	13.88	0.618	0.70	5.1	-59	130	4.65
10:45	7.43	13.50	0.620	0.70	4.1	-63	130	4.78
				-		-		
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl I	Brothers	Well I.D.:	GW-32S
Date:	5/24/2019	Sampling I	Personnel:	Rob Mu	ırphy, Tom	Urban	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	3.38'	Depth to Well Bottom:	9.93'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	4.0	-	Estimated Purge Volume (liters): _	7.0
Sample ID: Sample	Parameters:	GW-32S VOCs, SVOCs, a	nd TAL Meta	Sample Time:	11	1:39	QA/QC:	
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:04	7.90	11.25	0.520	3.51	0.1	-35	200	3.38
11:09	7.85	10.15	0.540	1.24	0.0	-30	200	4.00
11:14	7.82	9.92	0.563	1.39	0.5	-27	200	4.04
11:19	7.80	9.74	0.578	1.17	0.7	-25	200	4.10
11:24	7.83	9.73	0.578	1.02	0.9	-25	200	4.15
11:29	7.83	9.69	0.584	0.95	0.6	-24	200	4.19
11:34	7.81	9.72	0.582	0.86	0.0	-23	200	4.19
11:39	7.80	9.81	0.580	0.83	0.0	-23	200	4.19
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-33S
Date:	5/24/2019	Sampling F	Personnel:	Rob Mu	rphy, Tom	Urban	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		_Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location: _	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	4.96'	Depth to Well Bottom:	8.21'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	2.0	-	Estimated Purge Volume (liters): _	5.5
Sample ID: Sample	Parameters:	GW-33S VOCs, SVOCs, a	nd TAL Meta	Sample Time:	12	::25	QA/QC:	
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:50	7.97	13.03	0.533	2.03	0.5	13	230	4.96
11:55	7.81	12.27	0.547	2.31	0.4	7	175	6.00
12:00	7.82	12.25	0.548	3.99	0.6	12	140	6.21
12:05	7.83	12.08	0.563	3.40	0.0	16	140	6.30
12:10	7.80	12.17	0.571	2.70	0.0	19	140	6.36
12:15	7.78	12.18	0.580	2.21	0.0	21	140	6.43
12:20	7.77	12.20	0.581	2.22	0.0	22	140	6.47
12:25	7.75	12.12	0.584	2.12	0.0	23	140	6.52
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-34S
Date:	5/23/2019	Sampling	Personnel:	Rob Mu	irphy, Tom	Urban	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		_Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	2.75'	Depth to Well Bottom:	10.01'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	4.5	-	Estimated Purge Volume (liters): _	6.3
Sample ID:	Parameters	GW-34S	and TAL Met	Sample 	9:	:15	QA/QC:	
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:30	6.83	16.03	1.12	2.74	2.6	98	140	2.75
8:35	7.34	15.40	1.09	1.63	2.1	2	140	3.66
8:40	7.32	14.74	1.10	1.33	1.6	-8	140	3.81
8:45	7.31	14.37	1.09	1.19	0.9	-12	140	3.87
8:50	7.33	13.68	1.05	1.05	0.8	-10	140	3.92
8:55	7.41	13.34	0.979	0.99	0.4	-11	140	3.92
9:00	7.40	13.69	0.945	0.90	0.3	-6	140	3.92
9:05	7.39	13.72	0.912	0.79	1.1	-5	140	3.96
9:10	7.39	13.84	0.891	0.74	0.5	-4	140	4.80
9:15	7.38	13.90	0.884	0.71	0.3	-3	140	3.98
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-35S
Date:	5/23/2019	Sampling	Personnel:	Rob Murphy, Tom Urban			_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		_Tubing Type:	LDPE/	'Silicone	Pump/Tubing Inlet Location: _	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	3.24'	Depth to Well Bottom:	7.46'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	2.6	-	Estimated Purge Volume (liters): _	4.9
Sample ID:	Parameters:	GW-35S VOCs, SVOCs, a	and TAL Met	Sample _ Time: als	15	5:10	QA/QC:	
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:35	7.97	17.35	0.531	2.69	4.9	-22	140	3.24
14:40	7.72	15.15	0.554	1.74	1.7	-18	140	3.55
14:45	7.71	15.02	0.557	1.28	1.2	-18	140	3.58
14:50	7.70	14.92	0.559	0.99	0.4	-18	140	3.60
14:55	7.70	15.13	0.560	0.90	0.0	-18	140	3.60
15:00	7.71	14.77	0.557	0.82	0.1	-18	140	3.64
15:05	7.71	14.74	0.557	0.75	0.0	-18	140	3.64
15:10	7.71	14.54	0.558	0.74	0.0	-18	140	3.64
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project Name:	Pfohl Brothers Landfill	Project Number:	60411174
Sampling Crew Members:	<u>R. Murphy, T. Urban</u>	Supervisor:	<u>R. Murphy</u>
Date of Sampling:	<u>May 22, 2019</u>		

Sample I.D. Number	Well Number	Well Volume (liters)	Volume Purged (liters)	Sample Time	Sample Description	Analysis Required	Chain-of- Custody Number
GW-07S	GW-07S	19.7	30.3	10:45	Groundwater	VOCa	Not Applicable
GW-07D	GW-07D	46.2	46.2	10:55	Groundwater	VOCS	Not Applicable
GW-01S	GW-01S	6.7	10.5	13:25	Groundwater		Not Applicable
GW-01D	GW-01D	90.8	45.5	14:42	Groundwater		Not Applicable
GW-01D-MS	GW-01D	90.8	45.5	14:42	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-01D-MSD	GW-01D	90.8	45.5	14:42	Groundwater		Not Applicable
GW-04S	GW-04S	7.4	11.0	15:15&16:50	Groundwater		Not Applicable

Additional Comments:

All wells were purged using low flow methods until parameter stabilization with the exception of wells GW-04S, GW-07D, and GW-07S that were sampled for VOCs using passive diffusion bags (PDBs). GW-04S, GW-07D, and GW-07S were then purged dry. Remaining parameters were collected after recovery at GW-04S.

Sam	pling Crew Mem	ibers:		<u>R. Murphy, T. Urba</u>	<u>an</u>	Supervisor:	<u>R. Murphy</u>	
Date	e of Sampling:			<u>May 22, 2019</u>				
	Sample I.D. Number	Well Number	Well Volume (liters)	Volume Purged (liters)	Sample Time	Sample Description	Analysis Required	Chain-of- Custody Number
		1	1					

Number	Number	(liters)	(inters)		Description	Required	Number
GW-04D	GW-04D	82.6	12.0	16:40	Groundwater	VOCs/SVOCs/ Metals	Not Applicable

Additional Comments:

All wells were purged using low flow methods until parameter stabilization.

Project Name:		Pfohl Brothers Landfill	Project Number:	60411174	_	
Sam	npling Crew Members:		<u>R. Murphy, T. Urban</u>	Supervisor:	<u>R. Murphy</u>	
Date	e of Sampling:		<u>May 23, 2019</u>			
ſ		,, Well	Notes Devel	0 a marta		Chain-of-

Sample I.D. Number	Well Number	Volume (liters)	Volume Purged (liters)	Sample Time	Sample Description	Analysis Required	Custody Number
GW-07D	GW-07D	46.2	45.4	7:45	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-07S	GW-07S	19.7	30.3	7:55	Groundwater		Not Applicable
GW-34S	GW-34S	4.5	6.3	9:15	Groundwater		Not Applicable
GW-03S	GW-03S	6.7	4.6	10:10	Groundwater		Not Applicable
GW-03D	GW-03D	84.0	36.0	11:23	Groundwater		Not Applicable
GW-08D	GW-08D	76.2	43.2	13:10	Groundwater		Not Applicable
FD-20190523	GW-08D	76.2	43.2	13:10	Field Duplicate		Not Applicable

Additional Comments:

GW-07D and GW-07S were sampled for SVOCs and Metals after recharging overnight.

All other wells were purged using low flow methods until parameter stabilization.

Project Name:	Pfohl Brothers Landfill	Project Number:	60411174
Sampling Crew Members:	<u>R. Murphy, T. Urban</u>	Supervisor:	<u>R. Murphy</u>
Date of Sampling:	<u>May 23, 2019</u>		

Sample I.D. Number	Well Number	Well Volume (liters)	Volume Purged (liters)	Sample Time	Sample Description	Analysis Required	Chain-of- Custody Number
GW-08SR	GW-08SR	4.9	9.8	14:09	Groundwater		Not Applicable
GW-35S	GW-35S	2.6	4.9	15:10	Groundwater	VOCs/SVOCs/ TAL Metals	Not Applicable
GW-26D	GW-26D	84.5	45.6	16:20	Groundwater		Not Applicable
TB-20190522-23	-	-	-	-	Trip Blank	VOCs	Not Applicable

Additional Comments:

All wells were purged using low flow methods until parameter stabilization.

Project Name:	Pfohl Brothers Landfill	Project Number:	60411174
Sampling Crew Members:	<u>R. Murphy, T. Urban</u>	Supervisor:	<u>R. Murphy</u>
Date of Sampling:	<u>May 24, 2019</u>		

Sample I.D. Number	Well Number	Well Volume (liters)	Volume Purged (liters)	Sample Time	Sample Description	Analysis Required	Chain-of- Custody Number
GW-28S	GW-28S	3.9	6.5	8:11	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-29S	GW-29S	7.2	8.6	9:10	Groundwater		Not Applicable
GW-30S	GW-30S	6.4	12.6	10:00	Groundwater		Not Applicable
GW-31S	GW-31S	3.9	3.9	10:45	Groundwater		Not Applicable
GW-32S	GW-32S	4.0	7.0	11:39	Groundwater		Not Applicable
GW-33S	GW-33S	2.0	5.5	12:25	Groundwater		Not Applicable
TB-20190524	-	-	-	-	Trip Blank	VOCs	Not Applicable

Additional Comments:

All wells were purged using low flow methods until parameter stabilization.

APPENDIX E

GROUNDWATER TREND ANALYSIS

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FIGURE E-1 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-01D



FIGURE E-2 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-01S



FIGURE E-3 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-03D



FIGURE E-4 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-03S



FIGURE E-4 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-03S



FIGURE E-5 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-04D



FIGURE E-6 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-04S



FIGURE E-7 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-07D



FIGURE E-7 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-07D



FIGURE E-7 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-07D



FIGURE E-8 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-07S



FIGURE E-9 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-08D



FIGURE E-10 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-08SR



FIGURE E-11 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-26D



FIGURE E-12 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-28S



FIGURE E-13 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-29S



FIGURE E-13 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-29S



FIGURE E-14 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-30S



FIGURE E-15 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-31S



FIGURE E-16 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-32S


FIGURE E-17 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-33S



FIGURE E-18 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-34S



FIGURE E-19 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-35S



APPENDIX F

BSA PERMITS 16-04-CH016 AND 19-04-CH016

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AUTHORIZATION TO DISCHARGE UNDER THE BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NO. 16-04-CH016 USEPA Category 40 CFR Part 403

In accordance with the provisions of the Federal Water Pollution Control Act, as amended, and the Sewer Regulations of the Buffalo Sewer Authority, authorization is hereby granted to:

THE TOWN OF CHEEKTOWAGA

to discharge wastewater from a facility located at:

PFOHL BROTHERS LANDFILL REMEDIATION SITE 1000 AERO DRIVE

CHEEKTOWAGA, NEW YORK 14225

The wastewater permitted herein shall be discharged to the Town of Cheektowaga sewer system, which is connected to the Buffalo Municipal Sewer System and Treatment facilities, and which wastewater will be treated at the Buffalo Sewer Authority's Treatment Plant.

Issuance of this permit is based upon a permit application filed on **July 6**, **2016** analytical data. This permit is granted in accordance with discharge limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

Effective this 1st day of April, 2016 To Expire the 31st day of March, 2019 General Manager Signed this day of

PAGE 1 OF 6

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall (see attached map) shall be limited and monitored **quarterly** by the permittee as specified below.

Sample		Discharge Limitations ⁽¹⁾	Samp	ling Requirements
Point	Parameter	Daily Max	Period	Туре
001	pН	5.0 – 12.0 S.U.	1 day	Composite ²
	Total Cadmium	1.17 lbs.	1 day	Composite ²
	Total Chromium	1.17 lbs.	1 day	Composite ²
	Total Copper	3.74 lbs.	1 day	Composite ²
	Total Lead	1.17 lbs.	1 day	Composite ²
	Total Nickel	3.27 lbs.	1 day	Composite ²
	Total Zinc	5.84 lbs.	1 day	Composite ²
	Total Barium	2.34 lbs.	1 day	Composite ²
	Total Suspended Solids ⁵	250 mg/l	1 day	Composite ²
	Total Flow	140,100 gallons ⁶	1 day	Discharge meter reading

Footnotes are explained on page 5.

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A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall (see attached map) shall be limited and monitored **once** by the permittee as specified below.

Sample		Discharge Limitations ⁽¹⁾	Sampl	ing Requirements
Point	Parameter	Daily Max	Period	Туре
001	Total Mercury	0.001 lbs.	1 day	.Composite ²
	USEPA Test			
	Method 608 ⁴	To be monitored	1 day	Grab ³
	USEPA Test			
	Method 624 ⁴	To be monitored	1 day	Grab ³
	USEPA Test			
	Method 625 ⁴	To be monitored	1 day	Grab ³

Footnotes are explained on page 5.

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B. DISCHARGE MONITORING REPORTING REQUIREMENTS

During the period beginning the effective date of this permit and lasting until the expiration date, discharge monitoring results shall be summarized and reported **quarterly** by the permittee on the days specified below:

Sample		g Requirements	
Point 001	Parameter All except USEPA Test Methods 608, 624, 625 & T Mercury	Initial Report June 30, 2016	Subsequent Reports Every March 31 st , June 30 th , September 30 th and December 31 st
	USEPA Test Methods 608, 624 and 625 & T Mercury	June 30, 2016	

* Please submit new discharge application 6 months prior to the expiration of this permit*

C. SPECIAL REQUIREMENTS

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- 1. Mass limits based on an average discharge of 140,100 gpd.
- 2. Composite samples may be time proportioned.
- 3. Four grab samples must be collected at equally spaced intervals throughout the sample day. The four (4) grab samples must be composited by a NYSDOH certified laboratory prior to analysis.
- 4. The permittee must report any compound whose concentration is equal to or greater than 0.01 mg/L. The permittee is not authorized to discharge any of the parameters evaluated by these test procedures which may cause or contribute to a violation of water quality standards or harm the sewerage system. Any parameter detected may, at the discretion of the BSA, be specifically limited and incorporated in this permit.
- 5. Surchargeable over 250 mg/L.
- 6. Flow is an action level only. If the permittee consistently exceeds this level, the BSA must be notified so that this permit can be modified.



TOWN OF CHEEKTOWAGA/BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PART II GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. Local Limits

Except as otherwise specified in this permit, the permit holder shall comply with all specific prohibitions, limits on pollutants or pollutant parameters set forth in the Buffalo Sewer Authority Sewer Use Regulations, as amended from time to time, and such prohibitions, limits and parameters shall be deemed pretreatment standards for purposes of the Clean Water Act

2. Definitions

Definitions of terms contained in this permit are as defined in the Town of Cheektowaga Local Law No. 2 and the Buffalo Sewer Authority Sewer Use Regulations.

3. Discharge Sampling Analysis

All Wastewater discharge samples and analyses and flow measurements shall be representative of the volume and character of the monitored discharge. Methods employed for flow measurements and sample collections and analyses shall conform to the Buffalo Sewer Authority "Sampling Measurement and Analytical Guidelines Sheet."

4. **Recording of Results**

For each measurement or sample taken pursuant to the requirements of the permit, the Permittee shall record the information as required in the "Sampling Measurement and Analytical Guidelines Sheet."

5. Additional Monitoring by Permittee

If the Permittee monitors any pollutants at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in 40 CFR Part 136 the results of such monitoring shall be included in the calculation and reporting of values required under Part I, B. Such increased frequency shall also be indicated.

6. Reporting

All reports prepared in accordance with this Permit shall be submitted to:

PAT BOWEN Town Engineer 275 Alexander Ave. Cheektowaga, New York, 14211

All self-monitoring reports shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines Sheet." These reporting requirements shall not relieve the Permittee of any other reports, which may be required by the

Measurement and Analytical Guidelines Sheet." These reporting requirements shall not relieve the Permittee of any other reports, which may be required by the N.Y.S.D.E.C. or the U.S.E.P.A.

7. Certification Statement

All self-monitoring reports shall include the following certification statement, signed by the preparer of the report:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the systems, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing

B. PERMITTEE REQUIREMENTS

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1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit and with the information contained in the TC/BPDES Permit Application on which basis this permit is granted. In the event of any facility expansions, production increases, process modifications or the installation, modification or repair of any pretreatment equipment which may result in new, different or increased discharges of pollutants, a new TC/BPDES Permit Application must be submitted prior to any change. Following receipt of an amended application, the BSA may modify this permit to specify and limit any pollutants not previously limited. In the event that the proposed change will be covered under an applicable Categorical Standard, a Baseline Monitoring Report must be submitted at least ninety (90) days prior to any discharge.

2. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained at this facility for a minimum of three (3) years, or longer if requested by the General Manager and/or Town Engineer.

3. Slug Control Plan

Upon written notification by the BSA that a slug control plan is necessary for the permittee, the plan shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines" sheet. Within 90 days of the BSA notification, the permittee must implement the slug control plan

4. Notification of Slug, Accidental Discharge or Spill

In the event that a slug, accidental discharge or any spill occurs at the facility for which this permit is issued, it is the responsibility of the Permittee to immediately notify the B.S.A. Treatment Plant of the quantity and character of such discharge. During normal business hours, Monday-Friday, 7:30 AM – 3:00 PM call 716-851-4664, ext 5374. After normal business hours call 716-851-4664, ext 600. For all slug discharges, and when requested by the B.S.A. following an accidental discharge or spill, within five (5) days following all such discharges, the Permittee shall submit a report describing the character and duration of the discharge, the cause of the discharge, and measures taken or that will be taken to prevent a recurrence of such discharge.

5. Noncompliance Notification

If, for any reason, the Permittee does not comply with or will be unable to comply with any discharge limitation specified in this permit, the Permittee or their assigns must verbally notify the Industrial Waste Section at 716-851-4664 ext. 5374 within twenty-four (24) hours of becoming aware of the violation. The Permittee shall provide the Industrial Waste Section with the following information, in writing, within five (5) days of becoming aware of such condition:

- a. a description of the discharge and cause of noncompliance and;
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

Additionally, the permittee shall repeat the sampling and analysis and sumbit these results of the report analysis to the Industrial Waste Section within 30 days after becoming aware of these violations

6. Adverse Impact

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The Permittee shall take all reasonable steps to minimize any adverse impact to the Buffalo and Town Sewerage System resulting from noncompliance with any discharge limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

7. Waste Residuals

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters and/or the treatment of intake waters, shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the Buffalo or Town Sewer System.

8. Power Failures

In order to maintain compliance with the discharge limitations and prohibitions of

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Part II Page 4 of 6

this permit, the Permittee shall provide an alternative power source sufficient to operate the wastewater control facilities; or, if such alternative power source is not provided the Permittee shall halt, reduce or otherwise control production and/or controlled discharges upon the loss of power to the wastewater control facilities.

9. Treatment Upsets

- a. Any industrial user which experiences an upset in operations that places it in a temporary state of noncompliance, which is not the result of operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation, shall inform the Industrial Waste Section immediately upon becoming aware of the upset. Where such information is given verbally, a written report shall be filed by the user within five (5) days. The report shall contain:
 - (i) A description of the upset, its cause(s) and impact on the discharger's compliance status.
 - (ii) The duration of noncompliance, including exact dates and times of noncompliance, and if the noncompliance is continuing, the time by which compliance is reasonably expected to be restored
 - (iii) All steps taken or planned to reduce, eliminate, and prevent recurrence of such an upset.
- b. An industrial user which complies with the notification provisions of this Section in a timely manner shall have an affirmative defense to any enforcement action brought by the Industrial Waste Section/Town Engineer for any noncompliance of the limits in this permit, which arises out of violations attributable to and alleged to have occurred during the period of the documented and verified upset.

10. Treatment Bypasses

- a. A bypass of the treatment system is prohibited unless the following conditions are met:
 - (i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; or
 - (ii) There was no feasible alternative to the bypass, including the use of auxiliary treatment or retention of the wastewater; and
 - (iii) The industrial user properly notified the Industrial Waste Section as described in paragraph b. below.
- b. Industrial users must provide immediate notice to the Industrial Waste Section upon delivery of an unanticipated bypass. If necessary, the Industrial Waste Section may require the industrial user to submit a written report explaining the cause(s), nature, and duration of the bypass, and the steps being taken to prevent its recurrence.
- c. An industrial user may allow a bypass to occur which does not cause

pretreatment standards or requirements to be violated, but only if it is for essential maintenance to ensure efficient operation of the treatment system. Industrial users anticipating a bypass must submit notice to the Industrial Waste Section at least ten (10) days in advance. The Industrial Waste Section may only approve the anticipated bypass if the circumstances satisfy those set forth in paragraph a. above.

C. **PERMITTEE RESPONSIBILITIES**

1. Permit Availability

The originally signed permit must be available upon request at all times for review at the address stated on the first page of this permit.

2. Inspections

The Permittee shall allow the representatives of the Buffalo Sewer Authority or Town of Cheektowaga upon the presentation of credentials and during normal working hours or at any other reasonable times, to have access to and copy any records required in this permit; and to sample any discharge of pollutants.

3. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities for which this permit has been issued the permit shall become null and void. The succeeding owner shall submit a completed Town of Cheektowaga/ Buffalo Sewer Authority permit application prior to discharge to the sewer system.

D. PERMITTEE LIABILITIES

1. **Permit Modification**

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to the following:

- a. Violation of any terms or conditions of this permit,
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts,
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

2. Imminent Danger

In the event there exists an imminent danger to health or property, the permitter reserves the right to take immediate action to halt the permitted discharge to the sewerage works.

3. Civil and Criminal Liability

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Nothing in this permit shall relieve the Permittee from any requirements, liabilities, or penalties under provisions of the Town of Cheektowaga Local Law No. 2, the "Sewer Regulations of the Buffalo Sewer Authority" or any Federal, State and/or local laws or regulations.

E. NATIONAL PRETREATMENT STANDARDS

If a pretreatment standard or prohibition (including any Schedule of Compliance specified in such pretreatment standard or prohibition) is established under Section 307 (b) of the Act for a pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with such pretreatment standard or prohibition.

F. PLANT CLOSURE

In the event of plant closure, the Permittee is required to notify the Industrial Waste Section/Town Engineer in writing as soon as an anticipated closure date is determined, but in no case later than five (5) days of the actual closure.

G. CONFIDENTIALITY

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Buffalo Sewer Authority or Town Engineer of the Town of Cheektowaga. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

H. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

Revised March 17, 2014 by LS

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AUTHORIZATION TO DISCHARGE UNDER THE BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NO. 19-04-CH016 USEPA Category 40 CFR Part 403

In accordance with the provisions of the Federal Water Pollution Control Act, as amended, and the Sewer Regulations of the Buffalo Sewer Authority, authorization is hereby granted to:

THE TOWN OF CHEEKTOWAGA

to discharge wastewater from a facility located at:

PFOHL BROTHERS LANDFILL REMEDIATION SITE 1000 AERO DRIVE

CHEEKTOWAGA, NEW YORK 14225

The wastewater permitted herein shall be discharged to the Town of Cheektowaga sewer system, which is connected to the Buffalo Municipal Sewer System and Treatment facilities, and which wastewater will be treated at the Buffalo Sewer Authority's Treatment Plant.

Issuance of this permit is based upon a permit application filed on **February 19, 2019** analytical data. This permit is granted in accordance with discharge limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

Effective this 1st ^{day} of April, 2019 To Expire the 31st day of March, 2022 General Manager Signed this <u>2014</u> day of <u>MA2214</u>, 2019

PAGE 1 OF 6

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PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall (see attached map) shall be limited and monitored **quarterly** by the permittee as specified below.

Sample		Discharge Limitations ⁽¹⁾	Samp	ling Requirements
Point	Parameter	Daily Max	Period	Туре
001	pН	5.0 - 12.0 S.U.	1 day	Composite ²
	Total Cadmium	1.17 lbs.	1 day	Composite ²
	Total Chromium	1.17 lbs.	1 day	Composite ²
	Total Copper	3.74 lbs.	1 day	Composite ²
	Total Lead	1.17 lbs.	1 day	Composite ²
	Total Nickel	3.27 lbs.	1 day	Composite ²
	Total Zinc	5.84 lbs.	1 day	Composite ²
	Total Barium	2.34 lbs.	1 day	Composite ²
	Total Suspended Solids ⁵	250 mg/l	1 day	Composite ²
	Total Flow	140,100 gallons ⁶	1 day	Discharge meter reading

Footnotes are explained on page 5.

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Permit No. 19-04-CH016 Part I Page 3 of 6

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall (see attached map) shall be limited and monitored **once** by the permittee as specified below.

Sample		Discharge Limitations ⁽¹⁾	Sampling Requirements		
Point	Parameter	Daily Max	Period	Туре	
001	Total Mercury	0.001 lbs.	1 day	Composite ²	
	USEPA Test				
	Method 608 ⁴	To be monitored	1 day	Grab ³	
	USEPA Test				
	Method 624 ⁴	To be monitored	1 day	Grab ³	
	USEPA Test				
	Method 625 ⁴	To be monitored	1 day	Grab ³	

Footnotes are explained on page 5.

Permit No. 19-04-CH016 Part I Page 4 of 6

PART I: SPECIFIC CONDITIONS

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B. DISCHARGE MONITORING REPORTING REQUIREMENTS

During the period beginning the effective date of this permit and lasting until the expiration date, discharge monitoring results shall be summarized and reported **quarterly** by the permittee on the days specified below:

Sample		Reporting Requirements				
Point 001	Parameter All except USEPA Test Methods 608, 624, 625 & T Mercury	Initial Report June 30, 2019	Subsequent Reports Every March 31 st , June 30 th , September 30 th and December 31 st			
	USEPA Test Methods 608, 624 and 625 &	June 30, 2019				

* Please submit new discharge permit application 6 months prior to the expiration of this permit*

Permit No. 19-04-CH016 Part I Page 5 of 6

PART I: SPECIFIC CONDITIONS

C. SPECIAL REQUIREMENTS

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- 1. Mass limits based on an average discharge of 140,100 gpd.
- 2. Composite samples may be time proportioned.
- 3. Four grab samples must be collected at equally spaced intervals throughout the sample day. The four (4) grab samples must be composited by a NYSDOH certified laboratory prior to analysis.
- 4. The permittee must report any compound whose concentration is equal to or greater than 0.01 mg/L. The permittee is not authorized to discharge any of the parameters evaluated by these test procedures which may cause or contribute to a violation of water quality standards or harm the sewerage system. Any parameter detected may, at the discretion of the BSA, be specifically limited and incorporated in this permit.
- 5. Surchargeable over 250 mg/L.
- 6. Flow is an action level only. If the permittee consistently exceeds this level, the BSA must be notified so that this permit can be modified.

Permit No. 19-04-CH016 Part I Page 6 of 6



TOWN OF CHEEKTOWAGA/BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PART II GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. Local Limits

Except as otherwise specified in this permit, the permit holder shall comply with all specific prohibitions, limits on pollutants or pollutant parameters set forth in the Buffalo Sewer Authority Sewer Use Regulations, as amended from time to time, and such prohibitions, limits and parameters shall be deemed pretreatment standards for purposes of the Clean Water Act

2. Definitions

Definitions of terms contained in this permit are as defined in the Town of Cheektowaga Local Law No. 2 and the Buffalo Sewer Authority Sewer Use Regulations.

3. Discharge Sampling Analysis

All Wastewater discharge samples and analyses and flow measurements shall be representative of the volume and character of the monitored discharge. Methods employed for flow measurements and sample collections and analyses shall conform to the Buffalo Sewer Authority "Sampling Measurement and Analytical Guidelines Sheet."

4. **Recording of Results**

For each measurement or sample taken pursuant to the requirements of the permit, the Permittee shall record the information as required in the "Sampling Measurement and Analytical Guidelines Sheet."

5. Additional Monitoring by Permittee

If the Permittee monitors any pollutants at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in 40 CFR Part 136 the results of such monitoring shall be included in the calculation and reporting of values required under Part I, B. Such increased frequency shall also be indicated.

6. Reporting

All reports prepared in accordance with this Permit shall be submitted to:

Patrick Bowen, P.E. Town Engineer 275 Alexander Ave. Cheektowaga, New York, 14211

All self-monitoring reports shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines Sheet." These reporting requirements shall not relieve the Permittee of any other reports, which may be required by the

N.Y.S.D.E.C. or the U.S.E.P.A.

B. PERMITTEE REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit and with the information contained in the TC/BPDES Permit Application on which basis this permit is granted. In the event of any facility expansions, production increases, process modifications or the installation, modification or repair of any pretreatment equipment which may result in new, different or increased discharges of pollutants, a new TC/BPDES Permit Application must be submitted prior to any change. Following receipt of an amended application, the BSA may modify this permit to specify and limit any pollutants not previously limited. In the event that the proposed change will be covered under an applicable Categorical Standard, a Baseline Monitoring Report must be submitted at least ninety (90) days prior to any discharge.

2. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained at this facility for a minimum of three (3) years, or longer if requested by the General Manager and/or Town Engineer.

3. Notification of Slug, Accidental Discharge or Spill

In the event that a slug, accidental discharge or any spill occurs at the facility for which this permit is issued, it is the responsibility of the Permittee to immediately notify the B.S.A. Treatment Plant at 883-1820 of the quantity and character of such discharge. If requested by the B.S.A., within five (5) days following all such discharges, the Permittee shall submit a report describing the character and duration of the discharge, the cause of the discharge, and measures taken or that will be taken to prevent a recurrence of such discharge.

4. Noncompliance Notification

If, for any reason, the Permittee does not comply with or will be unable to comply with any discharge limitation specified in this permit, the Permittee or their assigns must verbally notify the Industrial Waste Section at 883-1820 within twenty-four (24) hours of becoming aware of the violation. The Permittee shall provide the Industrial Waste Section with the following information, in writing, within five (5) days of becoming aware of such condition:

- a. a description of the discharge and cause of noncompliance and;
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

5. Adverse Impact

The Permittee shall take all reasonable steps to minimize any adverse impact to the Buffalo and Town Sewerage System resulting from noncompliance with any discharge limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

6. Waste Residuals

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters and/or the treatment of intake waters, shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the Buffalo or Town Sewer System.

7. **Power Failures**

In order to maintain compliance with the discharge limitations and prohibitions of this permit, the Permittee shall provide an alternative power source sufficient to operate the wastewater control facilities; or, if such alternative power source is not provided the Permittee shall halt, reduce or otherwise control production and/or controlled discharges upon the loss of power to the wastewater control facilities.

8. Treatment Upsets

- a. Any industrial user which experiences an upset in operations that places it in a temporary state of noncompliance, which is not the result of operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation, shall inform the Industrial Waste Section immediately upon becoming aware of the upset. Where such information is given verbally, a written report shall be filed by the user within five (5) days. The report shall contain:
 - (i) A description of the upset, its cause(s) and impact on the discharger's compliance status.
 - (ii) The duration of noncompliance, including exact dates and times of noncompliance, and if the noncompliance is continuing, the time by which compliance is reasonably expected to be restored
 - (iii) All steps taken or planned to reduce, eliminate, and prevent recurrence of such an upset.
- b. An industrial user which complies with the notification provisions of this Section in a timely manner shall have an affirmative defense to any enforcement action brought by the Industrial Waste Section/Town Engineer for any noncompliance of the limits in this permit, which arises out of violations attributable to and alleged to have occurred during the period of the documented and verified upset.

9. Treatment Bypasses

- a. A bypass of the treatment system is prohibited unless the following conditions are met:
 - (i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; or
 - (ii) There was no feasible alternative to the bypass, including the use of auxiliary treatment or retention of the wastewater; and
 - (iii) The industrial user properly notified the Industrial Waste Section as described in paragraph b. below.
- b. Industrial users must provide immediate notice to the Industrial Waste Section upon delivery of an unanticipated bypass. If necessary, the Industrial Waste Section may require the industrial user to submit a written report explaining the cause(s), nature, and duration of the bypass, and the steps being taken to prevent its recurrence.
- c. An industrial user may allow a bypass to occur which does not cause pretreatment standards or requirements to be violated, but only if it is for essential maintenance to ensure efficient operation of the treatment system. Industrial users anticipating a bypass must submit notice to the Industrial Waste Section at least ten (10) days in advance. The Industrial Waste Section may only approve the anticipated bypass if the circumstances satisfy those set forth in paragraph a. above.

C. PERMITTEE RESPONSIBILITIES

1. Permit Availability

The originally signed permit must be available upon request at all times for review at the address stated on the first page of this permit.

2. Inspections

The Permittee shall allow the representatives of the Buffalo Sewer Authority or Town of Cheektowaga upon the presentation of credentials and during normal working hours or at any other reasonable times, to have access to and copy any records required in this permit; and to sample any discharge of pollutants.

3. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities for which this permit has been issued the permit shall become null and void. The succeeding owner shall submit a completed Town of Cheektowaga/ Buffalo Sewer Authority permit application prior to discharge to the sewer system.

D. PERMITTEE LIABILITIES

1. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to the following:

- a. Violation of any terms or conditions of this permit,
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts,
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

2. Imminent Danger

In the event there exists an imminent danger to health or property, the permitter reserves the right to take immediate action to halt the permitted discharge to the sewerage works.

3. Civil and Criminal Liability

Nothing in this permit shall relieve the Permittee from any requirements, liabilities, or penalties under provisions of the Town of Cheektowaga Local Law No. 2, the "Sewer Regulations of the Buffalo Sewer Authority" or any Federal, State and/or local laws or regulations.

4. **Penalties for Violations of Permit Conditions**

The "Sewer Regulations of the Buffalo Sewer Authority" and Town of Cheektowaga Local Law No. 2, provide that any person who violates a B.P.D.E.S. permit condition is liable to the Authority and/or the Town for a civil penalty of up to \$10,000 per day for each violation. Any person who willfully or negligently violates permit conditions will be referred to the New York State Attorney General.

E. NATIONAL PRETREATMENT STANDARDS

If a pretreatment standard or prohibition (including any Schedule of Compliance specified in such pretreatment standard or prohibition) is established under Section 307 (b) of the Act for a pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with such pretreatment standard or prohibition.

F. PLANT CLOSURE

In the event of plant closure, the Permittee is required to notify the Industrial Waste Section/Town Engineer in writing as soon as an anticipated closure date is determined, but in no case later than five (5) days of the actual closure.

G. CONFIDENTIALITY

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Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Buffalo Sewer Authority or Town Engineer of the Town of Cheektowaga. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

H. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

APPENDIX G

DISCHARGE REPORT SUMMARY TABLES

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SAMPLING FIELD SHEET



Client Name:	Ptohl Brothers Landf			
- Address:	Aero Drive, Cheektov	waga, NY		
Contact:	Patrick T. Bowen, P.I	E. Phone:	716-897-7288	
Installation:				
Sample Point:	SP-001			
Sample Location	on: Meter Chamb	per - ball valve on 6" HDF	E forcemain	
Date:	3/21/19 Crew:	R. Murphy, K. McGov	ern	
Weather:	40° F, partly cloudy		_	
Sampling Devic	ce: NA		_	
Time of Installa	tion: 09:55	Type of Sample:	Composite	
Sample Interva	I: NA	Sample Volume:	NA	
WW-04 (78 Date:	<u>2,894 gals), WW-05 (1</u> <u>3/22/19</u> Crew:	R. Murphy, K. McGov	0 gals), WW-03 (174 gals), (3,886,184 gals) & MH-25 (9,426 'ern	,272 gals).
WW-04 (78 Date: Weather: Time of Collect Field Measurer	3/22/19 Crew: 3/22/19 Crew: 40° F, cloudy, light ration: 09:55	<u></u>	<u>0 gals), WW-03 (174 gals),</u> (3,886,184 gals) & MH-25 (9,426 ′ern	,272 gals).
WW-04 (78 Date: Weather: Time of Collect Field Measurer 10:0	3/22/19 Crew: 40° F, cloudy, light ration: 09:55 00/RJM 00/RJM	nt Calibration: Buffer 7	<u>0 gals), WW-03 (174 gals),</u> (3,886,184 gals) & MH-25 (9,426 /ern 	,272 gals). 10
WW-04 (78 Date: Weather: Time of Collect Field Measurer 10:0 (tim	www-of (1) 2,894 gals), WW-05 (1) 3/22/19 Crew: 40° F, cloudy, light ration: 09:55 nents: 00/RJM e/initial)	286,099 gals), WW-02 (1,266,226 gals), WW-06 <u>R. Murphy, K. McGov</u> in pH Calibration: Buffer 7 pH Measurement:	<u>0 gals), WW-03 (174 gals),</u> (3,886,184 gals) & MH-25 (9,426 /ern - <u>7</u> Buffer 4- <u>4</u> Buffer 10 <u>7.52</u>	,272 gals). - <u>10</u>
WW-04 (78 Date: Weather: Time of Collect Field Measurer 10:0 (tim	volumes. ww-or (1) 2,894 gals), WW-05 (1) 3/22/19 Crew: 40° F, cloudy, light ration: 09:55 nents: 00/RJM e/initial)	I,266,226 gals), WW-02 (1,266,226 gals), WW-06 R. Murphy, K. McGov in pH Calibration: Buffer 7 pH Measurement: Temperature:	<u>0 gals), WW-03 (174 gals),</u> (3,886,184 gals) & MH-25 (9,426 /ern - <u>7</u> Buffer 4- <u>4</u> Buffer 10 <u>7.52</u> 8.2°C	,272 gals).
WW-04 (78 Date: Weather: Time of Collect Field Measurer 10:0 (tim	2,894 gals), WW-05 (1) 2,894 gals), WW-05 (1) 3/22/19 40° F, cloudy, light ration: 09:55 nents: 00/RJM e/initial)	network in the second s	<u>0 gals), WW-03 (174 gals),</u> (3,886,184 gals) & MH-25 (9,426 /ern - <u>7</u> Buffer 4- <u>4</u> Buffer 10 <u>7.52</u> <u>8.2°C</u>	,272 gals). - <u>10</u>
WW-04 (78 Date: Weather: Time of Collect Field Measurer 10:0 (tim Identification: Physical Obser	2,894 gals), WW-05 (1) 2,894 gals), WW-05 (1) 3/22/19 Crew: 40° F, cloudy, light ration: 09:55 nents: 00/RJM e/initial)	network in the second s	<u>0 gals), WW-03 (174 gals),</u> (3,886,184 gals) & MH-25 (9,426 <u>'ern</u> - <u>7</u> Buffer 4- <u>4</u> Buffer 10 <u>7.52</u> <u>8.2°C</u>	,272 gals).
WW-04 (78 Date: Weather: Time of Collect Field Measurer 10:0 (tim Identification: Physical Obser	2,894 gals), WW-05 (1) 2,894 gals), WW-05 (1) 3/22/19 40° F, cloudy, light ration: 09:55 nents: 00/RJM e/initial) EFF-032219 vations:	1,266,226 gals), WW-02 (0 1,266,226 gals), WW-06	<u>0 gals), WW-03 (174 gals),</u> (3,886,184 gals) & MH-25 (9,426 <u>rern</u> - <u>7</u> Buffer 4- <u>4</u> Buffer 10 <u>7.52</u> 8.2°C	,272 gals).
WW-04 (78 Date: Weather: Time of Collect Field Measurer <u>10:C</u> (tim Identification: Physical Obser	Volumes: WW-01 (1) 2,894 gals), WW-05 (1) 3/22/19 40° F, cloudy, light ration: 09:55 nents: 00/RJM e/initial)	NY	<u>0 gals), WW-03 (174 gals),</u> (3,886,184 gals) & MH-25 (9,426 <u>rern</u> - <u>7</u> Buffer 4- <u>4</u> Buffer 10 <u>7.52</u> 8.2°C	,272 gals).
WW-04 (78 Date: Weather: Time of Collect Field Measurer <u>10:C</u> (tim Identification: Physical Obser Laboratory: Comments: PLC display	Volumes: WW-01 (1) 2,894 gals), WW-05 (1) 2,894 gals), WW-05 (1) 3/22/19 Crew: 40° F, cloudy, light ration: 09:55 ion: 09:55 nents: 00/RJM e/initial) e/initial) EFF-032219 vations: TestAmerica, Buffalo, No wells were running volumes: WW-01 (1)	NY 1,266,699 gals), WW-02 (Content of sample collected and content of sample content o	<u>0 gals), WW-03 (174 gals),</u> (3,886,184 gals) & MH-25 (9,426 /ern 	,272 gals).
WW-04 (78 Date: Weather: Time of Collect Field Measurer <u>10:C</u> (tim Identification: Physical Obser Laboratory: Comments: PLC display WW-04 (78	Volumes: WW-01 (1) 2,894 gals), WW-05 (1) 2,894 gals), WW-05 (1) 40° F, cloudy, light ration: ion: 09:55 nents: 00/RJM e/initial) EFF-032219 vations: TestAmerica, Buffalo, No wells were running volumes: WW-01 (1) 2,894 gals), WW-05 (1)	386,099 gals), WW-02 (t 1,266,226 gals), WW-06	<u>O gals), WW-03 (174 gals),</u> (3,886,184 gals) & MH-25 (9,426 /ern 	,272 gals).

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS MARCH 2019

Sample ID		EFF-032219							
Matrix		Effluent Water							
Date Sampled					3/22	2/2019			
Parameter		Result		Ма	ss Loading	Discharge Limitation	Violations		
		(mg/L)			(lbs/day)	(lbs/day)	(Y/N)		
Total Barium		0.32			0.04	2.34	No		
Total Cadmuim	<(1)	0.0005		۷	0.0001	1.17	No		
Total Chromium	<	0.0010		۷	0.0001	1.17	No		
Total Copper		0.0032	J		0.0004	3.74	No		
Total Lead	<	0.0030		۷	0.0004	1.17	No		
Total Nickel		0.0041	J		0.001	3.27	No		
Total Zinc		0.014	В		0.002	5.84	No		
Total Suspended Solids		28.4			NA ⁽²⁾	250 ⁽³⁾	No		
рН ⁽⁴⁾		7.52			NA	5.0 - 12.0	No		
Total Flow ⁽⁵⁾					15,495	140,100	No		

Notes:

- (1) < = Compound not detected, method detection limit shown
- (2) NA = Not Applicable
- (3) Discharge Limitation in units of mg/L
- (4) pH measurement and Discharge Limitation in Standard Units
- (5) Total Flow reported in gallons, sample was collected over a 24 hour period
- J= Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
- B= Compound was found in the blank and sample.

Calculation:
$$\left(\frac{x \text{ mg}}{L}\right) \left(\frac{y \text{ gal}}{\text{day}}\right) \left(\frac{1 \text{ lb}}{453,600 \text{ mg}}\right) \left(\frac{3.785 \text{ L}}{\text{gal}}\right) = \frac{x \times y}{119,841} \frac{\text{lb}}{\text{day}}$$

SAMPLING FIELD SHEET



Client Name: P	ofohl Brothers Landf	ill		
Address: A	ero Drive, Cheektov	waga, NY		
Contact: F	Patrick T. Bowen, P.I	E. Phone:	716-897-7288	
Installation:				
Sample Point: S	P-001			
Sample Location:	Meter Cham	per - ball valve on 6" HDP	E forcemain	
Date:	6/19/19 Crew:	R. Murphy, T. Urban		
Weather: 8	0° F, sunny			
Sampling Device:	NA			
Time of Installation	n: 14:15	Type of Sample:	Composite	
Sample Interval:	NA	Sample Volume:	NA	
Date:	<u>6/20/19</u> Crew:	R. Murphy, T. Urban	(3,471,107 gais) & ini 1-2	25 (12,572,317 gais).
Date: Weather: Time of Collection	<u>6/20/19</u> Crew: 7 ^o F, cloudy, rain : <u>14:15</u>		(3,471,107 gais) & Will-2	25 (12,572,317 gais).
Date: Weather:6 Time of Collection Field Measuremer 14:15/	<u>6/20/19</u> Crew: 7 ^o F, cloudy, rain : <u>14:15</u> nts: RJM	R. Murphy, T. Urban	7 Buffer 4- 4	25 (12,572,317 gais).
Date: Weather:6 Time of Collection Field Measuremer 14:15/ (time/ir	<u>6/20/19</u> Crew: 7 ^o F, cloudy, rain : <u>14:15</u> nts: RJM	R. Murphy, T. Urban PH Calibration: Buffer 7- pH Measurement:	7.18	Buffer 10- <u>10</u>
Date: Weather:6 Time of Collection Field Measuremer 14:15/ (time/ir	<u>6/20/19</u> Crew: 7 ^o F, cloudy, rain : <u>14:15</u> nts: RJM	R. Murphy, T. Urban — PH Calibration: Buffer 7- pH Measurement: Temperature:	<u>7</u> Buffer 4- <u>4</u> 7.18	Buffer 10- <u>10</u>
Date: Weather:6 Time of Collection Field Measuremer 14:15/ (time/ir	<u>6/20/19</u> Crew: 7 ^o F, cloudy, rain <u>14:15</u> 	R. Murphy, T. Urban pH Calibration: Buffer 7- pH Measurement: Temperature:	<u>7</u> Buffer 4- <u>4</u> E 7.18	Buffer 10- <u>10</u>
Date: Weather:6 Time of Collection Field Measuremen 14:15/ (time/ir Identification:E	<u>6/20/19</u> Crew: 7 ^o F, cloudy, rain .: <u>14:15</u> RJM .:. .:. .:. .:. .:. .:. .:	R. Murphy, T. Urban pH Calibration: Buffer 7- pH Measurement: Temperature:	<u>7</u> Buffer 4- <u>4</u> E 7.18 18.3°C	Buffer 10- <u>10</u>
Date: Weather:6 Time of Collection Field Measuremer 14:15/ (time/ir Identification:E Physical Observat	<u>6/20/19</u> Crew: 7 ^o F, cloudy, rain .: <u>14:15</u> RJM .:. .:. .:. .:. .:. .:. .:	R. Murphy, T. Urban pH Calibration: Buffer 7- pH Measurement: Temperature:	<u>7</u> Buffer 4- <u>4</u> E 7.18 18.3°C	Buffer 10- <u>10</u>
Date: Weather:6 Time of Collection Field Measuremer 14:15/ (time/ir Identification:E Physical Observat Laboratory:Te	<u>6/20/19</u> Crew: <u>7° F, cloudy, rain</u> <u>14:15</u> nts: <u>RJM</u> ifial) EFF-062019 tions: stAmerica, Buffalo,		<u>7</u> Buffer 4- <u>4</u> E 7.18 18.3°C	Buffer 10- <u>10</u>
Date: Weather:6 Time of Collection Field Measuremer 14:15/ (time/ir Identification:E Physical Observat Laboratory:Te Comments:Nc	<u>6/20/19</u> Crew: <u>7° F, cloudy, rain</u> <u>14:15</u> nts: <u>RJM</u> <u>ifial</u> EFF-062019 tions: <u>stAmerica, Buffalo,</u> <u>o wells were running</u>	R. Murphy, T. Urban pH Calibration: Buffer 7- pH Measurement: Temperature: NY at the time of sample coll	- <u>7</u> Buffer 4- <u>4</u> E 7.18 18.3°C	Buffer 10- <u>10</u>
Date: Weather:6 Time of Collection Field Measuremer 14:15/ (time/ir Identification:E Physical Observat Laboratory:Te Comments:Nc PLC display v 	6/20/19 Crew: 7° F, cloudy, rain .: 14:15 .: 14:15 .: 14:15 .: 14:15 .:		- <u>7</u> Buffer 4- <u>4</u> E 7.18 18.3°C 18.3°C ection. gals), WW-03 (174 gals) 5 (5,498,127 gals) & MH-2	25 (12,572,317 gals). Buffer 10- <u>10</u>), 25 (12,634,903 gals).
Date: Weather:6 Time of Collection Field Measuremen 14:15/ (time/ir Identification:E Physical Observat Laboratory:Te Comments:NC PLC display v WW-04 (1,310 Reviewed Bv:	6/20/19 Crew: 7° F, cloudy, rain 14:15 nts: RJM itial) FF-062019 ions: stAmerica, Buffalo, wells were running olumes: WW-01 (1, 0,563 gals), WW-05	R. Murphy, T. Urban PH Calibration: Buffer 7- pH Measurement: Temperature: NY at the time of sample coll 750,936 gals), WW-02 (0 (2,169,210 gals), WW-02	- <u>7</u> Buffer 4- <u>4</u> E 7.18 18.3°C lection. 9 gals), WW-03 (174 gals) 6 (5,498,127 gals) & MH-2	25 (12,572,317 gals). Buffer 10- <u>10</u>), 25 (12,634,903 gals). Date: 6/20/19

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS JUNE 2019

Sample ID		EFF-062019							
Matrix		Effluent Water							
Date Sampled		6/20/2019							
Parameter		Result		Ма	ss Loading	Discharge Limitation	Violations		
		(mg/L)			(lbs/day)	(lbs/day)	(Y/N)		
Total Barium		0.25			0.13	2.34	No		
Total Cadmuim	<(1)	0.0005		<	0.0003	1.17	No		
Total Chromium	<	0.0010		<	0.0005	1.17	No		
Total Copper		0.0062	J		0.0032	3.74	No		
Total Lead	<	0.0030		<	0.0016	1.17	No		
Total Nickel		0.0023	J		0.001	3.27	No		
Total Zinc		0.015			0.008	5.84	No		
Total Suspended Solids		14.4			NA ⁽²⁾	250 ⁽³⁾	No		
рН ⁽⁴⁾		7.52			NA	5.0 - 12.0	No		
Total Flow ⁽⁵⁾					62,586	140,100	No		

Notes:

- (1) < = Compound not detected, method detection limit shown
- (2) NA = Not Applicable
- (3) Discharge Limitation in units of mg/L
- (4) pH measurement and Discharge Limitation in Standard Units
- (5) Total Flow reported in gallons, sample was collected over a 24 hour period
- J= Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
- B= Compound was found in the blank and sample.

Calculation:
$$\left(\frac{x \text{ mg}}{L}\right)\left(\frac{y \text{ gal}}{\text{day}}\right)\left(\frac{1 \text{ lb}}{453,600 \text{ mg}}\right)\left(\frac{3.785 \text{ L}}{\text{gal}}\right) = \frac{x \times y}{119,841} \frac{\text{lb}}{\text{day}}$$

APPENDIX H

MONITORING WELL INSPECTION LOGS

	WELL INSPECTION SUMMARY											
Proj	ect Name:			Pfohl Brothers Lai	<u>ndfill</u>	Project Number:	60411174	_				
Insp	ection Crew Members	S:		<u>R. Murphy, T. Urb</u>	<u>an</u>	Supervisor:	<u>R. Murphy</u>					
Date	e(s) of Inspection:			<u>May 22, 2019</u>								
	Well I.D. Number	Lock	Surface Seal	Protective Casing	Riser	Water Level (ft. BTOC)	Well Depth (ft. BTOC)	Other Comments				
	GW-01S	ОК	ОК	ОК	Bulged	4.02	14.94					
	GW-01D	ОК	ОК	ОК	Bulged	2.91	39.65					
	GW-03S	ОК	ОК	ОК	ОК	2.56	13.22					
	GW-03D	ОК	ОК	ОК	ОК	1.71	35.70					
	GW-04S	ОК	ок	ОК	ОК	4.24	16.23					
	GW-04D	ОК	ок	ОК	ОК	12.14	45.57					
	GW-07S	ОК	ок	ОК	ОК	4.75	35.33					
	GW-07D	ОК	ок	ОК	Damaged	42.39	60.83					

Additional Comments:

WELL INSPECTION SUMMARY											
Proj	ect Name:			Pfohl Brothers Lai	<u>ndfill</u>	Project Number:	60411174	_			
Insp	ection Crew Members	3:		<u>R. Murphy, T. Urb</u>	<u>an</u>	Supervisor:	<u>R. Murphy</u>				
Date	e(s) of Inspection:			<u>May 22, 2019</u>							
	Well I.D. Number	Lock	Surface Seal	Protective Casing	Riser	Water Level (ft. BTOC)	Well Depth (ft. BTOC)	Other Comments			
	GW-08SR	ОК	ОК	ОК	ОК	5.18	13.02				
	GW-08D	ОК	ОК	ОК	ОК	5.72	36.54				
	GW-26D	ОК	ОК	ОК	ОК	6.55	40.70				
	GW-28S	ОК	ОК	ОК	ОК	9.01	15.52				
	GW-29S	ОК	ОК	ОК	ОК	8.02	20.04				
	GW-30S	ОК	ОК	ОК	ОК	7.59	17.97				
	GW-31S	ОК	ОК	ОК	ОК	3.04	9.57				
	GW-32S	ОК	ОК	ОК	ОК	3.23	9.93				
WELL INSPECTION SUMMARY											
--	--	-----------------	----------------------	------------------	---------------------------	--------------------------	-------------------	--	--		
Project Name: <u>Pfohl Brothers Landfill</u> Project Number: <u>60411174</u>											
Inspection Crew Member	spection Crew Members: <u>R. Murphy, T. Urban</u> Supervisor: <u>R</u>			<u>R. Murphy</u>							
Date(s) of Inspection:			<u>May 22, 2019</u>								
Well I.D. Number	Lock	Surface Seal	Protective Casing	Riser	Water Level (ft. BTOC)	Well Depth (ft. BTOC)	Other Comments				
GW-33S	ОК	ОК	ОК	ОК	4.92	8.21					
GW-34S	ОК	ОК	ОК	ОК	2.84	10.01					
GW-35S	ОК	ОК	ОК	ОК	3.35	7.46					
		<u> </u>									
		1	1				1				

DATA APPLICABILITY REPORT

SEMI-ANNUAL GROUNDWATER MONITORING

PFOHL BROTHERS LANDFILL SITE

Analyses Performed by:

EUROFINS TESTAMERICA, BUFFALO 10 HAZELWOOD DRIVE AMHERST, NY

Prepared for:

TOWN OF CHEEKTOWAGA CHEEKTOWAGA, NY 14225

Prepared by:

AECOM

257 WEST GENESEE STREET, SUITE 400 BUFFALO, NY 14202-2657

JULY 2019

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V.	NON-CONFORMANCES	2
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TABLES

(Following Text)

Table 1Validated Groundwater Sample ResultsTable 2Validated Field QC Sample Results

APPENDICES

Appendix A – Validated Sample Reporting Forms

Appendix B – Support Documentation

I. INTRODUCTION

This Data Applicability Report (DAR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation *DER-10 Technical Guidance for Site Investigation and Remediation, Appendix 2B-Guidance for Data Deliverables and the Development of Data Usability Summary Reports,* May 2010. This DAR discusses the usability of the analytical data for groundwater samples collected during the May 2019 semi-annual monitoring program at the Pfohl Brothers Landfill Site, located in Cheektowaga, NY.

II. ANALYTICAL METHODOLOGIES and DATA APPLICABILITY PROCEDURES

The data being evaluated are from the May 22-24, 2019 sampling of nineteen (19) groundwater samples, one (1) field duplicate, one (1) matrix spike (MS)/matrix spike duplicate (MSD) pair, and two (2) trip blanks. The analytical laboratory that performed the analyses was Eurofins TestAmerica, Buffalo located in Amherst, NY. The samples were analyzed for the following project specific parameters: Volatile Organic Compounds (VOCs) following United States Environmental Protection Agency (USEPA) Method 8260C, Semivolatile Organic Compounds (SVOCs) by USEPA Method 8270D, and metals by USEPA Methods 6010C/7470A. Not all samples were analyzed for all parameters.

A limited data review was performed in accordance with the following USEPA guidelines:

- Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846 Method 8260B & 8260C, SOP HW-24, Rev. 4, October 2014;
- Validating Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846 Method 8270D, SOP HW-22, Rev. 5, December 2010;
- ICP-AES Data Validation, SOP HW-3a, Rev. 1, September 2016; and
- Mercury and Cyanide Data Validation, SOP HW-3c, Rev. 1, September 2016.

The data applicability evaluation included a review of completeness of all required deliverables; holding times; quality control (QC) results (blanks, matrix spike recoveries, duplicate analyses, and laboratory control sample recoveries) to determine if the data are within the protocol-required QC limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; and a review of laboratory data qualifiers.

Definitions of USEPA data qualifiers are presented at the end of this text. The analytical results are presented on Table 1 (groundwater) and Table 2 (field QC). Copies of the laboratory results (i.e., sample reporting forms) are presented in Appendix A. Documentation supporting the qualification of data is presented in Appendix B. Only analytical deviations affecting data usability are discussed in this report.

III. DATA DELIVERABLE COMPLETENESS

In accordance with the project requirements, limited deliverable data packages (level 2) were provided by the laboratory, which only consisted of analytical summaries, QC reporting forms and case narratives.

IV. SAMPLE RECEIPT/PRESERVATION/HOLDING TIMES

All samples were received by the laboratory intact, properly preserved and under proper chain-of-custody (COC). All samples were analyzed within the required holding times (HT).

Due to the low recharge rates of monitoring wells GW-07D and GW-07S, the VOC aliquots were collected on 05/22/19, while the SVOC/metals aliquots were collected on 05/23/19. All aliquots of sample GW-04S were collected on 05/22/19, however the VOCs were collected at 15:15 while the SVOCs/metals were collected at 16:50, due to a low recharge rate.

V. NON-CONFORMANCES

Laboratory Method Blanks

Iron (Fe) was detected in the metals laboratory blank below the reporting limit (RL). The detected result for Fe in sample GW-35S was qualified 'U' at the RL. The Fe results in the remaining samples were greater than the RL, therefore the 'B' qualifier applied by the lab was removed.

Manganese (Mn) was also detected in the method blank, however since the Mn results in the associated samples were greater than the RL, the 'B' qualifier applied by the laboratory was removed, and no further qualification was deemed necessary.

VI. SAMPLE RESULTS AND REPORTING

All RLs were reported in accordance with method requirements and were adjusted for sample size and dilution factors. Results for compounds/analytes detected below the RL are qualified 'J'.

A field duplicate was collected at groundwater location GW-08D. The field duplicate results exhibited good field and analytical precision.

VII. SUMMARY

All sample analyses were found to be compliant with the method criteria, except where previously noted. All sample results are usable as reported. AECOM does not recommend the recollection of any samples.

Prepared By: Ann Marie Kropovitch, Chemist Orth Date: -1/1/19 Reviewed by: Peter R. Fairbanks, Senior Chemist PF Date: 7/1/19

DEFINITIONS OF USEPA DATA QUALIFIERS

- U The analyte was analyzed for, but was not detected above the level of the sample reporting limit.
- J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- J+- The metal result is an estimated quantity, but the result may be biased high.
- J- The metal result is an estimated quantity, but the result may be biased low.
- UJ The analyte was analyzed for, but not detected. The reporting limit is approximate and may be inaccurate or imprecise.
- R The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

Location ID		GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID		GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			•		-	<u> </u>
Date Sampled		05/22/19	05/22/19	05/23/19	05/23/19	05/22/19
Parameter	Units	2				
Volatile Organic Compounds						
1,1,2-Trichloroethane	UG/L	1.0 U				
1,2-Dichloroethene (total)	UG/L	2.0 U				
Acetone	UG/L	4.5 J	10 U	3.8 J	10 U	3.5 J
Benzene	UG/L	1.0 U	1.0 U	1.0 U	1.0 U	∞ 1.0 U
Vinyi chloride	UG/L	1.0 U				
Semivolatile Organic Compounds				3		
1,3-Dichlorobenzene	UG/L	10 U	10 U	1.9 J	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	2.8 J	10 U	10 U
bis(2-Ethylhexyl)phthalate	UG/L	5.0 U				
Phenol	UG/L	5.0 U				
Metals						
Antimony	MG/L	0.020 U				
Arsenic	MG/L	0.010 U	0.010 U	0.010 U 🛛	0.010 U	· 0.010 U
Barium	MG/L	0.081	0.19	0.090	0.096	0.10
Cadmium	MG/L	0.0010 U	0.0010 U	0.0010 U	0.0013	0.0010 U
Chromium	MG/L	0.058	0.0040 U	0.0040 U	0.0058	0.0026 J
Copper	MG/L	0.0031 J	0.010 U	0.010 U	0.010 U	0.010 U
lron	MG/L	2.4	7.7	1.2	0.69	0.20
Lead	MG/L	0.0050 U	0.0050 U	0.0031 J	0.0050 U	0.0050 U
Magnesium	MG/L	35.2	24.3	17.2	83.0	81.0
Manganese	MG/L	0.045	1.2	0.27	0.88	0.022
Mercury	MG/L	0.00020 U				
Nickel	MG/L	0.013	0.010 U	0.0047 J	0.062	0.010 U

Flags assigned during chemistry validation are shown.

Leastien ID		GW-01D	GW-01S	GW-03D	GW-035	GW-04D
Location ID		44-010	44-013	GW-000	411-000	011-045
Sample ID		GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/22/19	05/22/19	05/23/19	05/23/19	05/22/19
Parameter	Units					
Metals			19 17			
Silver	MG/L	0.0030 U				
Sodium	MG/L	98.8	177	187	100	95.3
Zinc	MG/L	0.012	0.010 U	0.0026 J	0.0082 J	0.035

Flags assigned during chemistry validation are shown.

Location ID		GW-04S	GW-07D	GW-07D	GW-07S	GW-07S
Sample ID		GW-04S	GW-07D	GW-07D	GW-07S	GW-07S
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)	24	-	· ·	-	-	- 1
Date Sampled		05/22/19	05/22/19	05/23/19	05/22/19	05/23/19
Parameter	Units					
Volatile Organic Compounds				v		
1,1,2-Trichloroethane	UG/L	1.0 U	1.0 U	NA	1.0 U	NA
1,2-Dichloroethene (total)	UG/L	2.0 U	2.0 U	NA	2.0 U	NA
Acetone	UG/L	3.8 J	4.4 J	NA	3.7 J	NA
Benzene	UG/L	1.0 U	1.0 U	NA	1.0 U	NA
Vinyl chloride	UG/L	1.0 U	1.0 U	NA	1.0 U	NA
Semivolatile Organic Compounds						
1,3-Dichlorobenzene	UG/L	10 U	NA	10 U	NA	10 U
1,4-Dichlorobenzene	UGAL	10 U	NA	10 U	NA	10 U
bis(2-Ethylhexyl)phthalate	UG/L	3.3 J	NA	3.4 J	NA	5.0 U
Phenol	UG/L	5.0 U	NA	5.0 U	NA	5.0 U
Metals						
Antimony	MG/L	0.020 U	NA	0.010 J	NA	0.020 U
	MG/L	0.010 U	NA	0.0080 J	NA	ី 0.010 U
Barium	MG/L	0.12	NA	0.17	NA	0.39
	MG/L	0.00052 J	NA	0.0054	NA	0.0040
Chromium	MG/L	0.0071	NA	1.8	NA	0.0092
Copper	MG/L	0.0031 J	NA	0.16	NA	0.0016 J
iron	MG/L	1.8	NA	48.4	NA	0.40
Lead	MG/L	0.0050 U	NA	0.68	NA	0.0036 J
Magnesium	MG/L	28.0	NA	39.0	NA	43.6
Manganese	MG/L	0.13	NA	0.36	NA	0.092
Mercury	MG/L	0.00020 U	NA	0.00020 U	NA	0.00020 U
	MG/L	0.0056 J	NA	0.87	NA	0.078

Flags assigned during chemistry validation are shown.

Location ID		GW-04S	GW-07D	GW-07D	GW-07S	GW-07S
Sample ID		GW-04S	GW-07D	GW-07D	GW-07S	GW-07S
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	•	•	•	-
Date Sampled	12	05/22/19	05/22/19	05/23/19	05/22/19	05/23/19
Parameter	Units					
Metals						
Silver	MG/L	0.0030 U	NA	0.0030 U	NA	0.0030 U
Sodium	MG/L	31.2	NA	74.1	NA	57.7
Zinc	MG/L	0.0058 J	NA	0.33	NA	0.0032 J

Flags assigned during chemistry validation are shown.

MADE BY: AMK 6/27/19 CHECKED BY: PRF 7/1/19

> Advanced Selection: AMX-TEMP J:\Projects111172700.000041G/S/dB/Program/EDMS.mde Printed: 7/1/2019 1121.47 AM [LOGDATE] > 65/1/20198 AND [SACODE] & TB

Detection Limits shown are PQL

Location ID		GW-08D	GW-08D	GW-08SR	GW-26D	GW-28S
Sample ID		FD-20190523	GW-08D	GW-08SR	GW-26D	GW-28S
Matrix	*	Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/23/19	05/23/19	05/23/19	05/23/19	05/24/19
Parameter	Units	Field Duplicate (1-1)				
Volatile Organic Compounds						
1,1,2-Trichloroethane	UG/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	UG/L	2.0 U	2.0 U	2.0 U	1.0 J	2.0 U
Acetone	UG/L	5.2 J	6.0 J	4.9 J	4.5 J	10 U
Benzene	UG/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	UG/L	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Semivolatile Organic Compounds	-				-	
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	UG/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Pheno!	UG/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Metals				ίτ.		
Antimony	MG/L	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Arsenic	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Barium	MG/L	0.071	0.070	0.083	0.13	0.080
	MG/L	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	MG/L	0.042	0.046	0.0040 U	0.0040 U	0.0040 U
Copper	MG/L	0.0018 J	0.0019 J	0.010 U	0.010 U	0.010 U
Iron	'MG/L	0.63	0.62	6.4	2.4	0.20
Lead	MG/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Magnesium	MG/L	16.1	15.8	51.4	16.3	25.9
Manganese	MG/L	0.031	0.032	0.60	0.34	1.0
Mercury	MG/L	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U
Nickel	MG/L	0.011	0.010	0.010 U	0.0015 J	0.0019 J

Flags assigned during chemistry validation are shown.

Location ID		GW-08D	GW-08D	GW-08SR	GW-26D	GW-28S
Sample ID		FD-20190523	GW-08D	GW-08SR	GW-26D	GW-28S
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth interval (ft)		-	-	-	-	-
Date Sampled		05/23/19	05/23/19	05/23/19	05/23/19	05/24/19
Parameter	Units	Field Duplicate (1-1)				
Metals	-					
Silver	MG/L	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U
Sodium	MG/L	203	200	114	351	12.3
Zinc	MG/L	0.0056 J	0.0060 J	0.010 U	0.010 U	0.010 U

Flags assigned during chemistry validation are shown.

Location ID		GW-29S	GW-30S	GW-31S	GW-32S	GW-33S
Sample ID		GW-29S	GW-305	GW-31S	GW-32S	GW-335
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)	-	-		•	·•	<u> </u>
Date Sampled		05/24/19	05/24/19	05/24/19	05/24/19	05/24/19
Parameter	Units					
Volatile Organic Compounds		-2			×	
1,1,2-Trichloroethane	UG/L	1.0 U				
1,2-Dichloroethene (total)	UG/L	2.0 U				
Acetone	UG/L	10 U	4.1 J	4.2 J	3.3 J	5.5 J
Benzene	UG/L	1.0 U				
Vinyl chloride	UG/L	1.0 U				
Semivolatile Organic Compounds						
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	11 U	10 U
1,4-Dichlorobenzene	UG/L	🦈 10 U	10 U	10 U	11 U	³¹ 10 U
bis(2-Ethylhexyl)phthalate	UG/L	5.0 U	5.0 U	5.0 U	5.6 U	5.2 U
Phenol	UG/L	5.0 U	5.0 U	5.0 U	5.6 U	5.2 U
Metals						
Antimony	MG/L	0.020 U				
Arsenic	MG/L	0.025	0.010 U	0.010 U	0.010 U	0.010 U
Barium	MG/L	0.16	0.098	0.081	0.050	0.038
Cadmium	MG/L	0.0010 U				
Chromium	MG/L	0.0040 U				
Copper	MG/L	0.010 U				
lron	MG/L	14.6	4.6	2.2	0.050 U	0.050 U
Lead	MG/L	0.0050 U				
Magnesium	MG/L	55.1	28.9	25.9	26.5	24.9
Manganese	MG/L	0.66	0.63	0.86	0.67	0.025
Mercury	MG/L	0.00020 U				
Nickel	MG/L	0.010 U	0.010 U	0.0026 J	0.0020 J	0.010 U

Flags assigned during chemistry validation are shown.

Location ID	GW-29S	GW-30S	GW-31S	GW-32S	GW-335	
Sample ID		GW-29S	GW-30S	GW-31S	GW-32S	GW-33S
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		•	-		•	•
Date Sampled		05/24/19	05/24/19	05/24/19	05/24/19	05/24/19
Parameter	Units					
Metals						
Silver	MG/L	0.0030 U				
Sodium	MG/L	7.7	26.4	3.0	2.7	2.4
Zinc	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.0017 J

Flags assigned during chemistry validation are shown.

Location ID	GW-34S	GW-35S	
Sample ID		GW-34S	GW-35S
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		05/23/19	05/23/19
Parameter	Units		
Volatile Organic Compounds	12		
1,1,2-Trichloroethane	UG/L	1.0 U	1.0 U
1,2-Dichloroethene (total)	UGAL	2.0 U	2.0 U
Acetone	UG/L	3.6 J	4.8 J
Benzene	UG/L	1.0 U	1.0 U
Vinyl chloride	UG/L	1.0 U	1.0 U
Semivolatile Organic Compounds			
1,3-Dichlorobenzene	UG/L	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U
bis(2-Ethylhexyl)phthalate	UG/L	5.0 U	5.0 U
Phenol	UG/L	5.0 U	5.0 U
Metals			-
Antimony	MG/L	0.020 U	0.020 U
Arsenic	MG/L	0.010 U	0.010 U
Barium	MG/L	0.13	0.091
Cadmium	MG/L	0.0010 U	0.0010 U
Chromium	MG/L	0.0040 U	0.0040 U
Copper	MG/L	0.010 U	0.010 U
lron	MG/L	0.095	0.050 U
Lead	MG/L	0.0050 U	0.0050 U
Magnesium	MG/L	36.6	23.0
Manganese	MG/L	0.35	0.091
Mercury	MG/L	0.00020 U	0.00020 U
Nickel	MG/L	0.0065 J	0.010 U

Flags assigned during chemistry validation are shown.

Location ID		GW-34S	GW-35S	
Sample ID		GW-34S	GW-35S	
Matrix		Groundwater	Groundwater	
Depth Interval (ft)		-	-	
Date Sampled		05/23/19	05/23/19	
Parameter	Units			
Metals		18		
Silver	MG/L	0.0030 U	0.0030 U	
Sodium	MG/L	17.2	2.2	
Zinc	MG/L	0.010 U	0.010 U	

Flags assigned during chemistry validation are shown.

TABLE 2 VALIDATED FIELDQC SAMPLE RESULTS PFOHL BROTHERS LANDFILL SITE

Location ID		FIELDQC	FIELDQC
Sample ID		TB-20190522-23	TB-20190524
Matrix		Quality Control	Quality Control
Depth Interval (ft)		-	-
Date Sampled		05/23/19	05/24/19
Parameter	Units	Trip Blank (1-1)	Trip Blank (1-1)
Volatile Organic Compounds		8	
1,1,2-Trichloroethane	UG/L	1.0 U	1.0 U
1,2-Dichloroethene (total)	UG/L	2.0 U	2.0 U
Acetone	UG/L	10 U	10 U
Benzene	UG/L	1.0 U	1.0 U
Vinyl chloride	UG/L	1.0 U	1.0 U

Flags assigned during chemistry validation are shown.

MADE BY: AMK 6/27/19 CHECKED BY: PRF 7/1/19

Detection Limits shown are PQL

J:\Projecta\11172700.00000'GIS'dB\Program\EDMS.mde Printed: 7/r/2019 11:23:55 AM [LOGDATE] > #5/r/2019# AND [SACODE] = "TB"

APPENDIX A

VALIDATED SAMPLE REPORTING FORMS

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-07S Date Collected: 05/23/19 07:55 Date Received: 05/23/19 17:40

Lab Sample ID: 480-154040-1 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/31/19 16:04	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			05/31/19 16:04	1
Acetone	3.7	J	10	3.0	ug/L			05/31/19 16:04	1
Benzene	ND		1.0	0.41	ug/L			05/31/19 16:04	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/31/19 16:04	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		77 - 120					05/31/19 16:04	1
Toluene-d8 (Surr)	90		80 - 120					05/31/19 16:04	1
4-Bromofluorobenzene (Surr)	91		73 - 120					05/31/19 16:04	1
Dibmmofluommethane (Sum)	94		75-123					05/31/19 16:04	1
Method: 8270D - Semivola	tile Organic Co	mpounds	(GC/MS)						
Method: 8270D - Semivola Analyte	tile Organic Co Result	mpounds Qualifier	(GC/MS) RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Method: 8270D - Semivola Analyte 1,3-Dichlorobenzene	tile Organic Co Result	Qualifier	(GC/MS) 	MDL 0.48	Unit ug/L	D	Prepared 05/28/19 15:14	Analyzed 05/30/19 22:06	Dil Fac
Method: 8270D - Semivola Analyte 1,3-Dichlorobenzene 1,4-Dichlorobenzene	tile Organic Co Result ND ND	ompounds Qualifier	(GC/MS) RL 10 10	MDL 0.48 0.46	Unit ug/L ug/L	<u>D</u>	Prepared 05/28/19 15:14 05/28/19 15:14	Analyzed 05/30/19 22:06 05/30/19 22:06	Dil Fac
Method: 8270D - Semivola Analyte 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate	tile Organic Co Result ND ND ND ND	Qualifier	(GC/MS) RL 10 10 5.0	MDL 0.48 0.46 2.2	Unit ug/L ug/L ug/L	<u>D</u>	Prepared 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14	Analyzed 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06	Dil Fac 1 1 1
Method: 8270D - Semivola Analyte 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate Phenol	tile Organic Co Result ND ND ND ND ND	Qualifier	(GC/MS) RL 10 10 5.0 5.0	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	<u>D</u>	Prepared 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14	Analyzed 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06	Dil Fac 1 1 1
Method: 8270D - Semivola Analyte 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate Phenol Surrogate	tile Organic Co Result ND ND ND ND ND ND	Qualifier Qualifier	(GC/MS) RL 10 10 5.0 5.0 Limits	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	<u> </u>	Prepared 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 Prepared	Analyzed 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 Analyzed	Dil Fac 1 1 1 1 1 Dil Fac
Method: 8270D - Semivola Analyte 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate Phenol Surrogate 2,4,6-Tribromophenol	tile Organic Co Result ND ND ND ND ND 88	Qualifier Qualifier	(GC/MS) <u>RL</u> 10 10 5.0 5.0 <u>Limits</u> 41 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	D	Prepared 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 Prepared 05/28/19 15:14	Analyzed 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 Analyzed 05/30/19 22:06	Dil Fac 1 1 1 1 <i>Dil Fac</i> 7
Method: 8270D - Semivola Analyte 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate Phenol Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl	tile Organic Co Result ND ND ND ND ND ND 88 88	Qualifier Qualifier	(GC/MS) <u>RL</u> 10 5.0 5.0 <u>Limits</u> 41 - 120 48 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	D	Prepared 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 Prepared 05/28/19 15:14 05/28/19 15:14	Analyzed 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 Analyzed 05/30/19 22:06 05/30/19 22:06	Dil Fac 1 1 1 1 <i>Dil Fac</i> 7 1
Method: 8270D - Semivola Analyte 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate Phenol Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol	tile Organic Co Result ND ND ND ND %Recovery 88 89 71	Qualifier Qualifier	(GC/MS) RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	<u> </u>	Prepared 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 Prepared 05/28/19 15:14 05/28/19 15:14	Analyzed 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 Analyzed 05/30/19 22:06 05/30/19 22:06	Dil Fac 1 1 1 1 1 <i>Dil Fac</i> 1 1 1
Method: 8270D - Semivola Analyte 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate Phenol Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5	tile Organic Co Result ND ND ND ND %Recovery 88 89 71 83	Qualifier Qualifier	(GC/MS) RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	<u>D</u>	Prepared 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14	Analyzed 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06	Dil Fac 1 1 1 1 1 <i>Dil Fac</i> 1 1 1
Method: 8270D - Semivola Analyte 1,3-Dichlorobenzene 1,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate Phenol Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5	tile Organic Co Result ND ND ND ND %Recovery 88 89 71 83 50	Qualifier Qualifier	(GC/MS) RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	<u>D</u>	Prepared 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14 05/28/19 15:14	Analyzed 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06 05/30/19 22:06	Dil Fac 1 1 1 1 1 <i>Dil Fac</i> 1 1 1 1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/29/19 07:51	06/06/19 19:29	1
Arsenic	ND		0.010	0.0056	mg/L		05/29/19 07:51	06/06/19 19:29	1
Barium	0.39		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 19:29	1
Cadmium	0.0040		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 19:29	1
Chromium	0.0092		0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 19:29	1
Copper	0.0016	J	0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 19:29	1
Iron	0.40	B	0.050	0.019	mg/L		05/29/19 07:51	06/06/19 19:29	1
Lead	0.0036	J	0.0050	0.0030	mg/L		05/29/19 07:51	06/06/19 19:29	1
Magnesium	43.6		0.20	0.043	mg/L		05/29/19 07:51	06/06/19 19:29	1
Manganese	0.092	B	0.0030	0.00040	mg/L		05/29/19 07:51	06/06/19 19:29	1
Nickel	0.078		0.010	0.0013	mg/L		05/29/19 07:51	06/06/19 19:29	1
Silver	ND		0.0030	0.0017	mg/L		05/29/19 07:51	06/06/19 19:29	1
Sodium	57.7		1.0	0.32	mg/L		05/29/19 07:51	06/06/19 19:29	1
Zinc	0.0032	J	0.010	0.0015	mg/L		05/29/19 07:51	06/06/19 19:29	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/29/19 12:31	05/29/19 15:56	1

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-07D Date Collected: 05/23/19 07:45 Date Received: 05/23/19 17:40

Lab Sample ID: 480-154040-2 Matrix: Water

Method: 8260C - Volatile O Analyte	rganic Compo Result	ounds by G Qualifier	SC/MS	MDL	Unit	р	Prepared	Analyzed	Dil Fac
1.1.2-Trichloroethane	ND		1.0	0.23				05/31/19 16:28	1
1.2-Dichloroethene. Total	ND		2.0	0.81	ua/L			05/31/19 16:28	1
Acetone	4.4	J	10	3.0	ua/L			05/31/19 16:28	1
Benzene	ND		1.0	0.41	ua/L			05/31/19 16:28	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/31/19 16:28	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120					05/31/19 16:28	1
Toluene-d8 (Surr)	91		80 - 120					05/31/19 16:28	1
4-Bromofluorobenzene (Surr)	90		73 - 120					05/31/19 16:28	1
Dibromofluoromethane (Surr)	93		75 - 123					05/31/19 16:28	1
Method: 8270D - Semivolat	tile Organic Co Result	mpounds Qualifier	(GC/MS) RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1.3-Dichlorobenzene	ND		10	0.48			05/28/19 15:14	05/30/19 22:35	1
1.4-Dichlorobenzene	ND		10	0.46	ua/L		05/28/19 15:14	05/30/19 22:35	1
Bis(2-ethylhexyl) phthalate	3.4	J	5.0	2.2	ua/L		05/28/19 15:14	05/30/19 22:35	1
Phenol	ND		5.0	0.39	ug/L		05/28/19 15:14	05/30/19 22:35	ं ः 1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	94		41 - 120				05/28/19 15:14	05/30/19 22:35	1
2-Fluorobiphenyl	79		48 - 120				05/28/19 15:14	05/30/19 22:35	1
2-Fluorophenol	64		35 - 120				05/28/19 15:14	05/30/19 22:35	1
Nitrobenzene-d5	74		46 - 120				05/28/19 15:14	05/30/19 22:35	1
Phenol-d5	47		22 - 120				05/28/19 15:14	05/30/19 22:35	1
p-Terphenyl-d14	86		59 - 136				05/28/19 15:14	05/30/19 22:35	1
Method: 6010C - Metals (IC	P)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	0.010	J	0.020	0.0068	mg/L		05/29/19 07:51	06/06/19 19:33	1
Arsenic	0.0080	J	0.010	0.0056	mg/L		05/29/19 07:51	06/06/19 19:33	1
Barium	0.17		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 19:33	1
Cadmium	0.0054		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 19:33	1
Chromium	1.8		0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 19:33	1
Copper	0.16		0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 19:33	1
Iron	48.4	B	0.050	0.019	mg/L		05/29/19 07:51	06/06/19 19:33	1
Lead	0.68		0.0050	0.0030	mg/L		05/29/19 07:51	06/06/19 19:33	1
Magnesium	39.0		0.20	0.043	mg/L		05/29/19 07:51	06/06/19 19:33	1
Manganese	0.36	B	0.0030	0.00040	mg/L		05/29/19 07:51	06/06/19 19:33	1
Nickel	0.87		0.010	0.0013	mg/L		05/29/19 07:51	06/06/19 19:33	1
Sliver	ND		0.0030	0.0017	mg/L		05/29/19 07:51	06/06/19 19:33	1
Sodium	74.1		1.0	0.32	mg/L		05/29/19 07:51	06/06/19 19:33	1
Zinc	0.33		0.010	0.0015	mg/L		05/29/19 07:51	06/06/19 19:33	1
Method: 7470A - Mercury (CVAA)	Oue#6	-	-		~	Deensed		DUP
Analyte	Kesult	Qualifier	KL	MDL	Unit	U	repareo	Analyzed	uii rac

0.00020

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0.00012 mg/L

ND

Eurofins TestAmerica, Buffalo

05/29/19 12:31 05/29/19 15:58



1

Client Sample ID: GW-0 Date Collected: 05/22/19 13:2 Date Received: 05/23/19 17:4	1S 25 60					La	ab Sample	ID: 480-154 Matrix	4040-3 :: Water
Method: 8260C - Volatile Or	ganic Compo	unds by (GC/MS						
Anaiyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/30/19 17:51	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			05/30/19 17:51	1
Acetone	ND		10	3.0	ug/L			05/30/19 17:51	1
Benzene	ND		1.0	0.41	ug/L			05/30/19 17:51	1
Viny! chloride	ND		1.0	0.90	ug/L			05/30/19 17:51	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
1,2-Dichloroethane-d4 (Surr)			77 - 120					05/30/19 17:51	1
Toluene-d8 (Surr)	103		80 - 120					05/30/19 17:51	1
4-Bromofluorobenzene (Surr)	104		73 - 120					05/30/19 17:51	1
Dibromofluoromethane (Surr)	95		75 - 123					05/30/19 17:51	1
Method: 8270D - Semivolati	le Organic Co	mpound	s (GC/MS)						
Analyte	Result	Qualifier	ŔL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/28/19 15:14	05/30/19 23:03	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/28/19 15:14	05/30/19 23:03	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/28/19 15:14	05/30/19 23:03	1
Phenol	ND		5.0	0.39	ug/L		05/28/19 15:14	05/30/19 23:03	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
2,4,6-Tribromophenol	81		41 - 120				05/28/19 15:14	05/30/19 23:03	1
2-Fluorobiphenyl	96		48 - 120				05/28/19 15:14	05/30/19 23:03	1
2-Fluorophenol	74		35 - 120				05/28/19 15:14	05/30/19 23:03	1
Nitrobenzene-d5	90		46 - 120				05/28/19 15:14	05/30/19 23:03	1
Phenol-d5	53		22 - 120				05/28/19 15:14	05/30/19 23:03	1
p-Terphenyl-d14	82		59 - 136				05/28/19 15:14	05/30/19 23:03	1
Method: 6010C - Metals (ICI	P)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/29/19 07:51	06/06/19 19:36	1
Arsenic	ND		0.010	0.0056	mg/L		05/29/19 07:51	06/06/19 19:36	. 1
Barlum	0.19		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 19:36	1
Cadmium	ND		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 19:36	1
Chromium	ND		0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 19:36	1
Copper	ND	1	0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 19:36	1
Iron	7.7	B	0.050	0.019	mg/L		05/29/19 07:51	06/06/19 19:36	1
Lead	ND		0.0050	0.0030	mg/L		05/29/19 07:51	06/06/19 19:36	1
Magnesium	24.3		0.20	0.043	mg/L		05/29/19 07:51	06/06/19 19:36	1
Manganese	1.2	B	0.0030	0.00040	mg/L		05/29/19 07:51	06/06/19 19:36	1
Nickel	ND		0.010	0.0013	mg/L		05/29/19 07:51	06/06/19 19:36	1
Silver	ND		0.0030	0.0017	mg/L		05/29/19 07:51	06/06/19 19:36	1
Sodium	177		1.0	0.32	mg/L		05/29/19 07:51	06/06/19 19:36	1

Method: 7470A - Mercury (CVA	4 A)								
Analyte	Result (Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Mercury	ND		0.00020	0.00012	mg/L		05/29/19 12:31	05/29/19 15:59	1

0.010

ND

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05/29/19 07:51 06/06/19 19:36

0.0015 mg/L

1

Zinc

Client: AECOM Project/Site: Pfohl Brothers Landfill

CI	iei	nt	S	an	npi	e	ID	: (GΨ	A	-0	1	D
Da	te	Co	lie	ect	ed	: 0	5/2	2/	19	1	4:	42	2

Lab Sample ID: 480-154040-4 Matrix: Water

Date Collected: 05/22/19 14:42 Date Received: 05/23/19 17:40

Method: 8260C - Volatile Orga	nic Compo	unds by 0 Qualifier	SC/MS	MDI	Unit	D	Prepared	Analyzed	Dil Fac
1 1 2-Trichlomethane	ND	FO F1	10	0.23		ī		05/30/19 18:17	1
1.2 Dichlomethene Total	ND	PDF	2.0	0.20	ug/t			05/30/19 18:17	. 1
	15	Ed Ed	10	3.0	ug/L			05/30/19 18:17	. 1
Acetone	4.0 ND	J PZ FI	10	0.41	ug/L			05/30/19 18:17	· · ·
Benzene Vinul ablantia	ND	EDEA	1.0	0.41	ug/L			05/30/19 10.17	1
Vinyi chionae	ND		1.0	0.90	ug/L			03/30/19 10.17	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	98		77 - 120					05/30/19 18:17	1
Toluene-d8 (Surr)	101		80 - 120					05/30/19 18:17	1
4-Bromofluorobenzene (Surr)	104		73 - 120					05/30/19 18:17	1
Dibromofluoromethane (Surr)	96		75 - 123					05/30/19 18:17	1
Method: 8270D - Semivolatile	Organic Co	mpounds	(GC/MS)	MDI	linit	п	Prenarad	Analyzed	Dil Fac
1 2 Dichlombanzana	ND		10	0.48			05/28/19 15:14	05/30/19 21:09	1
			10	0.40	ug/L		05/28/19 15:14	05/30/19 21:09	1
1,4-Dichlorobenzene	ND		50	0.40	ug/L		05/20/19 15.14	05/30/19 21:09	4
Bis(2-ethylnexyl) phthalate	ND		5.0	0.20	ug/L		05/28/19 15.14	05/30/19 21:09	= 23
Phenol	ND		5.0	0.39	ug/L		03/20/19 13.14	03/30/19 21.09	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fac
2,4,6-Tribromophenol	84		41 - 120				05/28/19 15:14	05/30/19 21:09	1
2-Fluorobiphenyl	86		48 - 120				05/28/19 15:14	05/30/19 21:09	1
2-Fluorophanol	65		35 - 120				05/28/19 15:14	05/30/19 21:09	1
Nitrobenzene-d5	82		46 - 120				05/28/19 15:14	05/30/19 21:09	1
Phenol-d5	45		22 - 120				05/28/19 15:14	05/30/19 21:09	1
p-Terphenyl-d14	77		59 - 136				05/28/19 15:14	05/30/19 21:09	1
Method: 6010C - Metals (ICP) Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/29/19 07:51	06/06/19 19:40	1
Arsenic	ND		0.010	0.0056	mg/L		05/29/19 07:51	06/06/19 19:40	1
Barium	0.081		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 19:40	1
Cadmium	ND		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 19:40	···· 1
Chromium	0.058		0.0040	0.0010	ma/L		05/29/19 07:51	06/06/19 19:40	1
Copper	0.0031	J	0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 19:40	1
Iron	2.4	Br	0.050	0.019	mg/L		05/29/19 07:51	06/06/19 19:40	<u> </u>
Lead	ND	1	0.0050	0.0030	ma/L		05/29/19 07:51	06/06/19 19:40	1
Magnesium	35.2	FI	0.20	0.043	ma/L		05/29/19 07:51	06/06/19 19:40	1
Manganese	0.045	B	0.0030	0.00040	ma/L		05/29/19 07:51	06/06/19 19:40	1
Nickel	0.013	-	0.010	0.0013	ma/L		05/29/19 07:51	06/06/19 19:40	1
Silver	ND		0.0030	0.0017	ma/L		05/29/19 07:51	06/06/19 19:40	1
Sodium	98.8		1.0	0.32	ma/L		05/29/19 07:51	06/06/19 19:40	1
Zinc	0.0 0 012		0.010	0.0015	ma/L		05/29/19 07:51	06/06/19 19:40	1
	0.012		0.010	0.0010				-3,00,10 10,40	
Method: 7470A - Mercury (CV/	AA)					-			
Analyte	Result	Qualifier		MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/29/19 12:31	05/29/19 16:00	1

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Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-04S Date Collected: 05/22/19 15:15

Date Received: 05/23/19 17:40

Lab Sample ID: 480-154040-5 Matrix: Water

Method: 8260C - Volatile Orga	anic Compo	unds by G	SC/MS	MDI	l Imité		Presented	Analyzed	Dil Eac
	ND		10	0.23			Fiehalea	05/30/10 18:43	
1,1,2-Inchloroeutane	ND		1.0	0.23	ug/L			05/30/19 18:43	1
	2.0		2.0	0.01	ug/L ug/i			05/30/19 18:43	1
Acetone	3.0 ND	.	10	0.41	ug/L			05/30/19 18:43	1
Denzene Minul sklarida			1.0	0.41	ug/L			05/30/19 10:43	1
	UN		1.0	0.90	ug/L			05/30/19 10.43	•
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
1,2-Dichloroethane-d4 (Surr)	97		77 - 120					05/30/19 18:43	1
Toluene-d8 (Surr)	100		80 - 120					05/30/19 18:43	1
4-Bromofluorobenzene (Surr)	106		73 - 120					05/30/19 18:43	1
Dibromofluoromethane (Surr)	99		75 - 123					05/30/19 18:43	1
Method: 8270D - Semivolatile	Organic Co	mpounds Qualifier	(GC/MS)	MDI	Unit	р	Prenared	Analyzed	Dil Fac
1 3-Dichlombenzene		quamer	10	0.48			05/28/19 15:14	05/30/19 23:32	1
1 4-Dichlorobenzene	ND		10	0.46	ug/l		05/28/19 15:14	05/30/19 23:32	1
Ric(2 othylboxyl) obthalate	33	a l	50	22	ug/L		05/28/19 15:14	05/30/19 23:32	1
Dis(2-ethymexy) primatate	S.S		5.0	0.39	ug/L		05/28/19 15:14	05/30/19 23:32	1
Thenoi			0.0	0.00	09/2		00/20/10 10:14	00/00/10 20/02	•
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
2,4,6-Tribromophenol	87		41 - 120				05/28/19 15:14	05/30/19 23:32	1
2-Fluorobiphenyi	90		48 - 120				05/28/19 15:14	05/30/19 23:32	1
2-Fluorophenol	66		35 - 120				05/28/19 15:14	05/30/19 23:32	1
Nitrobenzene-d5	84		46 - 120				05/28/19 15:14	05/30/19 23:32	1
Phenol-d5	46		22 - 120				05/28/19 15:14	05/30/19 23:32	1
p-Terphenyl-d14	81		59 - 136				05/28/19 15:14	05/30/19 23:32	1
Method: 6010C - Metals (ICP) Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/29/19 07:51	06/06/19 20:10	1
Arsenic	ND		0.010	0.0056	mg/L		05/29/19 07:51	06/06/19 20:10	1
Barium	0.12		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 20:10	1
Cadmium	0.00052	J	0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 20:10	1
Chromium	0.0071		0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 20:10	1
Copper	0.0031	J	0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 20:10	1
Iron	1.8	B	0.050	0.019	mg/L		05/29/19 07:51	06/06/19 20:10	1
Lead	ND		0.0050	0.0030	mg/L		05/29/19 07:51	06/06/19 20:10	1
Magnesium	28.0		0.20	0.043	mg/L		05/29/19 07:51	06/06/19 20:10	1
Manganese	0.13	B	0.0030	0.00040	mg/L		05/29/19 07:51	06/06/19 20:10	1
Nickel	0.0056	J	0.010	0.0013	mg/L		05/29/19 07:51	06/06/19 20:10	1
Silver	ND		0.0030	0.0017	mg/L		05/29/19 07:51	06/06/19 20:10	1
Sodium	31.2		1.0	0.32	mg/L		05/29/19 07:51	06/06/19 20:10	1
Zinc	0.0058	J	0.010	0.0015	mg/L		05/29/19 07:51	06/06/19 20:10	1
Method: 7470A - Mercury (CV	AA)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Mercury	ND		0.00020	0.00012	mg/L		05/29/19 12:31	05/29/19 16:08	1

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RL

MDL Unit

D

Prepared

Analyzed

DII Fac

6

Project/Site: Pfohl Brothers Landfill Client Sample ID: GW-04D

Client: AECOM

Analyte

Lab Sample ID: 480-154040-6 Matrix: Water

Date Collected: 05/22/19 16:40 Date Received: 05/23/19 17:40

Method: 8260C - Volatile Organic Compounds by GC/MS

Result Qualifier

1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/30/19 19:11	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			05/30/19 19:11	1
Acetone	3.5	J	10	3.0	ug/L			05/30/19 19:11	1
Benzene	ND		1.0	0.41	ug/L			05/30/19 19:11	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/30/19 19:11	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120					05/30/19 19:11	1
Toluene-d8 (Surr)	102		80 - 120					05/30/19 19:11	1
4-Bromofluorobenzene (Surr)	104		73 - 120					05/30/19 19:11	1
Dibromofluoromethane (Surr)	94		75 - 123					05/30/19 19:11	1
Method: 8270D - Semivolat	ile Organic Co	mpounds	(GC/MS)						
Analyte	Result	Qualifier	ŔL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/28/19 15:14	05/31/19 00:01	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/28/19 15:14	05/31/19 00:01	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/28/19 15:14	05/31/19 00:01	1
Phenol	ND		5.0	0.39	ug/L		05/28/19 15:14	05/31/19 00:01	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	89		41 - 120				05/28/19 15:14	05/31/19 00:01	1
2-Fluorobiphenyl	86		48 - 120				05/28/19 15:14	05/31/19 00:01	1
2-Fluorophenol	65		35 - 120				05/28/19 15:14	05/31/19 00:01	1
Nitrobenzene-d5	77		46 - 120				05/28/19 15:14	05/31/19 00:01	1
Phenol-d5	47		22 - 120				05/28/19 15:14	05/31/19 00:01	1
p-Terphenyl-d14	76		59 - 136				05/28/19 15:14	05/31/19 00:01	1
Method: 6010C - Metals (IC	P)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Antimony	ND		0.020	0.0068	mg/L		05/29/19 07:51	06/06/19 20:14	1
Arsenic	ND		0.010	0.0056	mg/L		05/29/19 07:51	06/06/19 20:14	1
Barium	0.10		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 20:14	1
Cadmium	ND		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 20:14	1
Chromlum	0.0026	J	0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 20:14	1
Copper	ND		0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 20:14	1
Iron	0.20	B	0.050	0.019	mg/L		05/29/19 07:51	06/06/19 20:14	1
Lead	ND		0.0050	0.0030	mg/L		05/29/19 07:51	06/06/19 20:14	1
Magnesium	81.0	1	0.20	0.043	mg/L		05/29/19 07:51	06/06/19 20:14	1
Manganese	0.022	B	0.0030	0.00040	mg/L		05/29/19 07:51	06/06/19 20:14	1
Nickel	ND		0.010	0.0013	mg/L		05/29/19 07:51	06/06/19 20:14	1
Silver	ND		0.0030	0.0017	mg/L		05/29/19 07:51	06/06/19 20:14	1
Sodium	95.3		1.0	0.32	mg/L		05/29/19 07:51	00/06/19 20:14	1
Zinc	0.035		0.010	0.0015	mg/L		05/29/19 07:51	06/06/19 20:14	1
Method: 7470A - Mercury (CVAA)								— •• –
Anaiyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Mercury	ND		0.00020	0.00012	mg/L		05/29/19 12:31	05/29/19 16:09	1



RL

MDL Unit

D

Prepared

Analyzed

Dil Fac

6

Project/Site: Pfohl Brothers Landfill **Client Sample ID: GW-34S**

Client: AECOM

Date Collected: 05/23/19 09:15

Lab Sample ID: 480-154040-7 Matrix: Water

Date Received: 05/23/19 17:40

Method: 8260C - Volatile Organic Compounds by GC/MS Analyte Result Qualifier

1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/31/19 16:52	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			05/31/19 16:52	1
Acetone	3.6	J	10	3.0	ug/L			05/31/19 16:52	1
Benzene	ND		1.0	0.41	ug/L			05/31/19 16:52	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/31/19 16:52	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
1,2-Dichloroethane-d4 (Surr)	99		77 - 120					05/31/19 16:52	1
Toluene-d8 (Surr)	91		80 - 120					05/31/19 16:52	1
4-Bromofluorobenzene (Suπ)	88		73 - 120					05/31/19 16:52	1
Dibromofluoromethane (Surr)	97		75 - 123					05/31/19 16:52	1
Method: 8270D - Semivolatile	Organic Co	mpounds	(GC/MS)						
Analyte	Result	Qualifier	RL	MDL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/28/19 15:14	05/31/19 15:13	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/28/19 15:14	05/31/19 15:13	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/28/19 15:14	05/31/19 15:13	1
Phenol	ND		5.0	0.39	ug/L		05/28/19 15:14	05/31/19 15:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fac
2,4,6-Tribromophenol	78		41 - 120				05/28/19 15:14	05/31/19 15:13	1
2-Fluorobiphenyl	87		48 - 120				05/28/19 15:14	05/31/19 15:13	1
2-Fluorophenol	67		35 - 120				05/28/19 15:14	05/31/19 15:13	1
Nitrobenzene-d5	77		46 - 120				05/28/19 15:14	05/31/19 15:13	1
Phenol-d5	48		22 - 120				05/28/19 15:14	05/31/19 15:13	1
p-Terphenyl-d14	79		59 - 136				05/28/19 15:14	05/31/19 15:13	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/29/19 07:51	06/06/19 20:18	1
Arsenic	ND		0.010	0.0056	mg/L		05/29/19 07:51	06/06/19 20:18	1
Barium	0.13		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 20:18	1
Cadmium	ND		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 20:18	1
Chromium	ND		0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 20:18	1
Copper	ND	1	0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 20:18	1
Iron	0.095	B	0.050	0.019	mg/L		05/29/19 07:51	06/06/19 20:18	1
Lead	ND		0.0050	0.0030	mg/L		05/29/19 07:51	06/06/19 20:18	1
Magnesium	36.6	1	0.20	0.043	mg/L		05/29/19 07:51	06/06/19 20:18	_ 1
Manganese	0.35	B	0.0030	0.00040	mg/L		05/29/19 07:51	06/06/19 20:18	1
Nickel	0.0065	J	0.010	0.0013	mg/L		05/29/19 07:51	06/06/19 20:18	1
Silver	ND		0.0030	0.0017	mg/L		05/29/19 07:51	06/06/19 20:18	1
Sodium	17.2		1.0	0.32	mg/L		05/29/19 07:51	06/06/19 20:18	1
Zinc	ND		0.010	0.0015	mg/L		05/29/19 07:51	06/06/19 20:18	1
Method: 7470A - Mercury (CV/	AA)					_	_		
Analyte	Result	Qualifier	RL	MDL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
							A RIAA 14 A 40 A 4	0000140 40 44	



Eurofins TestAmerica, Buffalo

RL

MDL Unit

D

Prepared

Project/Site: Pfohl Brothers Landfill

Client: AECOM

Client Sample ID: GW-03S Date Collected: 05/23/19 10:10

Lab Sample ID: 480-154040-8 Matrix: Water

Analyzed

Dil Fac

6

Date Collected: 05/23/19 10:10 Date Received: 05/23/19 17:40

Method: 8260C - Volatile Organic Compounds by GC/MS Analyte Result Qualifier

1.2 Dishlamathana, Tatal			2.0	0.20	ug/L			05/31/19 17:15	. 1
1,2-Dicitiorbetriene, Total			10	3.0	ug/L			05/31/19 17:15	1
Renzene	ND		10	0.41	ug/L			05/31/19 17:15	1
Nenzene Viewi chloride			1.0	0.90	ug/L			05/31/19 17:15	1
			1.0	0.30	ugre			00/01/10 11:10	•
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	100		77 - 120					05/31/19 17:15	1
Toluene-d8 (Surr)	93		80 - 120					05/31/19 17:15	1
4-Bromofluorobenzene (Surr)	91		73 - 120					05/31/19 17:15	1
Dibromofluoromethane (Surr)	98		75 - 123					05/31/19 17:15	1
			(00/010)						
Method: 8270D - Semivolat	ile Organic Co	ompounds	(GC/MS)	MDI	1 1 14	•	Bronord	Analyzed	
		Quaimer		0.49		<u> </u>	05/29/10 15:14	05/31/10 15·41	
			10	0.40	ug/L		05/28/19 15.14	05/31/19 15:41	1
1,4-Dichlorobenzene			10	0.40	ug/L		05/20/19 15.14	05/31/19 15.41	4
Bis(2-ethylnexyl) phthalate			5.0	0.20	ug/L		05/20/19 15.14	05/31/19 15:41	5 A 60
Phenoi	UN		5.0	0.39	ug/L		03/20/19 13.14	00/01/10 10.41	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
2,4,6-Tribromophenol	87		41 - 120				05/28/19 15:14	05/31/19 15:41	1
2-Fluorobiphenyl	85		48 - 120				05/28/19 15:14	05/31/19 15:41	1
2-Fluorophenol	65		35 - 120				05/28/19 15:14	05/31/19 15:41	1
Nitrobenzene-d5	76		46 - 120				05/28/19 15:14	05/31/19 15:41	1
Phenol-d5	50		22 - 120				05/28/19 15:14	05/31/19 15:41	1
p-Terphenyl-d14	87		59 - 136				05/28/19 15:14	05/31/19 15:41	1
-									
Method: 6010C - Metals (IC	P)	0	DI.	MDI	1.1		Bronorod	Analyzad	
		Quaimer	KL	0.0069	ma/	D	05/20/10 07:51	06/06/10 20·22	1
Anumony			0.020	0.0000	mg/L		05/29/19 07:51	06/06/19 20:22	1
Arsenic			0.010	0.0050	mg/⊏		05/29/19 07:51	06/06/19 20:22	1
Barium	0.096		0.0020	0.00070	mg/L		05/20/10 07:51	06/06/19 20:22	ni i
Cadmium	0.0013		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 20:22	1
Chromium	0.0058		0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 20:22	1
Copper		~	0.010	0.0010	mg/L		05/29/19 07:51	06/06/19 20:22	≍= = ¦
iron	0.09	_P	0.050	0.019	mg/⊏		05/20/10 07:51	06/06/19 20:22	4
			0.0050	0.0030	mg/∟		05/29/19 07:51	06/06/19 20:22	1
Magnesium	0.0	-	0.20	0.040	mg/L		05/20/10 07:51	06/06/19 20:22	· ·
Manganese	0.00	P	0.0030	0.00040	ma/l		05/20/10 07:51	06/06/19 20:22	1
NICKEI	0.002		0.010	0.0017	mg/∟		05/20/10 07:51	06/06/19 20:22	1
Silver Cadium	400		1.0000	0.0017	mo/l		05/29/19 07:51	06/06/19 20:22	i
Sodium	0.0092		0.010	0.015	mg/L		05/20/10 07:51	06/06/19 20:22	. 1
LINC	0.0082	J	0.010	0.0010	ing/c		5012011011.01	VUIUUI 13 20.22	
Method: 7470A - Mercury ((
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

Dii Fac

1

1

1

1

1

1

1

1

1

1

1

1

1

DII Fac

Dil Fac

6

Project/Site: Pfohl Brothers Landfill

Client: AECOM

Client Sample ID: GW-03D Date Collected: 05/23/19 11:23

Lab Sample ID: 480-154040-9 Matrix: Water

Date Received: 05/23/19 17:	40								
Method: 8260C - Volatile O	Irganic Compo	unds by G	C/MS						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Di
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			05/31/19 17:39	
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			05/31/19 17:39	
Acetone	3.8	J	10	3.0	ug/L			05/31/19 17:39	
Benzene	ND		1.0	0.41	ug/L			05/31/19 17:39	
Vinyl chloride	ND		1.0	0.90	ug/L			05/31/19 17:39	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DI
1,2-Dichloroethane-d4 (Surr)	99		77 - 120					05/31/19 17:39	
Toluene-d8 (Surr)	92		80 - 120					05/31/19 17:39	
4-Bromofluorobenzene (Surr)	92		73 - 120					05/31/19 17:39	
Dibromofluoromethane (Surr)	94		75 - 123					05/31/19 17:39	
Method: 8270D - Semivola	tile Organic Co	mpounds	(GC/MS)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Di
1,3-Dichlorobenzene	1.9	J	10	0.48	ug/L		05/28/19 15:14	05/31/19 16:10	
1,4-Dichlorobenzene	2.8	J	10	0.46	ug/L		05/28/19 15:14	05/31/19 16:10	
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/28/19 15:14	05/31/19 16:10	
Phenol	ND		5.0	0.39	ug/L		05/28/19 15:14	05/31/19 16:10	
Surrogate	%Recoverv	Qualifier	Limits				Prepared	Analyzed	DI

Surrogate	%Recovery Qualific	er Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	83	41 - 120	05/28/19 15:14	05/31/19 16:10	1
2-Fluorobiphenyl	90	48 - 120	05/28/19 15:14	05/31/19 16:10	1
2-Fluorophenol	70	35 - 120	05/28/19 15:14	05/31/19 16:10	1
Nitrobenzene-d5	81	46 - 120	05/28/19 15:14	05/31/19 16:10	1
Phenol-d5	50	22 - 120	05/28/19 15:14	05/31/19 16:10	1
p-Terphenyl-d14	85	59 - 136	05/28/19 15:14	05/31/19 16:10	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Antimony	ND		0.020	0.0068	mg/L		05/29/19 07:51	06/06/19 20:26	1
Arsenic	ND		0.010	0.0056	mg/L		05/29/19 07:51	06/06/19 20:26	1
Barium	0.090		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 20:26	1
Cadmium	ND		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 20:26	1
Chromium	ND		0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 20:26	1
Copper	ND		0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 20:26	1
Iron	1.2	8	0.050	0.019	mg/L		05/29/19 07:51	06/06/19 20:26	··· 1
Lead	0.0031	J	0.0050	0.0030	mg/L		05/29/19 07:51	06/06/19 20:26	1
Magnesium	17.2		0.20	0.043	mg/L		05/29/19 07:51	06/06/19 20:26	1
Manganese	0.27	B	0.0030	0.00040	mg/L		05/29/19 07:51	06/06/19 20:26	1
Nickel	0.0047	J	0.010	0.0013	mg/L		05/29/19 07:51	06/06/19 20:26	1
Silver	ND		0.0030	0.0017	mg/L		05/29/19 07:51	06/06/19 20:26	1
Sodium	187		1.0	0.32	mg/L		05/29/19 07:51	06/06/19 20:26	1
Zinc	0.0026	J	0.010	0.0015	mg/L		05/29/19 07:51	06/06/19 20:26	1
Method: 7470A - Mercury (CVAA)								
Analyte	, Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/29/19 12:31	05/29/19 16:13	1

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client	Sample	ID:	G₩-0	8D
Data Ca	llastad: 0	5/22	140 12.1	0

Date Collected: 05/23/19 13:10 Date Received: 05/23/19 17:40

Mercury

Lab Sample ID: 480-154040-10 **Matrix: Water**

Method: 8260C - Volatile Orga	nic Compo	ounds by G	C/MS	MDI	Linit		n	Prenared	Analyzod	Dil Eac
1 1 2 Trichlomethane			10	0.23			_	Fiepaleu	05/31/10 17:21	1
1.2 Dichlomothane. Total			1.0	0.23	ug/L				05/31/19 17:21	1
	60		2.0	0.01	ug/L				05/31/19 17:21	4
Renzene	0.0 ND	J	10	0.41	ug/L				05/31/19 17:21	
Vinyl chloride			1.0	0.90	ug/L				05/31/19 17:21	1
				0.00	ug/c				00/01/10 17.21	•
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	DII Fac
1,2-Dichloroethane-d4 (Surr)	106	ł	77 - 120						05/31/19 17:21	1
Toluene-d8 (Surr)	100		80 - 120						05/31/19 17:21	1
4-Bromofluorobenzene (Suπ)	102		73 - 120						05/31/19 17:21	1
Dibromofluoromethane (Surr)	103		75 - 123						05/31/19 17:21	1
Method: 8270D - Semivolatile	Organic Co	ompounds	(GC/MS)							
Analyte	Result	Qualifier	ŔL	MDL	Unit		D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		_	05/28/19 15:14	05/31/19 16:39	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L			05/28/19 15:14	05/31/19 16:39	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L			05/28/19 15:14	05/31/19 16:39	1
Phenol	ND		5.0	0.39	ug/L			05/28/19 15:14	05/31/19 16:39	1
Surrogate	%Recovery	Qualifier	Limits					Prepared	Analyzed	DII Fac
2,4,6-Tribromophenol	73		41 - 120					05/28/19 15:14	05/31/19 16:39	1
2-Fluorobiphenyl	88		48 - 120					05/28/19 15:14	05/31/19 16:39	1
2-Fluorophenol	66		35 - 120					05/28/19 15:14	05/31/19 16:39	1
Nitrobenzene-d5	80		46 - 120					05/28/19 15:14	05/31/19 16:39	1
Phenol-d5	49		22 - 120					05/28/19 15:14	05/31/19 16:39	1
p-Terphenyl-d14	86		59 - 136					05/28/19 15:14	05/31/19 16:39	1
Method: 6010C - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit		D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L	1	-	05/29/19 07:51	06/06/19 20:30	1
Arsenic	ND		0.010	0.0056	mg/L			05/29/19 07:51	06/06/19 20:30	1
Barium	0.070		0.0020	0.00070	mg/L			05/29/19 07:51	06/06/19 20:30	1
Cadmium	ND		0.0010	0.00050	mg/L			05/29/19 07:51	06/06/19 20:30	1
Chromium	0.046		0.0040	0.0010	mg/L			05/29/19 07:51	06/06/19 20:30	1
Copper	0.0019	J	0.010	0.0016	mg/L			05/29/19 07:51	06/06/19 20:30	1
Iron	0.62	B	0.050	0.019	mg/L			05/29/19 07:51	06/06/19 20:30	1
Lead	ND		0.0050	0.0030	mg/L			05/29/19 07:51	06/06/19 20:30	1
Magnesium	15.8		0.20	0.043	mg/L			05/29/19 07:51	06/06/19 20:30	1
Manganese	0.032	B	0.0030	0.00040	mg/L			05/29/19 07:51	06/06/19 20:30	1
Nickel	0.010		0.010	0.0013	mg/L			05/29/19 07:51	06/06/19 20:30	1
Silver	ND		0.0030	0.0017	mg/L			05/29/19 07:51	06/06/19 20:30	1
Sodium	200		1.0	0.32	mg/L			05/29/19 07:51	06/06/19 20:30	1
Zinc	0.0060	J	0.010	0.0015	mg/L			05/29/19 07:51	06/06/19 20:30	1
Method: 7470A - Mercury (CVA										
Analyte	Result	Qualifier	RL	MDL	Unit		D	Prepared	Analyzed	Dil Fac

Analyz 05/29/19 12:31 05/29/19 16:15 1

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ND

0.00020 0.00012 mg/L

Gw-080 Job ID: 480-154040-1

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: FD-20190523 Date Collected: 05/23/19 00:00

Lab Sample ID: 480-154040-11 Matrix: Water

Date Collected: 05/23/19 00:00 Date Received: 05/23/19 17:40

a ME	MDI	linit	п	Prepared	Analyzed	Dil Fac
	0.23		_		05/31/19 17:44	1
2.0 0.2 0 01	0.20	ug/L			05/31/19 17:44	. 1
10 3	30	ug/L			05/31/10 17:44	1
	0.41				05/31/19 17:44	з і
.0 0.4	0.41	ug/L			05/31/19 17:44	
.0 0.8	0.90	ug/L			03/31/19 17.44	
<u></u>				Prepared	Analyzed	DII Fac
2					05/31/19 17:44	1
2					05/31/19 17:44	1
כ					05/31/19 17:44	1
3					05/31/19 17:44	1
) RL MD	MDL	Unit	D	Prepared	Analyzed	Dil Fac
10 0.4	0.48	ug/L	-	05/28/19 15:14	05/31/19 17:08	1
10 0.4	0.46	ug/L		05/28/19 15:14	05/31/19 17:08	1
.0 2	2.2	ua/L		05/28/19 15:14	05/31/19 17:08	1
.0 0.3	0.39	ug/L		05/28/19 15:14	05/31/19 17:08	° ° 1
				Prepared	Analyzed	Dii Fac
n -				05/28/19 15:14	05/31/19 17:08	1
'n				05/28/19 15:14	05/31/19 17:08	1
, n				05/28/19 15:14	05/31/19 17:08	1
0				05/28/19 15:14	05/31/19 17:08	1
0				05/28/19 15:14	05/31/19 17:08	1
5				05/28/19 15:14	05/31/19 17:08	1
	MDL I	Unit	D	Prepared	Analyzed	Dil Fac
20 0.006	0.0068	ma/L	—	05/29/19 07:51	06/06/19 20:34	1
10 0.005	0.0056 r	mg/L		05/29/19 07:51	06/06/19 20:34	1
20 0.0007	.00070 r	ma/L		05/29/19 07:51	06/06/19 20:34	1
10 0.0005	.00050 г	mg/L		05/29/19 07:51	06/06/19 20:34	° [~] 1
10 0.001	0.0010 r	ma/L		05/29/19 07:51	06/06/19 20:34	1
10 0.001	0.0016 r	ma/L		05/29/19 07:51	06/06/19 20:34	1
50 0.01	0.019	ma/L		05/29/19 07:51	06/06/19 20:34	1
50 0.002	0.0030 r	ma/L		05/29/19 07:51	06/06/19 20:34	1
20 0.04	0.043 r	ma/L		05/29/19 07:51	06/06/19 20:34	1
30 0.0004	.00040	ma/L		05/29/19 07:51	06/06/19 20:34	1
10 0.0004	0.0013	ma/L		05/29/19 07:51	06/06/19 20:34	1
30 0.001	0.0017	ma/l		05/29/19 07:51	06/06/19 20:34	1
.0 0.3	0.32	ma/L		05/29/19 07:51	06/06/19 20:34	
.0 0.0 10 0.01	0.0015			05/29/19 07:51	06/06/19 20:34	1
0.001					00,00,10 20.04	
			_	_		
L MD	MDL U	Unit	D	Prepared	Analyzed	DII Fac
1L 20 —	0	MDL 0.00012	MDL Unit 0.00012 mg/L	MDL Unit D 0.00012 mg/L	MDL Unit D Prepared 0.00012 mg/L 05/29/19 12:31	MDL Unit D Prepared Analyzed 0.00012 mg/L 05/29/19 12:31 05/29/19 16:16

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-08SR Date Collected: 05/23/19 14:09

11,2 Trickinorethene ND 1.0 0.23 0.81 upL 05631/19 1607 1,2-Dichlorosthene, Total ND 2.0 0.81 upL 0531/19 1607 Restone 4.9 J 10 0.0 0.91 0531/19 1607 Benzene ND 1.0 0.41 upL 0531/19 1607 Wrig choride ND 1.0 0.41 upL 0531/19 1607 Surrogate %Recovery Qualifier Limits Prepared Analyzed 05671/19 1607 7,2.Dichorosthane-44 (Surr) 102 73.120 05671/19 1607 05671/19 1607 Dibromofluorostenzene Surro 105 75.123 05671/19 1607 05671/19 17.38 Matyte Result Qualifier RL MDL Unit D Prepared Analyzed DIF F 1,3.Dichorobenzene ND 10 0.46 upL 05728/19 1614 0571/19 17.38 Strepared ND 5.0 2.2 upL <t< th=""><th>Analyte</th><th>Result</th><th>Qualifier</th><th>RL</th><th>MDL</th><th>Unit</th><th>D</th><th>Prepared</th><th>Analyzed</th><th>DII Fa</th></t<>	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fa
12-Dichloroethene, Total ND 2.0 0.81 ug/L 053/11/9 18:07 Acetone 4.9 J 10 3.0 ug/L 053/11/9 18:07 Viny choide ND 1.0 0.41 ug/L 053/11/9 18:07 Viny choide ND 1.0 0.50 ug/L 053/11/9 18:07 Surrogate XRecovery Qualifier Limits Prepared Analyzed DIF F Journonburnehane 44 (Surr) 101 80.720 053/11/9 18:07 053/11/9 18:07 Vistromotiucorobanzane (Surr) 102 73.120 053/11/9 18:07 053/11/9 18:07 Vistromotiucorobanzane (Surr) 102 73.120 053/11/9 17.38 DIF F Subromotiucorobanzane ND 10 0.48 ug/L 052/21/9 1514 053/11/9 17.38 Surogate XRecovery Qualifier Limits DIF F 052/21/9 1514 053/11/9 17.38 Surogate XRecovery Qualifier Limits Dif F 052/21/9 1514 053/11/9 17.38 Surogate XRecovery Qualifier Limits <td< th=""><th>1,1,2-Trichloroethane</th><th>ND</th><th></th><th>1.0</th><th>0.23</th><th>ug/L</th><th>1995</th><th>·</th><th>05/31/19 18:07</th><th></th></td<>	1,1,2-Trichloroethane	ND		1.0	0.23	ug/L	1995	·	05/31/19 18:07	
Acetone 4,9 J 10 3.0 up/L D53/11/9 16.07 Benzene ND 1.0 0.41 ug/L 053/11/9 16.07 Surrogate SiRecovery Qualifier Limits Prepared Analyzed Dil Fa 1,2-Dichoned/Biorobenzene (Surr) 100 0.01 0.02 053/11/9 16.07 Jabromofluorobenzene (Surr) 102 73.120 053/11/9 053/11/9 16.07 Jabromofluorobenzene (Surr) 102 73.120 053/11/9 16.07 053/11/9 16.07 Viethod: 820/01 Semitologic Compounds 053/11/9 17.30 053/11/9 17.38 Sile/Centronian ND 10 0.46 ug/L 05/28/19 05/28/19 17.14 05/31/19 17.38 Sile/Centronian ND 5.0 2.2 ug/L 05/28/19 16.14 05/31/19 17.38 Sile/Centronian ND 5.0 2.2 ug/L 05/28/19 16.14	1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			05/31/19 18:07	
Banzane ND 1.0 0.41 ug/L 0.05/31/19 18.07 Viny I chloride ND 1.0 0.90 ug/L 0.5/31/19 18.07 Surrogate <u>Keecovery Qualifier Limits</u> <u>Analyzed 0.3/31/19 18.07</u> <i>Totuene 46 (Surr)</i> 107 08 77.120 <i>Totuene 46 (Surr)</i> 107 08 77.120 <i>Totuene 46 (Surr)</i> 107 08 77.120 <i>Dibromofluoromethane (Surr)</i> 105 75.123 Wethod: 8270D - Semivolatile Organic Compounds (GC/MS) Analyte Result Qualifier RL <u>Jable Analyzed 0.3/31/19 18.07</u> <i>Result Qualifier RL</i> <u>Jable Analyzed 0.3/31/19 18.07</u> <i>Method: 8270D - Semivolatile Organic Compounds (GC/MS)</i> <i>Analyte Compounds (GC/MS)</i> <i>Result Qualifier RL</i> <u>Jable Analyzed 0.3/31/19 17.38</u> <i>Bill Fa</i> <u>Jable Analyzed 0.3/31/19 17.38</u> <i>Method: 8270D - Semivolatile Organic Compounds (GC/MS)</i> <i>Analyte Co</i>	Acetone	4.9	J	10	3.0	ug/L			05/31/19 18:07	
Vinyl chloride ND 1.0 0.90 upfl DSign (19 18:07) Surrogate Kecovery (7,2)Chloriborehane (Surr) 00 0.77 120 Analyzad 06371/19 18:07 DII Fa Channe df (Surr) 100 80.73 120 Odd (19 18:07) Odd (19 18:07) DII Fa Obbromofluorobenzene (Surr) 102 73.120 Odd (37 19 18:07) Odd (37 19 18:07) DII Fa Nahyte Result Qualifier RL MDL Unit D Prepared Analyzad DII Fa 1,3-Dichlorobenzene ND 10 0.48 ugfl. OS/28/19 15:14 OS/31/19 17:38 DII Fa 3,2-Dichlorobenzene ND 5.0 2.2 ugfl. OS/28/19 15:14 OS/31/19 17:38 DII Fa Surrogate Kecovery Qualifier Limits Surrogate Analyzad DII Fa Surrogate Kecovery Qualifier Limits OS/28/19 15:14 OS/31/19 17:38 DII Fa Surrogate Kecovery Qualifier Limits	Benzene	ND	8 X II V I	1.0	0.41	ug/L			05/31/19 18:07	× .
Surrogate KRecovery 1,2-Dichtoroefhane-d4 (Surr) DBF /r 109 Propared Analyzed 06331/19 18:07 DBF /r 1620 Analyzed Labuen-d6 (Surr) 100 07.7.120 06331/19 18:07 06331/19 18:07 Analyzed Labuen-d6 (Surr) 100 75.123 06331/19 18:07 06331/19 18:07 Wethod: 8270 - Semivolatile Organic Compounds (GC/MS) Manyte Result Qualifier RL MDL Unit D Propared Analyzed 06328/19 15:14 06371/19 17:38 DII Fe 1,3-Dichtorobenzane ND 10 0.48 ug/L 05/28/19 15:14 06371/19 17:38 DII Fe 3,3-Dichtorobenzane ND 10 0.44 ug/L 05/28/19 15:14 05/271/19 17:38 DII Fe 3,3-Dichtorobenzane ND 5.0 2.2 ug/L 05/28/19 15:14 05/271/19 17:38 DII Fe 3,46 -7100rmophenol 97 41.120 05/28/19 15:14 05/371/19 17:38 DII Fe Aferinorophenol 65 35.120 05/28/19 15:14 05/371/19 17:38 DII Fe Phenold 46.120	Vinyl chloride	ND		1.0	0.90	ug/L			05/31/19 18:07	
J.ZDichloroethane-d4 (Surr) 108 77.120 05/31/19 18:07 Toluene-d8 (Surr) 101 80.120 05/31/19 18:07 Toluene-d8 (Surr) 102 73.120 05/31/19 18:07 Dibromofluoromethane (Surr) 105 75.123 05/31/19 18:07 Method: 8270D - Semivolatile Organic Compounds (GC/MS) 05/31/19 18:07 05/31/19 17:38 Malyte ND 10 0.48 ug/L 05/28/19 15:14 05/31/19 17:38 Size2arthylhexly) phthalate ND 5.0 0.29 ug/L 05/28/19 15:14 05/31/19 17:38 Surrogats S/Recovary Qualiffer Limits Prepared Analyzed Dil Fa 2/4.6 Tribornophenol 91 41.120 05/28/19 15:14 05/31/19 17:38 Dil Fa 2/4.6 Tribornophenol 91 74 1.20 05/28/19 15:14 05/31/19 17:38 2/4.6 Tribornophenol 91 74 46.120 05/28/19 15:14 05/31/19 17:38 2/4.6 Tribornophenol 91 Result Qualiffer Result Qualiffer<	Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fa
Gluence-de (Sum) 101 60.120 653/1/9 18:07 4-Bromofluorobenzene (Sum) 102 73.120 053/1/9 18:07 Method: 8270D - Semivolatile Organic Compounds (GC/MS) MDL Unit D Prepared Analyzed O53/1/9 18:07 Analyte Result Qualifier RL MDL Unit D Prepared Analyzed 05/28/19 15:14 05/31/19 17:38 DII Fe Al-Dichorobenzene ND 10 0.48 ug/L 05/28/19 15:14 05/31/19 17:38 DII Fe Surrogate ND 5.0 2.2 ug/L 05/28/19 15:14 05/31/19 17:38 Surrogate Secovery Qualifier Limits Prepared Analyzed DII Fe 4-6 Tribromophenol 83 48.120 05/28/19 15:14 05/31/19 17:38 DII Fe 2-Fluorophanol 65 35.120 05/28/19 15:14 05/31/19 17:38 DII Fe Viethod: 6010 - Metals (ICP) ND 0.000 0.0026 05/28/19 15:14 05/31/19 17:38 DI	1,2-Dichloroethane-d4 (Surr)	108		77 - 120					05/31/19 18:07	
L-Promotilorobanzene (Surr) 102 73.120 065/31/19 16:07 Dibromofilorobenzene (Surr) 105 75.123 05/31/19 16:07 Method: 8270D - Semivolatile Organic Compounds (GC/MS) MDL Unit D Prepared Analyze (3-Dichorobenzene ND 10 0.48 ug/L 05/32/19 15:14 05/31/19 17:38 DII Fe (3-Dichorobenzene ND 10 0.46 ug/L 05/28/19 15:14 05/31/19 17:38 DII Fe (3-Dichorobenzene ND 5.0 0.39 ug/L 05/28/19 15:14 05/31/19 17:38 DII Fe (3-Contriburophenol) ND 5.0 0.39 ug/L 05/28/19 15:14 05/31/19 17:38 DII Fe (3-Firbromophenol 97 41 - 120 05/28/19 15:14 05/31/19 17:38 DII Fe (4-Firbromophenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 DII Fe (10) Februard Diphenyl 83 48 - 120 05/28/19 15:14 05/31/19 17:38 DII Fe (10) Februard Diphenyl 65 <t< td=""><td>Toluene-d8 (Suπ)</td><td>101</td><td></td><td>80 - 120</td><td></td><td></td><td></td><td></td><td>05/31/19 18:07</td><td></td></t<>	Toluene-d8 (Suπ)	101		80 - 120					05/31/19 18:07	
Dibromofiluoramethane (Surr) 105 75 - 123 05/31/19 18:07 Method: 8270D - Semivolatile Organic Compounds (GC/MS) snalyte ND 10 0.48 up/L D Prepared Prepared Analyzed Analyzed DII Fa 1,4-Dichlorobenzane ND 10 0.48 up/L 05/28/19 15:14 05/31/19 17:38 DII Fa 3is(2-ettry/hexyl) pithalate ND 5.0 0.39 up/L 05/28/19 15:14 05/31/19 17:38 DII Fa Surrogets %Recovery 24,6 7/1bramophenol 97 41 - 120 05/28/19 15:14 05/31/19 17:38 DII Fa 24,6 7/1bramophenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 DII Fa 24,6 7/1bramophenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 DII Fa 24,6 7/1bramophenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 DII Fa 24/16 5010C - Metals (ICP) Inalyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fa Virbionzee	4-Bromofluorobenzene (Surr)	102		73 - 120					05/31/19 18:07	
Method: 8270D - Semivolatile Organic Compounds (GC/MS) Analyte MDL Unit D Prepared Analyzed Dill Fe (3-Dichlorobenzene ND 10 0.48 ug/L 05/28/19 15:14 05/31/19 17:38 05/28/19 15:14 05/31/19 17:38 Sile(2-ethylnexyl) phthalate ND 5.0 2.2 ug/L 05/28/19 15:14 05/31/19 17:38 Surrogate XeRcovery Qualifier Limits Prepared Analyzed Dil Fe 2-Fluorobiphenol 91 41 1 20 05/28/19 15:14 05/31/19 17:39 Dil Fe 2-Fluorobiphenol 65 35 - 120 05/28/19 15:14 05/31/19 17:39 Dil Fe 2-Fluorobiphenol 65 47 22 - 120 05/28/19 15:14 05/31/19 17:39 Dil Fe Vitrobenzene-d5 47 22 - 120 05/28/19 15:14 05/31/19 17:38 Dil Fe Vitrobenzene-d5 17 22 - 120 05/28/19 15:14 05/31/19 17:38 Dil Fe Vitrobenzene-d5 47 22 - 120 05/28/19 15:14 05/31/19 17:38	Dibromofluoromethane (Surr)	105		75 - 123					05/31/19 18:07	
Number ND 10 0.48 ug/L 05/28/19 15:14 05/28/19 17:34 1,4-Dichlorobenzene ND 10 0.48 ug/L 05/28/19 15:14 05/31/19 17:38 Bis(2-ethythexyl) phthelate ND 5.0 2.2 ug/L 05/28/19 15:14 05/31/19 17:38 Surrogate XRecovery Qualifier Limits Propered Analyzed Dil Fa 24,6-Tribromophenol 91 41 - 120 05/28/19 15:14 05/31/19 17:38 24-Fluorophenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 24-Fluorophenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 24-Fluorophenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 Viethod: 6010C - Metals (ICP) ND 0.020 0.0068 mg/L 05/29/19 07:51 06/06/19 20:37 Visenic ND 0.0010	Method: 8270D - Semivolatile	Organic Co Result	mpounds Qualifier	(GC/MS)	MOL	Unit	D	Prepared	Analyzed	Dil Fa
A-Dichlorobenzane ND 10 0.46 ug/L 05/28/19 15:14 05/31/19 17:38 Big(2-ethylhexyl) phthelate ND 5.0 2.2 ug/L 05/28/19 15:14 05/31/19 17:38 Surrogate %Recovery Qualifier Limits Prepared Anelyzed DII Fe 24,6-Tribromophenol 91 41 - 120 05/28/19 15:14 05/31/19 17:38 24,6-Tribromophenol 91 41 - 120 05/28/19 15:14 05/31/19 17:38 24-Filuorobiphenyl 83 48 - 120 05/28/19 15:14 05/31/19 17:38 2-Filuorobiphenyl 83 46 - 120 05/28/19 15:14 05/31/19 17:38 Vitrobary 10-144 75 59 - 136 05/28/19 15:14 05/31/19 17:38 Viethod: 6010C - Metals (ICP) ND 0.010 0.0056 mg/L 05/29/19 07:51 06/06/19 20:37 Areanic ND 0.010 0.0056 mg	1.3-Dichlorobenzene			10	0.48	ua/L		05/28/19 15:14	05/31/19 17:38	
N.D. S.D. S.D. <th< td=""><td>1 4-Dichlorobenzene</td><td></td><td></td><td>10</td><td>0.46</td><td>ua/L</td><td></td><td>05/28/19 15:14</td><td>05/31/19 17:38</td><td></td></th<>	1 4-Dichlorobenzene			10	0.46	ua/L		05/28/19 15:14	05/31/19 17:38	
Construction ND S.0 Link of the second s	Ris(2_ethylbeyy) phthalate			50	22	ua/l		05/28/19 15:14	05/31/19 17:38	
Number Number Construction Other	Phenol	ND		5.0	0.39	ug/L		05/28/19 15:14	05/31/19 17:38	10.00
Surrogate %Recovery Qualifier Limits Prepared Analyzed DII Fs 24,6-Tribromophenol 91 41 - 120 05/28/19 15:14 05/31/19 17:38 05/28/19 15:14 05/31/19 17:38 2-Fluorobjhenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 05/28/19 15:14 05/31/19 17:38 2-Fluorobjhenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 05/28/19 15:14 05/31/19 17:38 2-Fluorobjhenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 05/28/19 15:14 05/31/19 17:38 2-hanol-d5 47 22 - 120 05/28/19 15:14 05/31/19 17:38 05/28/19 15:14 05/31/19 17:38 Method: 6010C - Metais (ICP) Nanajyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa Vintimony ND 0.020 0.0066 mg/L 05/29/19 07:51 06/06/19 20:37 Sarlum 0.083 0.0020 0.00010 mg/L 05/29/19 07:51 06/06/19 20:37				0.0	0.00	9912		00120710 10111		
4,6-Fribromophenol 97 41 - 120 05/28/19 15:14 06/31/19 17:38 -Fluorophenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 -Fluorophenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 Phenol-d5 74 46 - 120 05/28/19 15:14 05/31/19 17:38 Phenol-d5 47 22 - 120 05/28/19 15:14 05/31/19 17:38 -Terphenyl-d14 75 59 - 136 05/28/19 15:14 05/31/19 17:38 Atthod: 6010C - Metals (ICP) nummony ND 0.020 0.0066 mg/L 05/28/19 07:51 06/06/19 20:37 Venetic ND 0.010 0.0056 mg/L 05/29/19 07:51 06/06/19 20:37 Sartum 0.063 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 Scopper ND 0.010 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Aggnesium 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:37 Aggnesium 5	Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fa
E-fluorabiphenyl 83 48 - 120 05/28/19 15:14 05/31/19 17:38 E-Fluorabiphenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 B-Fluorabiphenol 65 35 - 120 05/28/19 15:14 05/31/19 17:38 Witchobenzene-d5 74 46 - 120 05/28/19 15:14 05/31/19 17:38 P-Fluorabiphenyl-d14 75 59 - 136 05/28/19 15:14 05/31/19 17:38 Method: 6010C - Metals (ICP) ND 0.0020 0.0068 mg/L 05/28/19 07:51 06/06/19 20:37 Varsenic ND 0.010 0.0056 mg/L 05/29/19 07:51 06/06/19 20:37 Sartum 0.083 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 Sartum ND 0.0010 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Commum ND 0.0010 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Commum ND 0.0010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37	2,4,6-Tribromophenol	91		41 - 120				05/28/19 15:14	05/31/19 17:38	
E-Fluorophenol 65 35. 120 05/28/19 15:14 05/31/19 17:38 Vitrobenzene-d5 74 46. 120 05/28/19 15:14 05/31/19 17:38 Phenol-d5 47 22. 120 05/28/19 15:14 05/31/19 17:38 P-Terphenyl-d14 75 59 - 136 05/28/19 15:14 05/31/19 17:38 Method: 6010C - Metals (ICP) Malyte Result Qualifier RL MDL Unit D Prepared Analyzed Dill Fa Nitimony ND 0.020 0.0068 mg/L 05/29/19 07:51 06/06/19 20:37 Arsenic ND 0.010 0.0056 mg/L 05/29/19 07:51 06/06/19 20:37 Sarium 0.083 0.0020 0.0070 mg/L 05/29/19 07:51 06/06/19 20:37 Schernlum ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 Schernlum ND 0.050 0.019 mg/L 05/29/19 07:51 06/06/19 20:37 Schernlum ND 0.0500 0.019<	?-Fluorobiphenyl	83		48 - 120				05/28/19 15:14	05/31/19 17:38	
Vitrobenzene-d5 74 46.120 05/28/19 15:14 05/31/19 17:38 Phenol-d5 47 22.120 05/28/19 15:14 05/31/19 17:38 De-Terphenyl-d14 75 59.136 05/28/19 15:14 05/31/19 17:38 Method: 6010C - Metals (ICP) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DI Arsenic ND 0.020 0.0068 mg/L 05/29/19 07:51 06/06/19 20:37 Sarium 0.083 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 Sarium 0.083 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 Sarium ND 0.010 0.00050 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 Jagneslum 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:37 Agageslum 51.4 0.20 0.043 <td>2-Fluorophenol</td> <td>65</td> <td></td> <td>35 - 120</td> <td></td> <td></td> <td></td> <td>05/28/19 15:14</td> <td>05/31/19 17:38</td> <td></td>	2-Fluorophenol	65		35 - 120				05/28/19 15:14	05/31/19 17:38	
Phenol-d5 47 22 - 120 05/28/19 15:14 05/31/19 17:38 >-Terphenyl-d14 75 59 - 136 05/28/19 15:14 05/31/19 17:38 Method: 6010C - Metals (ICP) Result Qualifier RL MDL Unit D Prepared Analyzed DII Fa Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fa Analyte ND 0.020 0.0068 mg/L 05/29/19 07:51 06/06/19 20:37 Sarium 0.083 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 Chromium ND 0.0010 0.00050 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 Aganesium 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:37 Aganesium 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:37	Vitrobenzene-d5	74		46 - 120				05/28/19 15:14	05/31/19 17:38	
p-Terphenyl-d14 75 59 - 136 05/28/19 15:14 05/31/19 17:38 Method: 6010C - Metals (ICP) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fa Analyte ND 0.020 0.0068 mg/L 05/29/19 07:51 06/06/19 20:37 DII Fa Ansenic ND 0.010 0.0056 mg/L 05/29/19 07:51 06/06/19 20:37 DII Fa Sarium 0.083 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 DII Fa Chromium ND 0.0010 0.00050 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 eed ND 0.0050 0.0030 mg/L 05/29/19 07:51 06/06/19 20:37 Anagaese 0.60 B 0.0030 0.0040 mg/L 05/29/19 07:51 06/06/19 20:37 Jikel ND 0.0030 0.0043 mg/L	Phenol-d5	47		22 - 120				05/28/19 15:14	05/31/19 17:38	
Method: 6010C - Metals (ICP) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fa Antimony ND 0.020 0.0068 mg/L 05/29/19 07:51 06/06/19 20:37 06/06/19 20:37 Arsenic ND 0.010 0.0056 mg/L 05/29/19 07:51 06/06/19 20:37 Sarlum 0.083 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 Cadmium ND 0.0010 0.00050 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 Lead ND 0.010 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Agenesium 51.4 0.20 0.043 <td>p-Terphenyl-d14</td> <td>75</td> <td></td> <td>59 - 136</td> <td></td> <td></td> <td></td> <td>05/28/19 15:14</td> <td>05/31/19 17:38</td> <td></td>	p-Terphenyl-d14	75		59 - 136				05/28/19 15:14	05/31/19 17:38	
Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fa Antimony ND 0.020 0.0068 mg/L 05/29/19 07:51 06/06/19 20:37 06/06/19 20:37 Arsenic ND 0.010 0.0056 mg/L 05/29/19 07:51 06/06/19 20:37 Barlum 0.083 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 Cadmium ND 0.0010 0.00050 mg/L 05/29/19 07:51 06/06/19 20:37 Chromium ND 0.0010 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.0010 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 cade ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 cade ND 0.0050 0.0030 mg/L 05/29/19 07:51 06/06/19 20:37 Aggnesium 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 2	Method: 6010C - Metals (ICP)									
Antimony ND 0.020 0.0068 mg/L 05/29/19 07:51 06/06/19 20:37 Arsenic ND 0.010 0.0056 mg/L 05/29/19 07:51 06/06/19 20:37 Barlum 0.083 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 Cadmium ND 0.0010 0.00050 mg/L 05/29/19 07:51 06/06/19 20:37 Cadmium ND 0.0040 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 cadd ND 0.050 0.019 mg/L 05/29/19 07:51 06/06/19 20:37 .ead ND 0.0050 0.0030 mg/L 05/29/19 07:51 06/06/19 20:37 Marganese 0.60 0.0030 0.0040 mg/L 05/29/19 07:51 06/06/19 20:37 Vickel ND 0.01	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
ND 0.010 0.0056 mg/L 05/29/19 07:51 06/06/19 20:37 Barium 0.083 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 Cadmium ND 0.0010 0.00050 mg/L 05/29/19 07:51 06/06/19 20:37 Cadmium ND 0.0010 0.00050 mg/L 05/29/19 07:51 06/06/19 20:37 Chromium ND 0.0040 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 cead ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 Aagnesium 51.4 0.20 0.0030 mg/L 05/29/19 07:51 06/06/19 20:37 Magnesium 51.4 0.20 0.0043 mg/L 05/29/19 07:51 06/06/19 20:37 Magnesium 51.4 0.20 0.0030 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Maregate 0.60	Antimony	ND		0.020	0.0068	mg/L		05/29/19 07:51	06/06/19 20:37	
Barium 0.083 0.0020 0.00070 mg/L 05/29/19 07:51 06/06/19 20:37 Cadmium ND 0.0010 0.00050 mg/L 05/29/19 07:51 06/06/19 20:37 Chromium ND 0.0040 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 cead ND 0.0050 0.0030 mg/L 05/29/19 07:51 06/06/19 20:37 Magnesium 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:37 Marganese 0.60 0.0030 0.0040 mg/L 05/29/19 07:51 06/06/19 20:37 Marganesium 114 0.010 0.0013 mg/L 05/29/19 07:51	Arsenic	ND		0.010	0.0056	mg/L		05/29/19 07:51	06/06/19 20:37	•
Cadmium ND 0.0010 0.00050 mg/L 05/29/19 06/06/19 20:37 Chromium ND 0.0040 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 ron 6.4 8 0.050 0.019 mg/L 05/29/19 07:51 06/06/19 20:37 .ead ND 0.0050 0.0030 mg/L 05/29/19 07:51 06/06/19 20:37 Aagnesium 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:37 Manganese 0.60 9 0.0030 0.0040 mg/L 05/29/19 07:51 06/06/19 20:37 Silver ND 0.010 0.0013 mg/L 05/29/19 07:51 06/06/19 20:37 Sodium 114 1.0 0.32 mg/L 05/29/19 07:51 <t< td=""><td>Barium</td><td>0.083</td><td></td><td>0.0020</td><td>0.00070</td><td>mg/L</td><td></td><td>05/29/19 07:51</td><td>06/06/19 20:37</td><td></td></t<>	Barium	0.083		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 20:37	
ND 0.0040 0.0010 mg/L 05/29/19 07:51 06/06/19 20:37 Copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 ron 6.4 8 0.050 0.019 mg/L 05/29/19 07:51 06/06/19 20:37 Lead ND 0.0050 0.0030 mg/L 05/29/19 07:51 06/06/19 20:37 Magnesium 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:37 Manganese 0.60 8 0.0030 0.0040 mg/L 05/29/19 07:51 06/06/19 20:37 Vickel ND 0.010 0.0013 mg/L 05/29/19 07:51 06/06/19 20:37 Silver ND 0.010 0.0013 mg/L 05/29/19 07:51 06/06/19 20:37 Siduer ND 0.010 0.0017 mg/L 05/29/19 07:51 06/06/19 20:37 Siduer ND 0.010 0.010 0.021 mg/L 05/29/19 07:51 06/06/019 20:37 Siduer	Cadmium	ND		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 20:37	
Copper ND 0.010 0.0016 mg/L 05/29/19 07:51 06/06/19 20:37 ron 6.4 B 0.050 0.019 mg/L 05/29/19 07:51 06/06/19 20:37 Lead ND 0.0050 0.0030 mg/L 05/29/19 07:51 06/06/19 20:37 Magnesium 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:37 Manganese 0.60 B 0.0030 0.0040 mg/L 05/29/19 07:51 06/06/19 20:37 Mickel ND 0.010 0.0013 mg/L 05/29/19 07:51 06/06/19 20:37 Silver ND 0.010 0.0017 mg/L 05/29/19 07:51 06/06/19 20:37 Sodium 114 1.0 0.32 mg/L 05/29/19 07:51 06/06/19 20:37 Math ND 0.010 0.0015 mg/L 05/29/19 07:51<	Chromium	ND		0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 20:37	
f.4 6.4 <td>Copper</td> <td>ND</td> <td></td> <td>0.010</td> <td>0.0016</td> <td>mg/L</td> <td></td> <td>05/29/19 07:51</td> <td>06/06/19 20:37</td> <td></td>	Copper	ND		0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 20:37	
ead ND 0.0050 0.0030 mg/L 05/29/19 07:51 06/06/19 20:37 Magnesium 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:37 Manganese 0.60 B 0.0030 0.0040 mg/L 05/29/19 07:51 06/06/19 20:37 Lickel ND 0.010 0.0013 mg/L 05/29/19 07:51 06/06/19 20:37 Silver ND 0.0030 0.0017 mg/L 05/29/19 07:51 06/06/19 20:37 Silver ND 0.0030 0.0017 mg/L 05/29/19 07:51 06/06/19 20:37 Siduer ND 0.0030 0.0017 mg/L 05/29/19 07:51 06/06/19 20:37 Siduer ND 0.010 0.032 mg/L 05/29/19 07:51 06/06/19 20:37 Siduer ND 0.010 0.015 mg/L 05/29/19 07:51 06/06/19 20:37 Moth 0.010 0.010 0.0015 mg/L 05/29/19 07:51 06/06/06/19 20:37 Mathod: 7470A -	ron	6.4	8	0.050	0.019	mg/L		05/29/19 07:51	06/06/19 20:37	
Magnesium 51.4 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:37 Manganese 0.60 B 0.0030 0.0040 mg/L 05/29/19 07:51 06/06/19 20:37 Mickel ND 0.010 0.0013 mg/L 05/29/19 07:51 06/06/19 20:37 Silver ND 0.010 0.0017 mg/L 05/29/19 07:51 06/06/19 20:37 Sodium 114 1.0 0.32 mg/L 05/29/19 07:51 06/06/19 20:37 Sodium 114 1.0 0.32 mg/L 05/29/19 07:51 06/06/19 20:37 Inc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Mob 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Mathod: 7470A - Mercury (CVAA) Prepared Analyzed DII Favertion Differencin Differenci	ead	ND		0.0050	0.0030	mg/L		05/29/19 07:51	06/06/19 20:37	
Manganese 0.60 B 0.0030 0.00040 mg/L 05/29/19 07:51 06/06/19 20:37 Nickel ND 0.010 0.0013 mg/L 05/29/19 07:51 06/06/19 20:37 Silver ND 0.0030 0.0017 mg/L 05/29/19 07:51 06/06/19 20:37 Sodium 114 1.0 0.32 mg/L 05/29/19 07:51 06/06/19 20:37 Sinc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Vinc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Vinc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Alethod: 7470A - Mercury (CVAA) Mult Qualifier RL MDL Unit D Prepared Analyzed DII Fau	lagnesium	51.4		0.20	0.043	mg/L		05/29/19 07:51	06/06/19 20:37	
ND 0.010 0.0013 mg/L 05/29/19 07:51 06/06/19 20:37 Silver ND 0.0030 0.0017 mg/L 05/29/19 07:51 06/06/19 20:37 Sodium 114 1.0 0.32 mg/L 05/29/19 07:51 06/06/19 20:37 Linc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Inc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Inc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Inc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Inalyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fau	Manganese	0.60	B	0.0030	0.00040	mg/L		05/29/19 07:51	06/06/19 20:37	5 C .
Silver ND 0.0030 0.0017 mg/L 05/29/19 07:51 06/06/19 20:37 Sodium 114 1.0 0.32 mg/L 05/29/19 07:51 06/06/19 20:37 Linc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Alethod: 7470A - Mercury (CVAA) Result Qualifier RL MDL Unit D Prepared Analyzed DII Fau	lickel	ND		0.010	0.0013	mg/L		05/29/19 07:51	06/06/19 20:37	
Sodium 114 1.0 0.32 mg/L 05/29/19 07:51 06/06/19 20:37 Linc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Alethod: 7470A - Mercury (CVAA) Vinalyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fau	Silver	ND		0.0030	0.0017	mg/L		05/29/19 07:51	06/06/19 20:37	1
Zinc ND 0.010 0.0015 mg/L 05/29/19 07:51 06/06/19 20:37 Alethod: 7470A - Mercury (CVAA) unalyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fau	Sodium	114		1.0	0.32	mg/L		05/29/19 07:51	06/06/19 20:37	1
flethod: 7470A - Mercury (CVAA) Inalyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa	linc	ND		0.010	0.0015	mg/L		05/29/19 07:51	06/06/19 20:37	
/lethod: 7470A - Mercury (CVAA) unalyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Factoria de Contractoria de Contr										
Analyze Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fa	Aethod: 7470A - Mercury (CVA	AA)					_	D	A	
	nalyte	Result	Qualifier	RL _	MDL	Unit	D	Prepared	Analyzed	DII Fac

Eurofins TestAmerica, Buffalo

Lab Sample ID: 480-154040-12

Matrix: Water

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Client: AECOM Project/Site: Pfohl Brothers Landfill

Clie	nt Sa	mple	ID: C	GM-:	355
Date	Collec	ted: 0	5/23/1	19 15	:10
Date	Receiv	ved: 0	5/23/1	9 17:	40

Lab Sample ID: 480-154040-13 Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS **Result Qualifier** RL **MDL Unit Dil Fac** D Prepared Analyzed Analyte ND 1.0 0.23 ug/L 05/31/19 18:30 1,1,2-Trichloroethane 1,2-Dichloroethene, Total ND 2.0 0.81 ug/L 05/31/19 18:30 10 3.0 ug/L 05/31/19 18:30 Acetone 4.8 J ND 1.0 0.41 ug/L 05/31/19 18:30 Benzene 05/31/19 18:30 ND Vinyl chloride 1.0 0.90 ug/L Surrogate Qualifier Limits Prepared Dil Fac %Recovery Analyzed 1,2-Dichloroethane-d4 (Surr) 107 77 - 120 05/31/19 18:30 Toluene-d8 (Surr) 102 80 - 120 05/31/19 18:30 105 05/31/19 18:30 4-Bromofluorobenzene (Surr) 73-120 Dibromofluoromethane (Surr) 103 75-123 05/31/19 18:30 Method: 8270D - Semivolatile Organic Compounds (GC/MS) **Dil Fac MDL** Unit Analyte **Result Qualifier** RL D Prepared Analyzed 05/28/19 15:14 05/31/19 18:07 1,3-Dichlorobenzene ND 10 0.48 ug/L ND 10 0.46 ug/L 05/28/19 15:14 05/31/19 18:07 1,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate ND 5.0 2.2 ug/L 05/28/19 15:14 05/31/19 18:07 Phenol 05/28/19 15:14 05/31/19 18:07 ND 5.0 0.39 ug/L Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 05/28/19 15:14 05/31/19 18:07 2,4,6-Tribromophenol 91 41 - 120 91 48 - 120 05/28/19 15:14 05/31/19 18:07 2-Fluorobiphenyl 67 2-Fluorophenol 35-120 05/28/19 15:14 05/31/19 18:07 Nitrobenzene-d5 82 46-120 05/28/19 15:14 05/31/19 18:07 Phenol-d5 48 22 - 120 05/28/19 15:14 05/31/19 18:07 p-Terphenyl-d14 85 59 - 136 05/28/19 15:14 05/31/19 18:07 Method: 6010C - Metals (ICP) Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed **Dil Fac** Antimony ND 0.020 05/29/19 07:51 06/06/19 20:53 0.0068 mg/L Arsenic ND 0.010 05/29/19 07:51 06/06/19 20:53 0.0056 mg/L 0.0020 0.00070 ma/L 05/29/19 07:51 06/06/19 20:53 0.001 Barium

Barium	0.091		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 20:53	1
Cadmium	ND		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 20:53	1
Chromium	ND		0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 20:53	1
Copper	ND		0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 20:53	1
Iron	N 0.030	AB	0.050	0.000.019	-mg/L		05/29/19 07:51	06/06/19 20:53	1
Lead	ND		0.0050	0.0030	mg/L		05/29/19 07:51	06/06/19 20:53	1
Magnesium	23.0		0.20	0.043	mg/L		05/29/19 07:51	06/06/19 20:53	1
Manganese	0.091	B	0.0030	0.00040	mg/L		05/29/19 07:51	06/06/19 20:53	- 1
Nickel	ND		0.010	0.0013	mg/L		05/29/19 07:51	06/06/19 20:53	1
Silver	ND		0.0030	0.0017	mg/L		05/29/19 07:51	06/06/19 20:53	1
Sodium	2.2		1.0	0.32	mg/L		05/29/19 07:51	06/06/19 20:53	1
Zinc	ND		0.010	0.0015	mg/L		05/29/19 07:51	06/06/19 20:53	1
Method: 7470A - Mercury (CVAA)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/29/19 12:31	05/29/19 16:18	1

Eurofins TestAmerica, Buffalo

Client: AECOM Project/Site: Pfohl Brothers Landfill

Clie	nt Sa	ample	e ID:	G٧	V-26 D
Date	Colle	cted:	05/23	/19	16:20
Date	Rece	ived:	05/23	/19 ·	17:40

Lab Sample ID: 480-154040-14 Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS RL **MDL Unit Dil Fac Result Qualifier** D Prepared Analyzed Analyte 1.0 0.23 ug/L 05/31/19 18:53 ND 1,1,2-Trichloroethane 1 1.0 J 2.0 0.81 ug/L 05/31/19 18:53 1 1,2-Dichloroethene, Total 10 05/31/19 18:53 Acetone 4.5 .1 3.0 ug/L 1 ND 1.0 0.41 ug/L 05/31/19 18:53 1 Benzene Vinyl chloride ND 0.90 ug/L 05/31/19 18:53 1 1.0 Analyzed Surrogate %Recovery Qualifier Limits Prepared DII Fac 1,2-Dichloroethane-d4 (Surr) 110 77 - 120 05/31/19 18:53 1 97 80 - 120 05/31/19 18:53 Toluene-d8 (Surr) 1 99 4-Bromofluorobenzene (Surr) 73 - 120 05/31/19 18:53 1 105 75-123 05/31/19 18:53 1 Dibromofluoromethane (Surr) Method: 8270D - Semivolatile Organic Compounds (GC/MS) **Dil Fac** Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed 05/28/19 15:14 05/31/19 18:35 1,3-Dichlorobenzene ND 10 0.48 ug/L 1 10 0.46 ug/L 05/28/19 15:14 05/31/19 18:35 1 1.4-Dichlorobenzene ND Bis(2-ethylhexyl) phthalate ND 5.0 2.2 ug/L 05/28/19 15:14 05/31/19 18:35 1 ND 5.0 0.39 ug/L 05/28/19 15:14 05/31/19 18:35 1 Phenol Surrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 05/28/19 15:14 05/31/19 18:35 2,4,6-Tribromophenol 95 41 - 120 1 85 48 - 120 05/28/19 15:14 05/31/19 18:35 2-Fluorobiphenyl 1 05/28/19 15:14 05/31/19 18:35 2-Fluorophenol 63 35 - 120 1 Nitrobenzene-d5 76 46 - 120 05/28/19 15:14 05/31/19 18:35 1 Phenol-d5 46 22 - 120 05/28/19 15:14 05/31/19 18:35 1 76 59 - 136 05/28/19 15:14 05/31/19 18:35 1 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte **Result Qualifier** RL. MDL Unit D Prepared Analyzed **DII Fac** ND 05/29/19 07:51 06/06/19 20:56 Antimony 0.020 0.0068 mg/L 1 ND 0.010 05/29/19 07:51 06/06/19 20:56 1 Arsenic 0.0056 mg/L 06/06/19 20:56 Barium 0.13 0.0020 0.00070 mg/L 05/29/19 07:51 1 Cadmium ND 0.0010 0.00050 mg/L 05/29/19 07:51 06/06/19 20:56 1 ND 0.0040 05/29/19 07:51 Chromium 0.0010 mg/L 06/06/19 20:56 1 0.0016 mg/L ND 0.010 05/29/19 07:51 06/06/19 20:56 Copper 1 0.019 mg/L Iron 2.4 8 0.050 05/29/19 07:51 06/06/19 20:56 1 Lead ND 0.0050 0.0030 mg/L 05/29/19 07:51 06/06/19 20:56 1 16.3 0.20 0.043 mg/L 05/29/19 07:51 06/06/19 20:56 1 Magnesium 0.00040 mg/L 0.0030 05/29/19 07:51 06/06/19 20:56 0.34 R 1 Manganese Nickel 0.0015 J 0.010 0.0013 mg/L 05/29/19 07:51 06/06/19 20:56 1 Silver ND 0.0030 0.0017 mg/L 05/29/19 07:51 06/06/19 20:56 1 Sodium 351 1.0 0.32 mg/L 05/29/19 07:51 06/06/19 20:56 1 0.0015 mg/L ND 0.010 1 Zinc 05/29/19 07:51 06/06/19 20:56

Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/29/19 12:31	05/29/19 16:20	1

Eurofins TestAmerica, Buffalo

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: TB-20190522-23 Date Collected: 05/23/19 00:00 Date Received: 05/23/19 17:40

Lab Sample ID: 480-154040-15 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichioroethane	ND		1.0	0.23	ug/L			05/31/19 19:16	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			05/31/19 19:16	1
Acetone	ND		10	3.0	ug/L			05/31/19 19:16	1
Benzene	ND		1.0	0.41	ug/L			05/31/19 19:16	1
Vinyl chloride	ND		1.0	0.90	ug/L			05/31/19 19:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
1,2-Dichloroethane-d4 (Surr)	109	<u> </u>	77 - 120			-	-	05/31/19 19:16	1
Toluene-d8 (Surr)	98		80 - 120					05/31/19 19:16	1
4-Bromofluorobenzene (Surr)	100		73 - 120					05/31/19 19:16	1
Dibromofluoromethane (Surr)	103		75.123					05/31/19 19:16	1

Eurofins TestAmerica, Buffalo

Client: AECOM

6

Client Sample ID: GW-28S					Lab Samp	le ID: 480-15	4074-1		
Date Collected: 05/24/19 08:11							•	Matri	x: Water
Date Received: 05/24/19 14:40						(
Method: 8260C - Volatile Organic C	Compounds	by GC/MS							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/01/19 17:53	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/01/19 17:53	1
Acetone	ND		10	3.0	ug/L			06/01/19 17:53	1
Benzene	ND		1.0	0.41	ug/L			06/01/19 17:53	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/01/19 17:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		77 - 120					06/01/19 17:53	1
Toluene-d8 (Surr)	99		80 - 120					06/01/19 17:53	1
4-Bromofluorobenzene (Surr)	104		73 - 120					06/01/19 17:53	1
Dibromofluoromethane (Surr)	109		75 - 123					06/01/19 17:53	1
Method: 8270D - Semivolatile Orga	nic Compou	inds (GC/MS	5)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/29/19 06:59	06/05/19 09:45	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/29/19 06:59	06/05/19 09:45	1
Bis(2-ethyihexyi) phthalate	ND		5.0	2.2	ug/L		05/29/19 06:59	06/05/19 09:45	1
Phenol	ND		5.0	0.39	ug/L		05/29/19 06:59	06/05/19 09:45	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	69		41 - 120				05/29/19 06:59	06/05/19 09:45	1
2-Fluorobiphenyl	93		48 ₋ 120				05/29/19 06:59	06/05/19 09:45	1
2-Fluorophenoi	76		35 - 120				05/29/19 06:59	06/05/19 09:45	1
Nitrobenzene-d5	87		46 - 120				05/29/19 06:59	06/05/19 09:45	1
Phenol-d5	55		22 - 120				05/29/19 06:59	06/05/19 09:45	1
p-Terphenyl-d14	85		59 - 136				05/29/19 06:59	06/05/19 09:45	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Antimony	ND		0.020	0.0068	mg/L		05/28/19 08:24	06/03/19 13:16	1
Arsenic	ND		0.010	0.0056	mg/L		05/28/19 08:24	06/03/19 13:16	1
Barium	0.080		0.0020	0.00070	mg/L		05/28/19 08:24	06/03/19 13:16	an n]
Cadmium	ND		0.0010	0.00050	mg/L		05/28/19 08:24	06/03/19 13:16	1
Chromium	ND		0.0040	0.0010	mg/L		05/28/19 08:24	06/03/19 13:16	1
Copper	ND		0.010	0.0016	mg/L		05/28/19 08:24	06/03/19 13:16	a = 1
Iron	0.20		0.050	0.019	mg/L		05/28/19 08:24	06/03/19 13:16	1
Lead	ND		0.0050	0.0030	mg/L		05/28/19 08:24	06/03/19 13:16	1
Magnesium	25.9	1	0.20	0.043	mg/L		05/28/19 08:24	06/03/19 13:16	1
Manganese	1.0	B	0.0030	0.00040	mg/L		05/28/19 08:24	06/03/19 13:16	1
Nickel	0.0019	J	0.010	0.0013	mg/L		05/28/19 08:24	06/03/19 13:16	1
Silver	ND		0.0030	0.0017	mg/L		05/28/19 08:24	06/03/19 13:16	×1
Sodium	12.3		1.0	0.32	mg/L		05/28/19 08:24	06/03/19 13:16	1
Zinc	ND		0.010	。0.0015	mg/L		05/28/19 08:24	06/03/19 13:16	1
Method: 7470A - Mercury (CVAA)		• • • • •		 -		_		59	
							Line a car	5 m m h m m h fi	Dil Eac

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Eurofins TestAmerica, Buffalo

6/6/2019

Client: AECOM

Chromium

Magnesium

Manganese

Copper

Iron

Lead

Nickel

Silver

Project/Site: Pfohl Brothers Landfill									
Client Sample ID: GW-29S			Addining of the second s				Lab Samp	le ID: 480-15	4074-2
Jate Collected: 05/24/19 09:10						Matrix: Water			
Date Received: 05/24/19 14:40									() () () () () () () () () ()
Method: 8260C - Volatile Organic	Compounds	by GC/MS							
Analyte	Result	Qualifier	RL	MDL,	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/01/19 18:16	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/01/19 18:16	1
Acetone	ND		10	3.0	ug/L			06/01/19 18:16	1
Benzene	ND		1.0	0.41	ug/L			06/01/19 18:16	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/01/19 18:16	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fac
1,2-Dichloroethane-d4 (Surr)	110		77 - 120				1	06/01/19 18:16	1
Toluene-d8 (Surr)	97		80 - 120					06/01/19 18:16	1
4-Bromofluorobenzene (Surr)	101		73 <u>-</u> 120					06/01/19 18:16	1
Dibromofluoromethane (Surr)	107		75 - 123					06/01/19 18:16	1
Method: 8270D - Semivolatile Org Analyte	ganic Compou Result	unds (GC/MS Qualifier	S) RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/29/19 06:59	06/05/19 10:13	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		05/29/19 06:59	06/05/19 10:13	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/29/19 06:59	06/05/19 10:13	1
Phenol	ND		5.0	0.39	ug/L		05/29/19 06:59	06/05/19 10:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fac
2,4,6-Tribromophenol	81		41 - 120				05/29/19 06:59	06/05/19 10:13	1
2-Fluorobiphenyl	95		48 - 120				05/29/19 06:59	06/05/19 10:13	1
2-Fluorophenol	78		35 - 120				05/29/19 06:59	06/05/19 10:13	1
Nitrobenzene-d5	88		46 - 120				05/29/19 06:59	06/05/19 10:13	1
Phenol-d5	57		22 - 120				05/29/19 06:59	06/05/19 10:13	1
p-Terphenyi-d14	86		59 - 136				05/29/19 06:59	06/05/19 10:13	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dii Fac
Antimony	ND		0.020	0.0068	mg/L		05/28/19 08:24	06/03/19 13:20	1
Arsenic	0.025		0.010	0.0056	mg/L	80	05/28/19 08:24	06/03/19 13:20	1
Barium	0.16		0.0020	0.00070	mg/L		05/28/19 08:24	06/03/19 13:20	1
Cadmium	ND		0.0010	0.00050	mg/L		05/28/19 08:24	06/03/19 13:20	1

Sodium	7.7		1.0	0.32	mg/L		05/28/19 08:24	06/03/19 13:20	1
Zinc	ND		0.010	0.0015	mg/L		05/28/19 08:24	06/03/19 13:20	1
Method: 7470A - Mercury (CVAA) Analyte Mercury	Result ND	Qualifier	RL 0.00020	MDL 0.00012	Unit mg/L	D	Prepared 05/30/19 11:15	Analyzed 05/31/19 10:56	-Dil Fac 1

0.0040

0.010

0.050

0.0050

0.0030

0.010

0.0030

0.20

ND

ND

14.6

ND

55.1

0.66

ND

ND

B

0.0010 mg/L

0.0016 mg/L

0.019 mg/L

0.0030 mg/L

0.00040 mg/L

0.0013 mg/L

0.0017 mg/L

0.043 mg/L

05/28/19 08:24

05/28/19 08:24

05/28/19 08:24

05/28/19 08:24

05/28/19 08:24

05/28/19 08:24

05/28/19 08:24

05/28/19 08:24

6

06/03/19 13:20

06/03/19 13:20

06/03/19 13:20

06/03/19 13:20

06/03/19 13:20

06/03/19 13:20

06/03/19 13:20

06/03/19 13:20

1

1

1

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1

1

1

1
Client: AECOM

Project/Site: Pfohl Brothers Landfill

6

Date Collected: 05/24/19 10:00 Matrix: Water:	Client Sample ID: GW-30S			·····				Lab Sam	ole ID: 480-15	4074-3
Date Raceived: 05/24/19 14:40 Mathematical State Mathmathematical State Mathematical State	Date Collected: 05/24/19 10:00							r	Matri	ix: Water
Method: 28260 - Volatile Organic Compounds by GC/MS Analyse Result Qualifier RL MDL Unit D Prepared Analyses DII Res 1.2.716/domoshana, Tolai ND 2.0 0.41 upl. 0603/19 22:56 1 1.2.016/domoshana, Tolai ND 1.0 0.30 upl. 0603/19 22:56 1 Acatone 4.1 J 0.0 0.41 upl. 0603/19 22:56 1 Barnagein XRecovery Qualifier Linits 2 0663/19 22:56 1 Sarnagein XRecovery Qualifier Linits 2 0663/19 22:56 1 Sarnagein XRecovery Qualifier Linits 2 0663/19 22:50 1 Sarnagein SRecovery Qualifier Linits 2 0663/19 22:50 1 Sarnagein 663/19 22:50 1 0663/19 22:50 1 Sarnagein ND 10 0.44 upl. 0 0 0663/19 22:50 1 Sarnagein ND 10 0.44 upl. 0522119 06:50 06	Date Received: 05/24/19 14:40								10.001	
Method: 22900 - Voiatile Organic Compounds by GC/MS MIDL Unit D Prepared Analyzad DII Fac 11,2 T-fichionshinn ND 1.0 0.23 ugL 0605/19 22:28 1 1,2 Dichionshinn, Told ND 1.0 0.30 ugL 0603/19 22:58 1 Acetone 4.1 10 0.30 ugL 0603/19 22:58 1 Surragets SRescovery Quarker Limits Prepared Analyzed 0/17 actionshinus Surragets SRescovery Quarker Limits Prepared Analyzed 0/17 actionshinus Surragets SRescovery Quarker Limits Prepared Analyzed 0/17 actionshinus Surragets SRescovery Quarker Limits MOL Unit D Prepared Analyzed DII Fac 1,40:Internetionshinus (Surr) 101 0.46 ugL 052219 0.655 0606719 10.42 1 1,40:Internetionshinus (Surr) ND 5.0 0.39 ugL 052219 0.655 0606719 10.42						1999 - 19 (1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 1999 - 19				
Analysis Notin International Notin Integration Notin Integration Notin Integration Notin Integration Notin Integration I	Method: 8260C - Volatile Organic (Compounds	by GC/MS	DI	MDI	l Init		Branarad	Apphroad	Dil Eso
In J. Francescenary Classification	1 1 2-Trichlomethane			10	0.23				06/03/19 22:58	1
Induction Induction <t< td=""><td>1.2-Dichlomothene, Total</td><td>ND</td><td></td><td>2.0</td><td>0.23</td><td>ug/L</td><td></td><td></td><td>06/03/19 22:58</td><td></td></t<>	1.2-Dichlomothene, Total	ND		2.0	0.23	ug/L			06/03/19 22:58	
Action A, I, J ID LD OU Output				2.0	2.01	ug/L			06/03/10 22:50	1
Datasete ND 1.3 0.41 0.9L 0.003/1 522-05 1 Surragete XRecovery Qualifier Limits Prepared Analyzed DI Fac 1.2.016/no-def (Surr) 700 77.720 0603/1 522-56 f 1.3.016/no-def (Surr) 703 73.120 0603/1 522-56 f 1.3.016/no-def (Surr) 101 75.123 0603/1 522-56 f Method: 82/07.0 Semivolatile Organic Compounds (GC/MS) Analyte Nalytes 0603/1 522-56 f 1.3.016/intoxame ND 10 0.44 upt. 052211 50.65 060511 50.42 1 1.4.016/intoxame ND 10 0.44 upt. 052211 50.65 060511 50.42 1 1.4.016/intoxame ND 5.0 2.2 upt. 052211 50.65 060511 50.42 1 Surraget XRecorery Qualifier Limits Prepared Analyzed DI Fac 2.Floorphanol 77 41.720 0622919 0.659 06050	Acetone	4.1 ND	J	10	0.41	ug/L			00/03/19 22.30	
Surragets XiRecorvey Qualifier Limits Prepared Analyzed Dil Face Surragets 33 80 77 720 0603019 22:58 1 Ascandioutomethane-4d (Surr) 93 80 73 720 0603019 22:58 1 Ascandioutomethane (Surr) 101 73 720 0603019 22:59 1 Method: 8270D - Semivolatile Organic Compounds (GC/MS) Result Qualifier RL MDL Unit D Prepared Analyzed DII Fac 1,4-Dichiorobarzane ND 10 0.44 ugL 05/2019 06:59 0600519 10:42 1 1,4-Dichiorobarzane ND 5.0 0.33 ugL 05/2019 06:59 0600519 10:42 1 Surragets XRecovery Qualifier Limits Prepared Analyzed DII Fac 2,46-7/3bmmphenol 77 41.720 05/2219 06:59 06/05719 10:42 1 2-Floorobphenol 77 25.120 05/2219 06:59 06/05719 10:42 1 2-Flor	Vind chlorido	ND		1.0	0.41	ug/L			00/03/19 22.30	1
surrogate %Recovery Qualifier Limits Prepared Analyzed Dif Face 1,2-Dichlorandhane-4/(Surr) 100 77,-720 0603/19 22:58 1 1,2-Dichlorandharane-4/(Surr) 103 73,-720 0603/19 22:58 1 1/2-Dichlorandharane(Surr) 101 75,-730 0603/19 22:59 1 Method: S270D - Semivolatile Organic Compounds (GC/MS) Analyzed 0605/19 10:42 1 Analyzed ND 10 0.48 ug/L 05/29/19 06:59 0605/19 10:42 1 1,3-Dichlorabazane ND 10 0.44 ug/L 05/29/19 06:59 0605/19 10:42 1 1,4-Dichlorabazane ND 5.0 0.39 ug/L 05/29/19 06:59 0605/19 10:42 1 Surrogate SRecovery Qualifier Linits Prepared Analyzed DI Face 2,46-Tribramaphenol 77 41.120 05/29/19 06:59 0605/19 10:42 1 2,Flooraphenol 77 5.120 05/29/19 06:59 0605/19 10:42 <t< td=""><td></td><td>NU</td><td></td><td>1.0</td><td>0.90</td><td>ug/L</td><td></td><td></td><td>00/03/19 22.36</td><td>·</td></t<>		NU		1.0	0.90	ug/L			00/03/19 22.36	·
1,2-Dichinoraditane-d4 (Sur) 100 77. 720 0603/19.22:58 1 Chann-adf (Sur) 93 80. 720 0603/19.22:58 1 Dibramodiuombianane (Sur) 101 75. 123 0603/19.22:58 1 Method: 8270D - Semivolatile Organic Compounds (GC/MS) Analyte 0603/19.22:58 1 Analyte Reukt Qualifier RL MDL Unit D Prepared Analyzed DIF Rec 1,3-Dichlorobenzane ND 10 0.48 ugL 05/29/19.06:59 0606/19.10:42 1 1,4-Dichlorobenzane ND 5.0 0.39 ugL 05/29/19.06:59 0606/19.10:42 1 Surrogate XRecovery Qualifier Limits Prepared Analyzed DIF Rec 2,4,6-Tribromaphanol 77 41. 120 05/29/19.06:59 0605/19.10:42 1 2-Fluorobphenol 77 35. 720 05/29/19.06:59 0605/19.10:42 1 2-Fluorobphenol 77 35. 720 05/29/19.06:59 0605/19.10:42 1 Prepared Analyzed DIF Rec 06/29/19.06:42 1	Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Tolener-26 (Surr) 93 80.120 0603/19 22:58 1 Ananytamotemena (Surr) 101 75.123 0603/19 22:58 1 Dibromofluoromethene (Surr) 101 75.123 0603/19 22:58 1 Method: 8270D - Semivolatile Organic Compounds (GC/MS) Analyzed Dibromofluoromethene (Surr) 0 Analyzed Dibromofluoromethene (Surr) 0 0.44 upL 0 0522119 05:59 0605/19 10.42 1 1,4-Dichlorobenzane ND 10 0.46 upL 0522119 05:59 0605/19 10.42 1 1,4-Dichlorobenzane ND 5.0 0.33 upL 0522119 05:59 0605/19 10.42 1 Surrogate X-Recovery Qualifier Limits Prepared Analyzed DI Face 2-Fluorobinond 77 35.120 052219 05:59 0605/19 10.42 1 2-Fluorobinond 77 35.120 052219 05:59 0605/19 10.42 1 2-Fluorobinond 77 35.120 052219 05:59 0605/19 10.42 1	1,2-Dichloroethane-d4 (Surr)	100		77 - 120					06/03/19 22:58	1
4-Bromniburobanzene (Sun) 103 73.120 0603/19 22:58 1 Dibromniburomethane (Sun) 101 75.123 0603/19 22:58 1 Method: 8270D - Semivolatile Organic Compounds (GC/MS) Analyte ND 10 0.48 upl. Discretion Analyte Constraints ND 10 0.44 upl. Discretion Oscilation Section Discretion	Toluene-d8 (Surr)	93		80 - 120					06/03/19 22:58	1
Dibromafiluonamethane (Sury) 101 75.123 0603/19 22:59 1 Method: 8270D - Semivolatile Organic Compounds (GC/MS) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fac 1,3:Dichtorberzzne ND 10 0.46 ugL 05/28/19 06:59 06/05/19 10:42 1 1,4:Dichtorberzzne ND 5.0 2.2 ug/L 05/28/19 06:59 06/05/19 10:42 1 Surrogate SRecovery Qualifier Linits Prepared Analyzed DI Fac 2,46-7/dbromophenol 77 41.120 05/28/19 06:59 06/05/19 10:42 1 2,46-7/dbromophenol 77 41.120 05/28/19 06:59 06/05/19 10:42 1 2,46-7/dbromophenol 77 2.120 05/28/19 06:59 06/05/19 10:42 1 2,46-7/dbromophenol 77 2.120 05/28/19 06:59 06/05/19 10:42 1 2,46-7/dbromophenol 77 2.120 05/28/19 06:24 06/05/19 10:42 1 2,46-0/dbromaphe	4-Bromofluorobenzene (Surr)	103		73 <u>-</u> 120					06/03/19 22:58	1
Method: 8270D - Semivolatile Organic Compounds (GC/MS) Analyze Result Qualifier RL MDL Unit D Prepared Analyzed DII Fac 1.3-Dichlorobenzene ND 10 0.46 ug/L 05/29/19 06:59 06/05/19 10:42 1 1.4-Dichlorobenzene ND 5.0 2.2 ug/L 05/29/19 06:59 06/05/19 10:42 1 Bis[2-athythexyl) phthalate ND 5.0 0.39 ug/L 05/29/19 06:59 06/05/19 10:42 1 Surrogate SkRecovery Qualifier Limits Prepared Analyzed DII Fac 2.46-Trit/ormophenol 77 41.70 05/29/19 06:59 06/05/19 10:42 1 2-Fluorobiphenyl 96 48.120 05/29/19 06:59 06/05/19 10:42 1 2-Fluorobiphenyl 96 57 22.120 05/29/19 06:59 06/05/19 10:42 1 Prepared Analyzed DI Fac 0.0000 0.0005 mg/L 05/28/19 08:24 06/03/19 13:23 1	Dibromofluoromethane (Surr)	101		75 ₋ 123					06/03/19 22:58	1
Interfaction: 02:00 - 2010 - Senin Volumes Organic Common 1,3-Clichiorobenzane ND It ND	Mothad: 8270D - Samiyalatila Orga	nio Comnou	nde (CC/Ms	2)						
1.3-Dichlorobenzene ND 10 0.48 ug/L 05/23/19 06:59 08/05/19 10:42 1 1.4-Dichlorobenzene ND 10 0.46 ug/L 05/23/19 06:59 08/05/19 10:42 1 Bie(2-ethylhexyl) phhalate ND 5.0 2.2 ug/L 05/23/19 06:59 08/05/19 10:42 1 Surrogate XRecovery Qualiffer Limits Prepared Analyzed Dil Fac 2.4.6-Tribromophenol 77 41 - 120 05/23/19 06:59 06/05/19 10:42 1 2.Fluconphenol 77 35 - 120 05/23/19 06:59 06/05/19 10:42 1 2.Fluconphenol 77 22 - 120 05/23/19 06:59 06/05/19 10:42 1 Phenol-d5 59 46 - 120 05/23/19 06:59 06/05/19 10:42 1 NItrobenzene-d5 89 46 - 120 05/23/19 06:59 06/05/19 10:42 1 Method: 6010C - Metals (ICP) Analyte ND 0.0020 0.0066 mg/L 05/28/19 08:24 06/05/19 13:23 1	Analyte	Result	Qualifier	P) RL	MDL	Unit	D	Prepared	Anaivzed	Dil Fac
1.4-Dichorobenzane ND 10 0.46 ugL 05/29/19 06:59 06/05/19 10.42 1 Big2-ettylhexyl) phbalate ND 5.0 2.2 ugL 05/29/19 06:59 06/05/19 10.42 1 Surrogate ND 5.0 0.38 ugL 05/29/19 06:59 06/05/19 10.42 1 Surrogate XRecovery Qualifier Limits Prepared Analyzed DI/ Fac 2.45-Tribromophanol 77 41-120 05/29/19 06:59 06/05/19 10.42 1 2.Fluorobiphenyl 96 48-120 05/29/19 06:59 06/05/19 10.42 1 2.Fluorobiphenyl 96 48-120 05/29/19 06:59 06/05/19 10.42 1 2.Fluorobiphenyl 96 48-120 05/29/19 06:59 06/05/19 10.42 1 Phenol-d5 57 22-120 05/29/19 06:59 06/05/19 10.42 1 Mathod: 6010C - Metals (ICP) nalyte Reault Qualifier RL MDL Unit D Prepared Analyzed Dil Fac	1.3-Dichlorobenzene	ND		10	0.48		=	05/29/19 06:59	06/05/19 10:42	1
Big 2-athylhexyl) phthalate ND 5.0 0.32 ug/L 05/28/19 06:56 06/05/19 10:42 1 Surrogate SiRecovery Qualifier Limits Prepared Analyzed DI Fac 2,4,6-Tubromophenol 77 41.120 05/28/19 06:59 06/05/19 10:42 1 2,4,6-Tubromophenol 77 41.120 05/28/19 06:59 06/05/19 10:42 1 2,4,6-Tubromophenol 77 35.120 05/28/19 06:59 06/05/19 10:42 1 2,Fluorophenol 77 35.120 05/28/19 06:59 06/05/19 10:42 1 Phenol-d5 57 22.120 05/28/19 06:59 06/05/19 10:42 1 Phenol-d5 57 22.120 05/28/19 06:59 06/05/19 10:42 1 Method: 6010C - Metals (ICP) Analyte ND 0.0010 0.0056 mg/L 05/28/19 08:24 06/03/19 13:23 1 Analyte ND 0.0020 0.0066 mg/L 05/28/19 08:24 06/03/19 13:23 1 Cadmium ND	1 4-Dichlorobenzene	ND		10	0.46	-9/L ua/l		05/29/19 06:59	06/05/19 10:42	1
Bunch of your product ND S.0 Ling Out of your product <	Bis(2-ethylbexyl) phthalate	ND		50	22	ug/L		05/29/19 06:59	06/05/19 10:42	1
Surrogate ScRecovery 2(4,6-Tribromophenol Limits 77 Limits 41.120 Prepared Analyzed Dil Fac 05/28/19 06:59 OB/05/19 10:42 ft ft ft 2Fluorobiphenol 77 35.120 05/28/19 06:59 06/05/19 10:42 ft 2Fluorobiphenol 77 35.120 05/28/19 06:59 06/05/19 10:42 ft 2Fluorobiphenol 77 35.120 05/28/19 06:59 06/05/19 10:42 ft 1/trobenzene-d5 69 46.120 05/28/19 06:59 06/05/19 10:42 ft P-Terphenyl-d14 82 59 - 136 05/28/19 06:59 06/05/19 10:42 ft Method: 6010C - Metals (ICP) Analyzed ND 0.020 0.0066 mg/L 05/28/19 08:24 06/03/19 13:23 ft Arsenic ND 0.010 0.0056 mg/L 05/28/19 08:24 06/03/19 13:23 ft Cardinum ND 0.0010 0.00050 mg/L 05/28/19 08:24 06/03/19 13:23 ft Copper ND 0.0100 0.0050 0.0030	Phenol	ND		5.0	0.39	ug/L		05/29/19 06:59	06/05/19 10:42	··· · · 1
Surregore Arrecovery Guillier Limits Prepared Arrecovery Guillier 24,6 Tribumphenol 77 41.120 05/29/19.06:59 06/05/19.10.42 1 2-Fluorophenol 77 35.120 05/29/19.06:59 06/05/19.10.42 1 2-Fluorophenol 77 35.120 05/29/19.06:59 06/05/19.10.42 1 Nitrobenzene-d5 89 46.120 05/29/19.06:59 06/05/19.10.42 1 Phenol-d5 57 22.120 05/29/19.06:59 06/05/19.10.42 1 Paraphenyl-d14 82 59.136 05/29/19.06:59 06/05/19.10.42 1 Method: 6010C - Metals (ICP) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fac Antimony ND 0.020 0.0066 mg/L 05/28/19.08:24 06/03/19.13:23 1 Cadmium 0.998 0.020 0.00070 mg/L 05/28/19.08:24 06/03/19.13:23 1 Copper	0	%	0	1 1		-		6 4	4	
2,4,6 minumplimit 7,7 4,7,7 1,7,7	2.4.6.Trihmmonhonol	76Kecovery	Quaimer					Prepared 05/20/10 06:50	Analyzed	DII Fac
2-Fluorophenol 77 35 120 05/28/19/06:59 06/05/19/10:42 1 Nitrobenzene-d5 89 46 120 05/28/19/06:59 06/05/19/10:42 1 Phenol-d6 57 22 120 05/28/19/06:59 06/05/19/10:42 1 P-Temphenyl-d14 82 59 136 05/28/19/06:59 06/05/19/10:42 1 Method: 6010C - Metals (ICP) Result Qualifier RL MDL Unit D Prepared Analyzed DII Fec Antimony ND 0.020 0.0068 mg/L 05/28/19/08:24 06/03/19/13:23 1 Barium 0.098 0.0020 0.00068 mg/L 05/28/19/08:24 06/03/19/13:23 1 Cadmium ND 0.010 0.00050 mg/L 05/28/19/08:24 06/03/19/13:23 1 Copper ND 0.0101 0.0016 mg/L 05/28/19/08:24 06/03/19/13:23 1 Iron 4.6 0.050 0.019	2,4,0- Mbromophenor	11		41 - 120				05/29/19 00.59	00/05/19 10.42	
2r-traduptiend 77 33-120 00/23/19 (0.5.9) 00/03/19 (0.5.2) 00/03/19 (0.5.2) 00/03/19 (0.5.2) 00/05/19 (0.5.2) 01/19 (0.5.2) 1 Analyte Result Qualifier RL MDL Unit D 00/05/19 (0.5.2) 00/05/19 (0.5.2) 00/05/19 (0.5.2) 1 Analyte ND 0.010 0.00050 mg/L 05/28/19 (0.5.2) 00/03/19 (0.5.2) 1 Arsenic ND 0.0010 0.0010 mg/L 05/28/19 (0.5.2) 00/03/19 (0.5.2) 1 Cadmium ND 0.001	2-Fluoroblpheny	30		40-120				05/29/19 00:59	00/05/19 10.42	1
Number/zerre-Go Obj 40 - 1/20 Obj2/si 19 06:59 Obj2/si 19 06:24 Obj2		//		JJ - 120				05/29/19 00.59	06/05/19 10.42	0.00
Priminus Dif 22 - 120 Dif 22 - 120	Nitrobenzena-us	69		40 - 120				05/29/19 00:59	00/00/19 10:42	
Preprinting/ed/r 52 55 56 56/25/19 66/25 66/05/19 70.42 1 Method: 6010C - Metals (ICP) Analyte ND 0.020 0.0066 mg/L 05/28/19 06/03/19 13:23 1 Arsenic ND 0.010 0.0056 mg/L 05/28/19 06/03/19 13:23 1 Barlum 0.098 0.0020 0.00070 mg/L 05/28/19 08:24 06/03/19 13:23 1 Cadmium ND 0.010 0.00050 mg/L 05/28/19 08:24 06/03/19 13:23 1 Cadmium ND 0.0010 0.00000 mg/L 05/28/19 08:24 06/03/19 13:23 1 Copper ND 0.010 0.0016 mg/L 05/28/19 08:24 06/03/19 13:23 1 Iron 4.6 0.050 0.0030 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium 28.9	Prienol-05	57		22 - 120 50 426				05/29/19 00:59	00/05/19 10:42	
Method: 6010C - Metals (ICP) Result Qualifier RL MDL Unit D Prepared Analyzed DII Fac Antimony ND 0.020 0.0068 mg/L 05/28/19 08:24 06/03/19 13:23 1 Arsenic ND 0.010 0.0056 mg/L 05/28/19 08:24 06/03/19 13:23 1 Barlum 0.098 0.0020 0.00070 mg/L 05/28/19 08:24 06/03/19 13:23 1 Cadmium ND 0.0010 0.00050 mg/L 05/28/19 08:24 06/03/19 13:23 1 Chromlum ND 0.0010 0.0016 mg/L 05/28/19 08:24 06/03/19 13:23 1 Iron 4.6 0.050 0.019 mg/L 05/28/19 08:24 06/03/19 13:23 1 Leed ND 0.0050 0.0030 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium 28.9 0.20 0.043 mg/L 05/28/19 08:24 06/03/19 13:23 1 ND		02		39 - 130				00/23/19 00.39	00/00/19 10.42	,
Analyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fac Antimony ND 0.020 0.0068 mg/L 05/28/19 08:24 06/03/19 13:23 1 Arsenic ND 0.010 0.0056 mg/L 05/28/19 08:24 06/03/19 13:23 1 Barium 0.098 0.0020 0.00070 mg/L 05/28/19 08:24 06/03/19 13:23 1 Cadmium ND 0.0010 0.00050 mg/L 05/28/19 08:24 06/03/19 13:23 1 Chromium ND 0.0010 0.00010 mg/L 05/28/19 08:24 06/03/19 13:23 1 Copper ND 0.010 0.0016 mg/L 05/28/19 08:24 06/03/19 13:23 1 Iron 4.6 0.050 0.0030 mg/L 05/28/19 08:24 06/03/19 13:23 1 Lead ND 0.0050 0.0030 0.0040 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium <td>Method: 6010C - Metals (ICP)</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>	Method: 6010C - Metals (ICP)									
Antimony ND 0.020 0.0068 mg/L 05/28/19 08:24 06/03/19 13:23 1 Arsenic ND 0.010 0.0056 mg/L 05/28/19 08:24 06/03/19 13:23 1 Barlum 0.098 0.0020 0.00070 mg/L 05/28/19 08:24 06/03/19 13:23 1 Cadmium ND 0.0010 0.00050 mg/L 05/28/19 08:24 06/03/19 13:23 1 Cadmium ND 0.0010 0.00050 mg/L 05/28/19 08:24 06/03/19 13:23 1 Chromium ND 0.0010 0.0010 mg/L 05/28/19 08:24 06/03/19 13:23 1 Copper ND 0.010 0.0016 mg/L 05/28/19 08:24 06/03/19 13:23 1 Iron 4.6 0.050 0.019 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium 28.9 0.20 0.043 mg/L 05/28/19 08:24 06/03/19 13:23 1 Nickel ND 0.010 0.0	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Arsenic ND 0.010 0.0056 mg/L 05/28/19 08:24 06/03/19 13:23 1 Barium 0.098 0.0020 0.00070 mg/L 05/28/19 08:24 06/03/19 13:23 1 Cadmium ND 0.0010 0.00050 mg/L 05/28/19 08:24 06/03/19 13:23 1 Chromium ND 0.0040 0.0010 mg/L 05/28/19 08:24 06/03/19 13:23 1 Copper ND 0.010 0.0016 mg/L 05/28/19 08:24 06/03/19 13:23 1 Lead ND 0.010 0.0016 mg/L 05/28/19 08:24 06/03/19 13:23 1 Lead ND 0.0050 0.0030 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium 28.9 0.20 0.043 mg/L 05/28/19 08:24 06/03/19 13:23 1 Manganese 0.63 0.0030 0.0010 mg/L 05/28/19 08:24 06/03/19 13:23 1 Nickel ND 0.010 0.0	Antimony	ND	- s	0.020	0.0068	mg/L		05/28/19 08:24	06/03/19 13:23	1
Barium 0.098 0.0020 0.00070 mg/L 05/28/19 08:24 06/03/19 13:23 1 Cadmium ND 0.0010 0.00050 mg/L 05/28/19 08:24 06/03/19 13:23 1 Chromlum ND 0.0040 0.0010 mg/L 05/28/19 08:24 06/03/19 13:23 1 Copper ND 0.010 0.0016 mg/L 05/28/19 08:24 06/03/19 13:23 1 Iron 4.6 0.050 0.019 mg/L 05/28/19 08:24 06/03/19 13:23 1 Lead ND 0.0050 0.0030 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium 28.9 0.20 0.043 mg/L 05/28/19 08:24 06/03/19 13:23 1 Manganese 0.63 B 0.0030 0.0040 mg/L 05/28/19 08:24 06/03/19 13:23 1 Nickel ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Silver ND 0.0030 </td <td>Arsenic</td> <td>ND</td> <td></td> <td>0.010</td> <td>0.0056</td> <td>mg/L</td> <td></td> <td>05/28/19 08:24</td> <td>06/03/19 13:23</td> <td>1</td>	Arsenic	ND		0.010	0.0056	mg/L		05/28/19 08:24	06/03/19 13:23	1
Cadmium ND 0.0010 0.00050 mg/L 05/28/19 08:24 06/03/19 13:23 1 Chromium ND 0.0040 0.0010 mg/L 05/28/19 08:24 06/03/19 13:23 1 Copper ND 0.010 0.0016 mg/L 05/28/19 08:24 06/03/19 13:23 1 Iron 4.6 0.050 0.019 mg/L 05/28/19 08:24 06/03/19 13:23 1 Lead ND 0.0050 0.0030 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium 28.9 0.20 0.043 mg/L 05/28/19 08:24 06/03/19 13:23 1 Marganese 0.63 0.0030 0.00040 mg/L 05/28/19 08:24 06/03/19 13:23 1 Nickel ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Sodium 26.4 1.0 0.32 mg/L 05/28/19 08:24 06/03/19 13:23 1 Zinc ND 0.010 0.010	Barium	0.098		0.0020	0.00070	mg/L		05/28/19 08:24	06/03/19 13:23	1
Chromlum ND 0.0040 0.0010 mg/L 05/28/19 08:24 06/03/19 13:23 1 Copper ND 0.010 0.0016 mg/L 05/28/19 08:24 06/03/19 13:23 1 Iron 4.6 0.050 0.019 mg/L 05/28/19 08:24 06/03/19 13:23 1 Lead ND 0.0050 0.0030 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium 28.9 0.20 0.043 mg/L 05/28/19 08:24 06/03/19 13:23 1 Marganese 0.63 B 0.0030 0.0040 mg/L 05/28/19 08:24 06/03/19 13:23 1 Nickel ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Silver ND 0.0030 0.0017 mg/L 05/28/19 08:24 06/03/19 13:23 1 Sodium 26.4 1.0 0.32 mg/L 05/28/19 08:24 06/03/19 13:23 1 Zinc ND 0.010	Cadmium	ND		0.0010	0.00050	mg/L		05/28/19 08:24	06/03/19 13:23	1
Copper ND 0.010 0.0016 mg/L 05/28/19 08:24 06/03/19 13:23 1 Iron 4.6 0.050 0.019 mg/L 05/28/19 08:24 06/03/19 13:23 1 Lead ND 0.0050 0.0030 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium 26.9 0.20 0.043 mg/L 05/28/19 08:24 06/03/19 13:23 1 Manganese 0.63 MD 0.0030 0.0040 mg/L 05/28/19 08:24 06/03/19 13:23 1 Nickel ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Silver ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Sodium 26.4 1.0 0.32 mg/L 05/28/19 08:24 06/03/19 13:23 1 Zinc ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) Result	Chromium	ND		0.0040	0.0010	mg/L		05/28/19 08:24	06/03/19 13:23	1
Iron 4.6 0.050 0.019 mg/L 05/28/19 08:24 06/03/19 13:23 1 Lead ND 0.0050 0.0030 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium 28.9 0.20 0.043 mg/L 05/28/19 08:24 06/03/19 13:23 1 Manganese 0.63 5 0.0030 0.0040 mg/L 05/28/19 08:24 06/03/19 13:23 1 Nickel ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Silver ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Sodium 26.4 1.0 0.32 mg/L 05/28/19 08:24 06/03/19 13:23 1 Zinc ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA)	Copper	ND		0.010	0.0016	mg/L		05/28/19 08:24	06/03/19 13:23	1
Lead ND 0.0050 0.0030 mg/L 05/28/19 08:24 06/03/19 13:23 1 Magnesium 28.9 0.20 0.043 mg/L 05/28/19 08:24 06/03/19 13:23 1 Manganese 0.63 B 0.0030 0.0040 mg/L 05/28/19 08:24 06/03/19 13:23 1 Nickel ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Silver ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Sodium 26.4 1.0 0.32 mg/L 05/28/19 08:24 06/03/19 13:23 1 Zinc ND 0.010 0.015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.010 0.015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) MD 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mer	Iron	4.6		0.050	0.019	mg/L		05/28/19 08:24	06/03/19 13:23	· 1
Magnesium 28.9 0.20 0.043 mg/L 05/28/19 08:24 06/03/19 13:23 1 Manganese 0.63 0.0030 0.0040 mg/L 05/28/19 08:24 06/03/19 13:23 1 Nickel ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Silver ND 0.0030 0.0017 mg/L 05/28/19 08:24 06/03/19 13:23 1 Sodium 26.4 1.0 0.32 mg/L 05/28/19 08:24 06/03/19 13:23 1 Zinc ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.0002 0.0	Lead	ND		0.0050	0.0030	mg/L		05/28/19 08:24	06/03/19 13:23	1
Manganese 0.63 0.0030 0.00040 mg/L 05/28/19 08:24 06/03/19 13:23 1 Nickel ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Silver ND 0.0030 0.0017 mg/L 05/28/19 08:24 06/03/19 13:23 1 Sodium 26.4 1.0 0.32 mg/L 05/28/19 08:24 06/03/19 13:23 1 Zinc ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Mercury ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1	Magnesium	28.9	33	0.20	0.043	mg/L		05/28/19 08:24	06/03/19 13:23	1
Nickel ND 0.010 0.0013 mg/L 05/28/19 08:24 06/03/19 13:23 1 Silver ND 0.0030 0.0017 mg/L 05/28/19 08:24 06/03/19 13:23 1 Sodium 26.4 1.0 0.32 mg/L 05/28/19 08:24 06/03/19 13:23 1 Zinc ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) ND 0.0012 mg/L 05/28/19 08:24 06/03/19 13:23 1	Manganese	0.63	B	0.0030	0.00040	mg/L		05/28/19 08:24	06/03/19 13:23	1
Silver ND 0.0030 0.0017 mg/L 05/28/19 08:24 06/03/19 13:23 1 Sodium 26.4 1.0 0.32 mg/L 05/28/19 08:24 06/03/19 13:23 1 Zinc ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Mercury ND 0.00020 0.00012 mg/L 05/30/19 11:15 05/31/19 10:57 1	Nickel	ND		0.010	0.0013	mg/L		05/28/19 08:24	06/03/19 13:23	1
Sodium 26.4 1.0 0.32 mg/L 05/28/19 08:24 06/03/19 13:23 1 Zinc ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Mercury ND 0.00020 0.00012 mg/L 05/30/19 11:15 05/31/19 10:57 1	Silver	ND		0.0030	0.0017	mg/L		05/28/19 08:24	06/03/19 13:23	1
Zinc ND 0.010 0.0015 mg/L 05/28/19 08:24 06/03/19 13:23 1 Method: 7470A - Mercury (CVAA) 1 Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Mercury ND 0.00020 0.00012 mg/L 05/30/19 11:15 05/31/19 10:57 1	Sodium	26.4		1.0	0.32	mg/L		05/28/19 08:24	06/03/19 13:23	1
Method: 7470A - Mercury (CVAA) Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Mercury ND 0.00020 0.00012 mg/L 05/30/19 11:15 05/31/19 10:57 1	Zinc	ND		0.010	0.0015	mg/L		05/28/19 08:24	06/03/19 13:23	1
Analyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Mercury ND 0.00020 0.00012 mol/L 05/30/19 11:15 05/31/19 10:57 1	Bathadi 7470A Bassing (OVA A)									
Mercury ND 0.00020 0.00012 m/L 05/30/19 11:15 05/31/19 10:57 1	metrod: 7470A - Mercury (CVAA)	Recut	Qualifier	PI	MDI	Unit	п	Prepared		Dil Fac
	Mercury	ND		0 00020	0.00012			05/30/19 11:15	05/31/19 10:57	1

and is

Eurofins TestAmerica, Buffaio

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Client: AECOM	
Project/Site: Pfohl Brothers Landfill	

Client Sample ID: GW-31S

Date Collected: 05/24/19 10:45 Date Received: 05/24/19 14:40

Dibromofluoromethane (Surr)

Lab Sample ID: 480-154074-4 Matrix: Water

06/01/19 12:25

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/01/19 12:25	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/01/19 12:25	1
Acetone	4.2	J	10	3.0	ug/L			06/01/19 12:25	1
Benzene	ND		1.0	0.41	ug/L			06/01/19 12:25	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/01/19 12:25	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	96		77 - 120			0.5		06/01/19 12:25	1
Toluene-d8 (Surr)	92		80 - 120					06/01/19 12:25	1
4-Bromofluorobenzene (Surr)	94		73 <u>-</u> 120					06/01/19 12:25	1

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

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Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		05/29/19 06:59	06/05/19 11:12	1
1,4-Dichiorobenzene	ND		10	0.46	ug/L		05/29/19 06:59	06/05/19 11:12	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		05/29/19 06:59	06/05/19 11:12	1
Phenol	ND		5.0	0.39	ug/L		05/29/19 06:59	06/05/19 11:12	1

75 - 123

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	84	· · · · ·	41 - 120	05/29/19 06:59	06/05/19 11:12	1
2-Fluorobiphenyl	99		48 - 120	05/29/19 06:59	06/05/19 11:12	1
2-Fluorophenol	79		35 - 120	05/29/19 06:59	06/05/19 11:12	1
Nitrobenzene-d5	91		46 - 120	05/29/19 06:59	06/05/19 11:12	1
Phenol-d5	60		22 - 120	05/29/19 06:59	06/05/19 11:12	1
p-Terphenyi-d14	88		59 <u>-</u> 136	05/29/19 06:59	06/05/19 11:12	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dii Fac
Antimony	ND		0.020	0.0068	mg/L		05/28/19 08:24	06/03/19 13:27	1
Arsenic	ND		0.010	0.0056	mg/L		05/28/19 08:24	06/03/19 13:27	1
Barium	0.081		0.0020	0.00070	mg/L		05/28/19 08:24	06/03/19 13:27	1
Cadmlum	ND		0.0010	0.00050	mg/L		05/28/19 08:24	06/03/19 13:27	1
Chromium	ND		0.0040	0.0010	mg/L		05/28/19 08:24	06/03/19 13:27	1
Copper	ND		0.010	0.0016	mg/L		05/28/19 08:24	06/03/19 13:27	1
Iron	2.2		0.050	0.019	mg/L		05/28/19 08:24	06/03/19 13:27	1
Lead	ND		0.0050	0.0030	mg/L		05/28/19 08:24	06/03/19 13:27	1
Magnesium	25.9		0.20	0.043	mg/L		05/28/19 08:24	06/03/19 13:27	1
Manganese	0.86	B	0.0030	0.00040	mg/L		05/28/19 08:24	06/03/19 13:27	1
Nickel	0.0026	J	0.010	0.0013	mg/L		05/28/19 08:24	06/03/19 13:27	1
Silver	ND		0.0030	0.0017	mg/L		05/28/19 08:24	06/03/19 13:27	1
Sodium	3.0		1.0	0.32	mg/L		05/28/19 08:24	06/03/19 13:27	1
Zinc	ND		0.010	0.0015	mg/L		05/28/19 08:24	06/03/19 13:27	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ŇD		0.00020	0.00012	mg/L		05/30/19 11:15	05/31/19 10:58	1

aptai

Eurofins TestAmerica, Buffalo

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-32S

Date Collected: 05/24/19 11:39 Date Received: 05/24/19 14:40

Lab Sample ID: 480-154074-5 Matrix: Water

06/05/19 11:41

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/01/19 12:49	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/01/19 12:49	1
Acetone	3.3	J	10	3.0	ug/L			06/01/19 12:49	1
Benzene	ND		1.0	0.41	ug/L			06/01/19 12:49	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/01/19 12:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		77 - 120				10	06/01/19 12:49	1
Toluene-d8 (Surr)	92		80 - 120					06/01/19 12:49	1
4-Bromofluorobenzene (Surr)	94		73 - 120					06/01/19 12:49	1
Dibromofluoromethane (Surr)	95		75 - 123					06/01/19 12:49	1
Method: 8270D - Semivolatile	Organic Compou	nds (GC/MS))						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND	2	11	0.53	ug/L		05/29/19 06:59	06/05/19 11:41	1
1,4-Dichlorobenzene	ND		11	0.51	ug/L		05/29/19 06:59	06/05/19 11:41	1
Bis(2-ethylhexyl) phthalate	ND		5.6	2.4	ug/L		05/29/19 06:59	06/05/19 11:41	1

Surrogate %Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol 82		41 - 120	05/29/19 06:59	06/05/19 11:41	1
2-Fluorobiphenyl 99		48 - 120	05/29/19 06:59	06/05/19 11:41	1
2-Fluorophenol 82		35 - 120	05/29/19 06:59	06/05/19 11:41	1
Nitrobenzene-d5 91		46 - 120	05/29/19 06:59	06/05/19 11:41	1
Phenol-d5 62		22 - 120	05/29/19 06:59	06/05/19 11:41	1
p-Terphenyl-d14 99		59 - 136	05/29/19 06:59	06/05/19 11:41	1

5.6

ND

0.43 ug/L

Method: 6010C - Metals (ICP)

Phenol

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dii Fac
Antimony	ND		0.020	0.0068	mg/L		05/28/19 08:24	06/03/19 13:31	1
Arsenic	ND		0.010	0.0056	mg/L		05/28/19 08:24	06/03/19 13:31	1
Barium	0.050		0.0020	0.00070	mg/L		05/28/19 08:24	06/03/19 13:31	1
Cadmlum	ND		0.0010	0.00050	mg/L		05/28/19 08:24	06/03/19 13:31	<u> </u>
Chromium	ND		0.0040	0.0010	mg/L		05/28/19 08:24	06/03/19 13:31	1
Copper	ND		0.010	0.0016	mg/L		05/28/19 08:24	06/03/19 13:31	1
Iron	ND		0.050	0.019	mg/L		05/28/19 08:24	06/03/19 13:31	1
Lead	ND		0.0050	0.0030	mg/L	1.00	05/28/19 08:24	06/03/19 13:31	1
Magnesium	26.5		0.20	0.043	mg/L	<i>с</i> ,	05/28/19 08:24	06/03/19 13:31	́ 1
Manganese	0.67	B	0.0030	0.00040	mg/L		05/28/19 08:24	06/03/19 13:31	1
Nickel	0.0020	J	0.010	0.0013	mg/L		05/28/19 08:24	06/03/19 13:31	1
Silver	ND		0.0030	0.0017	mg/L		05/28/19 08:24	06/03/19 13:31	1
Sodium	2.7		1.0	0.32	mg/L		05/28/19 08:24	06/03/19 13:31	1
Zinc	ND		0.010	0.0015	mg/L		05/28/19 08:24	06/03/19 13:31	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/30/19 11:15	05/31/19 11:02	1

Eurofins TestAmerica, Buffalo

05/29/19 06:59

1

Client: AECOM

Chromium

Copper

Iron

Client Sample ID: GW-33S							Lab Samp	le ID: 480-15	4074-6
Date Collected: 05/24/19 12:25 Date Received: 05/24/19 14:40			1991 - 19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					Matri	x: Wate
Method: 8260C - Volatile Organ	nic Compounds	by GC/MS							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/01/19 19:02	
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/01/19 19:02	
Acetone	5.5	J	10	3.0	ug/L			06/01/19 19:02	
Benzene	ND		1.0	0.41	ug/L			06/01/19 19:02	
Vinyi chloride	ND		1.0	0.90	ug/L			06/01/19 19:02	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fa
1,2-Dichloroethane-d4 (Surr)	108		77 - 120					06/01/19 19:02	
Toluene-d8 (Surr)	99		80 - 120					06/01/19 19:02	•
4-Bromofluorobenzene (Surr)	104		73 - 120					06/01/19 19:02	
Dibromofluoromethane (Surr)	103		75 - 123					06/01/19 19:02	10 T. N.
Analyte	Result	Qualifier	RL	MDL 0.50	Unit uo/L	D	Prepared	Analyzed	Dil Fa
1,3-Dichlorobenzene	ND		10	0.50	ug/L		05/29/19 06:59	06/05/19 12:09	
1,4-Dichlorobenzene	ND		10	0.48	ug/L		05/29/19 06:59	06/05/19 12:09	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		05/29/19 06:59	06/05/19 12:09	
Phenol	ND		5.2	0.41	ug/L		05/29/19 06:59	06/05/19 12:09	in 1977
Surrogate								00/00/10 12:00	6 SH
· · · · · · · · · · · · · · · · · · ·	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fae
2,4,6-Tribromophenol	%Recovery 84	Qualifier	Limits 41 - 120				Prepared 05/29/19 06:59	Analyzed 06/05/19 12:09	Dil Fac
2,4,6-Tribromophenol 2-Fluorobiphenyl	%Recovery 84 103	Qualifier	Limits 41 - 120 48 - 120				Prepared 05/29/19 06:59 05/29/19 06:59	Analyzed 06/05/19 12:09 06/05/19 12:09	Dii Fac 1
2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol	%Recovery 84 103 85	Qualifier	Limits 41 - 120 48 - 120 35 - 120				Prepared 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59	Analyzed 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09	Dil Fa e 1 1
2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5	%Recovery 84 103 85 95	Qualifier	Limits 41 - 120 48 - 120 35 - 120 46 - 120				Prepared 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59	Analyzed 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09	Dii Fa 1 1
2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5	%Recovery 84 103 85 95 65	Qualifier	Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120				Prepared 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59	Analyzed 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09	Dii Fac 1 1 1 1
2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14	%Recovery 84 103 85 95 65 98	Qualifier	Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 59 - 136				Prepared 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59	Analyzed 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09	
2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP)	%Recovery 84 103 85 95 65 98	Qualifier	Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 59 - 136				Prepared 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59	Analyzed 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09	Dil Fa
2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte	%Recovery 84 103 85 95 65 98 Result	<i>Qualifier</i>	Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 59 - 136 RL	MDL	Unit	D	Prepared 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59	Analyzed 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09	Dil Fac
2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte Antimony	%Recovery 84 103 85 95 65 98 	Qualifier	Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 59 - 136 RL 0.020	MDL 0.0068	Unit mg/L	D	Prepared 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 Prepared 05/28/19 08:24	Analyzed 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09	Dil Fac
2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte Antimony Arsenic	%Recovery 84 103 85 95 65 98 	Qualifier	Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 59 - 136 RL 0.020 0.010	MDL 0.0068 0.0056	Unit mg/L mg/L	<u>D</u>	Prepared 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 Prepared 05/28/19 08:24 05/28/19 08:24	Analyzed 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 Analyzed 06/03/19 13:34	Dil Fac
2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte Antimony Arsenic Barium	%Recovery 84 103 85 95 65 98 Result ND ND 0.038	Qualifier	Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 59 - 136 RL 0.020 0.010 0.0020	MDL 0.0068 0.0056 0.00070	Unit mg/L mg/L mg/L	D	Prepared 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 06:59 05/29/19 08:24 05/28/19 08:24 05/28/19 08:24	Analyzed 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 06/05/19 12:09 Analyzed 06/03/19 13:34 06/03/19 13:34	Dil Fac

Lead	ND		0.0050	0.0030	mg/L		05/28/19 08:24	06/03/19 13:34	1
Magnesium	24.9		0.20	0.043	mg/L		05/28/19 08:24	06/03/19 13:34	1
Manganese	0.025	B	0.0030	0.00040	mg/L		05/28/19 08:24	06/03/19 13:34	1
Nickel	ND		0.010	0.0013	mg/L		05/28/19 08:24	06/03/19 13:34	1
Silver	ND		0.0030	0.0017	mg/L		05/28/19 08:24	06/03/19 13:34	1
Sodium	2.4		1.0	0.32	mg/L		05/28/19 08:24	06/03/19 13:34	1
Zinc	0.0017	Ĺ	0.010	0.0015	mg/L		05/28/19 08:24	06/03/19 13:34	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		05/30/19 11:15	05/31/19 11:03	1

0.0040

0.010

0.050

0.0010 mg/L

0.0016 mg/L

0.019 mg/L

ND

ND

ND

05/28/19 08:24

05/28/19 08:24

05/28/19 08:24

Eurofins TestAmerica, Buffalo

06/03/19 13:34

06/03/19 13:34

06/03/19 13:34

1

1

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6

Client Sample ID: TB-20190524

Date Collected: 05/24/19 00:00 Date Received: 05/24/19 14:40

Lab Sample ID: 480-154074-7 Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			06/01/19 19:25	1	7
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/01/19 19:25	1	
Acetone	ND		10	3.0	ug/L			06/01/19 19:25	1	1
Benzene	ND		1.0	0.41	ug/L			06/01/19 19:25	1	
Vinyl chloride	ND		1.0	0.90	ug/L			06/01/19 19:25	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	107		77 - 120			-		06/01/19 19:25	1	
Toluene-d8 (Surr)	102		80 - 120					06/01/19 19:25	1	
4-Bromofluorobenzene (Surr)	96		73 - 120					06/01/19 19:25	1	
Dibromofluoromethane (Surr)	104		75 - 123					06/01/19 19:25	1	

APPENDIX B

SUPPORT DOCUMENTATION

Phone (716) 691-2600 Fax (716) 691-7991				
Client Information	Sampler R. Murpert / T. WILDN	Lab PM Deyo. Melissa L	Carner Iraching Nots) COC No 480-13	
Client Contact Ms. Ann Marie Kropowich	Phone Phone 76-5636	E-Mái melissa deyo@testamericainc	Page. Page	ord -
Company AECOM		An	alysis Requested	
Address 257 West Genesee Street Surie 400	Due Date Requested:		Preser	vation Codes
City Buffaio	TAT Requested (days):			- M. Herane DH N. Norie Aratale O - AshaO2
State Zp NY, 14202-2657	STANDARD PAT	(SW/ SM		15 Acid P - Na2O4S
Prone	PO# 111666	qe (gc w gc w (o)		2504 2504 3P Dordec hsurate
Email ann mane.kropovitch@aecom.com	WO # 60411174.11175616 00000	(on (on (on		Setone CAA
Project Name Prohi Brothers Landfill GW Monitoring	Project.# 48002609	ie (Yei es or compo compo		H 4-5
Site	SSOW#	y O2 (7) (7) (7) (7) (7) (7) (7) (7)	480-154040 Chain of Custody	
Samole Identification	Sample Type Sample C=comp.	22-00-2000 20-00-2000 22-00-200 22-00-2000 22-000 22-000 22-000 22-000 22-000 22-000 22-000 22-000 20-000 20-000 20-000 20-000 20-000	iədmuk (610)	Soaeral Instructions.Note-
	Preservat	ion Code X D N A		
Gw-075	SIZULIA LOUS G	Water 3	5	
62-67D	5/22/19 (055 C	Water 3	5	
GW-CIS	5/22/19 1325 C	Water 2 3	9	
Gin - 01D	SIZUM LUYZ G	Water 1 2 3	0	
CM -010- MS	5/22/9 /442 6	Water 2 3		ARIX SPIKE
Giv-CID-MSD	S/22/19 1422 6	Water 2 3	6 2	ATPX SPIKE DUPUCAR
Gw-ofs	Stally ISIS C	Water 3	3	
(p w - OHD	5/22/19 1640 G	Water 1 23	9	
Gurous	5/22/17/650 G	Water 1 2	3	
GW-07D	5/23/19 0745 6	Water 1 1 2	3	
Gw-675	5/23/14 0755 G	Water 1 1 2	2	
Possible Hazard Identification	pison B	Sample Disposal (A	A fee may be assessed if samples are retained to ofArrhve Fo	iger than 1 month)
Deliverable Requested, 1, 11, 11, 1V Other (specify)		Special Instructions/C	DC Requirements:	
Empty Kit Reinquished by.	Date	Time:	Metuco of Sniprient D. Kura	C a F
Fellow and by ACCONC	Dave Time Date Time	Company Rectived by M	Whe Presting 3/19	1740 Cumpany S
Relation sheet by	Date/Time	Combany Received by	DatcTime.	соперату Соловану
Custody Seals Intact Custody Seal No		Cooler Temperaturo	tas C and Other gentand / / / 2 G	
V LES V NO			11010014	

6/11/2019

15

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Eurofins TestAmerica, Buffalo

Chain of C

Eurofins TestAmerica, Buffalo 10 Hazelwood Drive Amherst. NY 14228-2298

98

Chain of Custody Record

Curofins - secondaria Acility

Client Information	Samular Realint / T. ward	Lab PM Deyo. Metissa L	Carrier Tracking Norsa	COC No 480-129776-13273.2
Dient Contact Ms. Ann Marte Kropovitch	Phone 716 - 2 56 52 - 32 56	E Mail melissa.deyo@testamericainc.com		Page 2 of P
Seripany. AECOM		Analysis Rec	quested	Jab #:
Audress: 257 West Genesee Street Suite 400	Due Date Requested.			Preservation Codes:
cay Buffalo	TAT Requested (days):			A + HCL M - Hexane B - NaOH N - None C - Zn Acetate O - AsNaO2
State, Zp NY, 14202-2657	VI Asken nich	(SW) SM		D - Ntine And P - Nu2045 E - NaHSO4 0 - Na2505
Phone	PO# 111666	29) \$F		F - MeOH R N225203 G - Ancino S - H2SO4 H - Ascorbit Acid T - TSP Dionerabuliate
Email ann.marie.kropovilch@aecom.com	WO#. 60411174.11175616.00000	orinoqr (oV (oV	9.	1-Ice U - Acetone J - Di Water V - MCAA
Project Name Pfohl Brothers Landfill GW Monitoring	Project # 48002609	е (Ye: ез ог отро		K - EDTA W - pH 4-5 L - EDA Z - other (specify)
Sate	SSOW#	Sample SD (Y) D eithe C	ol con	Other:
Samule Identification	Sample (Type (w Type (w Sample (C≃comp.	2500 - Volatile Partorn MSJM Partorn MSJM 270D - Semivol 270D - Semivol 270D - Semivol	otalinuk (szo	
	Preservatio			Spectal Instructions/Note:
60 - 345	5/23/19 0915 6	Water i 2 3	9	
62 - C35	5/2/14 1010 6	Water 1 / 23		
6 cu - 03D	St23/19 1123 6	Water 1 2 3		
6 w-08D	5/23/19/1310 G	Water / 23		
FD-20190523	5/23/19 - 6	Water 1 1 2 3	7	60-080
60-0852	5/23/19 1409 6	Water 1 / 2 3	2	. 0
GW-355	5/22/1 150 G	Water 7 2 3		
611-260	5/23/91620 G	Water 7 2 3		
TB-20190522-23	5/23/19 - G	Water 6		1 TRIPERANK
		Water		
		Water		
Possible Hazard Identification	Poison B Dunknown Rudiological	Sample Disposal (A fee may be Return To Client	Assessed if samples are retai	ined longer than 1 month) hive For Months
Deliverable Requested 1. II, IV. Other (specify)		Special Instructions/OC Requirem	lents.	
Empty Kit Relinquished by	Date.	Time.	Mothod of Shipineut	prep ort
Reinaugentry Munt	Syzzing 1740 C	Preen Received by Relation	55733	19 1740 TAB
An Devision in the second se	Ualter Inne.	antpany Receired by	tale fune.	Company
Religious hed by	Date/Tame.	unpany Received by.	Dale I une	Can pany
Custody Seals Intact Custody Seal No V Yes No		Cooler Temperature,s, 'C and Other	r Remarks +	2.4 3.1
				Ver. 01 10 2019

6/11/2019

15

Job ID: 480-154040-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-154040-1

Receipt

The samples were received on 5/23/2019 5:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 3 coolers at receipt time were 2.6° C, 2.9° C and 3.1° C.

GC/MS VOA

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

GC/MS Semi VOA

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

Metals

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

Organic Prep

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

Client Sample ID: GW-01D Prep Type: Total/NA

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

Lab Sample ID: 480-15404 Matrix: Water Analysis Batch: 475422	40-4 MS Sample	Sample	Spike	MS	MS			Clier	nt Sample II Prep Type Prep Bate %Rec.	D: GW-01D e: Total/NA ch: 474950
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
1,3-Dichlorobenzene	ND		32.0	24.4		ug/L		76	51 - 120	
1,4-Dichlorobenzene	ND		32.0	24.7		ug/L		77	32 - 150	
Bis(2-ethylhexyl) phthalate	ND		32.0	29.5		ug/L		92	16 - 150	
Phenol	ND		32.0	17.5		ug/L		55	16 - 120	
	MS	MS								
Surrogate	%Recovery	Qualifier	Limits							
2,4,6-Tribromophenol	102		41 - 120							
2-Fluorobiphenyl	87		48 - 120							
2-Fluorophenol	66		35 - 120							
Nitrobenzene-d5	85		46 - 120							
Phenol-d5	52		22 - 120							
p-Terphenyl-d14	81		59 - 136							

Lab Sample ID: 480-154040-4 MSD Matrix: Water

Analysis Batch: 475422									Prep Ba	itch: 47	74950
	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,3-Dichlorobenzene	ND		32.0	23.0		ug/L		72	51 - 120	6	37
1,4-Dichlorobenzene	ND		32.0	22.9		ug/L		72	32 - 150	7	36
Bis(2-ethylhexyl) phthalate	ND		32.0	31 .1		ug/L		97	16 - 150	5	15
Phenol	ND		32.0	17.6		ug/L		55	16 - 120	1	34

	MSD	MSD	
Surrogate	%Recovery	Qualifier	Limits
2,4,6-Tribromophenol	101		41 - 120
2-Fluorobiphenyl	85		48 - 120
2-Fluorophenol	65		35 - 120
Nitrobenzene-d5	83		46 - 120
Phenol-d5	52		22 - 120
p-Terphenyl-d14	86		59 - 136

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-47 Matrix: Water Analysis Batch: 476732	4792/1-A						Client Samp	ole ID: Metho Prep Type: T Prep Batch:	d Blank otal/NA 474792
	MB	MB						•	
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		05/29/19 07:51	06/06/19 19:21	1
Arsenic	ND		0.010	0.0056	mg/L		05/29/19 07:51	06/06/19 19:21	1
Barium	ND		0.0020	0.00070	mg/L		05/29/19 07:51	06/06/19 19:21	1
Cadmium	ND		0.0010	0.00050	mg/L		05/29/19 07:51	06/06/19 19:21	1
Chromium	ND		0.0040	0.0010	mg/L		05/29/19 07:51	06/06/19 19:21	1
Copper	ND		0.010	0.0016	mg/L		05/29/19 07:51	06/06/19 19:21	1
Iron	0.0228	J	0.050	0.019	mg/L		05/29/19 07:51	06/06/19 19:21	1
Lead	ND		0.0050	0.0030	mg/L		05/29/19 07:51	06/06/19 19:21	1
Magnesium	ND		0.20	0.043	mg/L		05/29/19 07:51	06/06/19 19:21	1
Manganese	0.000570	J	0.0030	0.00040	mg/L		05/29/19 07:51	06/06/19 19:21	1

Eurofins TestAmerica, Buffalo

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ofins TestAmerica, Buffalo azelwood Drive erst. NY 14228-2298

Chain of Custody Record

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6~-30S	5/24/14 14	200 C	water	1 2	3		C	
66 (cw-315	Spyly 10	HS G	water	12	3		9	
(GW-325	5/24/14 1	39 6	Wher	1 2	3		9	
Gw- 535	21 41/42/5	25 C	Withe	1 2	3		9	
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Deliverable Requested 1, 11, 11, IV, Other (specify)				Special Instru	uctions/QC Requirer	erspuser by Lab nents	Archive For Mi	iths
Empty Kit Relinquished by	Dat	41		Time.		Method of Shipment	Dee ar	
Parsed M. Charl	Date/me 7/24/19	1450	Combany ACC 0.	Received	ż.	Dale.] n-	1000 D	4 UE
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19							1 cV # 1 100	4 In 2019

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Job ID: 480-154074-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-154074-1

Receipt

The samples were received on 5/24/2019 2:40 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.6° C.

GC/MS VOA

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

GC/MS Semi VOA

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

Metals

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

Organic Prep

Method(s) 3510C: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 480-474997.

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

8

Client: AECOM Project/Site: Pfohl Brothers Landfill

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

Lab Sample ID: LCSD 480-47499	7/3 -A						С	lient Sa	mple ID: L	ab Control Sa	mple Dup
Matrix: Water										Prep Type:	Total/NA
Analysis Batch: 476147										Prep Batcl	h: 474997
	LCSD	LCSD									
Surrogate	%Recovery	Qualifier	Limits								
p-Terphenyl-d14	96		59 - 136								
Nethod: 6010C - Metals (ICP)										
Lab Sample ID: MB 480-474786/1	-A								Client S:	ample ID: Meth	od Blank
Matriv: Water	-1								010110	Pren Tyne	Total/NA
Analysis Batch: 476031										Pren Batcl	h 474786
Analysis Baton, 470001		MB MB								Thep Build	
Analyte	R	esuit Qualifier		RL	MDL	Unit		D	Prepared	Analyzed	Dil Fac
Antimony		ND	 0.	020	0.0068	mg/L		05	/28/19 08:24	06/03/19 12:02	1
Arsenic		ND	0.	010	0.0056	mg/L		05	j/28/19 08:24	06/03/19 12:02	1
Barium		ND	0.0	020 0	.00070	ma/L		05	j/28/19 08:24	06/03/19 12:02	1
Cadmium		ND	0.0	010 0	.00050	ma/L		05	/28/19 08:24	06/03/19 12:02	1
Chromium		ND	0.0	040	0.0010	ma/L		05	/28/19 08:24	06/03/19 12:02	1
Copper	0.0	0168 J	0.	010	0.0016	ma/L		05	/28/19 08:24	06/03/19 12:02	1
Iron	5 G S - 5	ND	0.	050	0.019	ma/L		05	/28/19 08:24	06/03/19 12:02	9 -0 002
Lead		ND	0.0	050	0.0030	ma/L		05	/28/19 08:24	06/03/19 12:02	1
Magnesium		ND		.20	0.043	mo/L		05	/28/19 08:24	06/03/19 12:02	1
Manganese	0.00	0540 .	0.0	030 0	00040	ma/L		05	/28/19 08:24	06/03/19 12:02	111.25
Nickel	0.00	ND	0.0	010	0 0013	ma/l		05	28/19 08:24	06/03/19 12:02	1
Silver		ND	0.0	030	0.0017	mo/l		05	28/19 08-24	06/03/19 12:02	4
Sodium		ND		10	0.0011	ma/l		05	28/10 08-24	06/03/19 12:02	0000300
Zinc		ND	0	010	0.0015	ma/l		05	28/19 08-24	06/03/19 12:02	1
			0.	010	0.0010	mgre			120110 00.24	00/00/10 12:02	
Lab Sample ID: LCS 480-474786/	2 -A							Clie	nt Sample	ID: Lab Contro	l Sample
Matrix: Water									•	Prep Type:	Total/NA
Analysis Batch: 476031										Prep Batcl	n: 474786
-			Spike	LC	S LCS	;				%Rec.	
Analyte			Added	Resu	it Qua	lifier	Unit	C	%Rec	Limits	
Antimony			0.200	0.21	4		mg/L		107	80 - 120	
Arsenic			0.200	0.20	1		mg/L		100	80 - 120	
Barium			0.200	0.20	1		mg/L		101	80 - 120	
Cadmium			0.200	0.19	8		mg/L		99	80 - 120	
Chromium			0.200	0.20	1		mg/L		100	80 - 120	
Copper			0.200	0.19	2		mg/L		96	80 - 120	
Iron			10.0	9.9	3		mg/L		99	80 - 120	
Lead			0.200	0.19	2		mg/L		96	80 - 120	
Magneslum			10.0	9.7	9		mg/L		98	80 - 120	
Manganese			0.200	0.19	7		mg/L		98	80 - 120	
Nickel			0.200	0.19	7		mg/L		98	80 - 120	
Silver			0.0500	0.048	1		ma/L		96	80 - 120	
Sodium			10.0	9.3	9		ma/L		94	80 - 120	
Zinc			0 200	0 19	- R		mo/L		99	80 - 120	

ATTACHMENT B

July 2019 – December 2019

Semi Annual Report

And

Data Applicability Report

SEMI ANNUAL REPORT OPERATION AND MAINTENANCE JULY 2019 TO DECEMBER 2019 PFOHL BROTHERS LANDFILL CHEEKTOWAGA, NY

Submitted to:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION 270 MICHIGAN AVENUE BUFFALO, NEW YORK 14203

Prepared by:

URS CORPORATION 257 WEST GENESEE STREET, SUITE 400 BUFFALO, NEW YORK 14202-2657

Prepared for:

TOWN OF CHEEKTOWAGA ENGINEERING DEPARTMENT 275 ALEXANDER AVE CHEEKTOWAGA, NEW YORK 14211

> APRIL 2020

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TABLES

Table 3-1	Approved Revision of Table 3.2 from the O&M Plan
Table 3-2	Groundwater Sample Analytical Results

FIGURES

Figure 1-1Site Location MapFigure 3-1Monitoring Locations

APPENDICES

- Appendix A Example Daily Inspection Sheets
- Appendix B Monthly Flow Summaries (July 2019 December 2019)
- Appendix C Hydraulic Monitoring Tables
- Appendix D Groundwater Purge and Sample Collection Logs
- Appendix E Groundwater Trend Analysis
- Appendix F BSA Permit 19-04-CH016
- Appendix G Discharge Report Summary Tables
- Appendix H Monitoring Well Inspection Logs

1.0 INTRODUCTION

1.1 Background

The Pfohl Brothers Landfill is located on Aero Drive in the Town of Cheektowaga, New York (Figure 1-1). The site is listed as site No. 915043 on the New York State Department of Environmental Conservation's (NYSDEC's) Registry of Inactive Hazardous Waste Disposal Sites. A Consent Order between NYSDEC and potentially responsible parties (PRPs) for closure of the site was signed in 2001 and remedial construction commenced in 2001. The remedy included consolidation of waste material, capping of the waste disposal and consolidation areas, and encircling the landfill areas with a groundwater collection system to prevent off-site migration. The remedial action was completed in 2002.

Responsibility for implementing the remedy was divided between a "steering committee" of industrial PRPs and the Town of Cheektowaga. The steering committee responsibilities lay generally with the capital construction activities of the remedy including waste consolidation, cap and drainage system installation, etc. The Town of Cheektowaga, which was named as a PRP for disposal of municipal waste at the Pfohl Brothers Landfill when it was operating, is performing the operation and maintenance (O&M) activities at the landfill, pursuant to a settlement agreement between the Town and the steering committee.

1.2 **Operation and Maintenance Activities**

While construction of the remedy was substantially complete by late 2002, the final O&M manual was not approved by the NYSDEC until March 10, 2006. However, the Town of Cheektowaga and its consultant (URS Corporation – New York) assumed most of the operational responsibilities since 2002. This includes a variety of general maintenance activities as outlined in Section 2 and sampling and other monitoring activities outlined in Section 3.

Beginning in 2004, the Town and URS assumed all of the O&M activities described in the O&M plan. This is the semi-annual report as called for by Section 3.6 of the O&M plan.

2.0 GENERAL MAINTENANCE ACTIVITIES

Since completion of construction activities in 2002, personnel from the Town of Cheektowaga Engineering Department have performed general activities to ensure the physical operation of the landfill as intended by the design. The various O&M activities performed by the Town from July 2019 through December 2019 included the following actions:

- Recorded the amount of groundwater discharged through the collection system daily. The flow rate displayed by each wet well pump at the time of daily inspection and the total cumulative volume of flow was recorded for each wet well on daily inspection sheets. A few examples of the daily inspection sheet for this reporting period are attached in Appendix A.
- Summarized total cumulative effluent flow rates and volumes on a monthly basis. The monthly totals for the period, including graphs showing daily total discharge (gallons) as a function of calendar day, are presented in Appendix B.
- Shut down the wet well pumps during wet weather flow conditions as necessary at various times throughout the year. Such actions were only taken upon request of the Buffalo Sewer Authority (BSA) during heavy storm events in order to reduce the hydraulic load on the BSA treatment system during such events. Shutdown events are recorded and included with the monthly flow data in Appendix B as previously requested by NYSDEC.
- Plowed snow to access the Control Building when necessary.
- Cleaned/replaced check valves as necessary at all six (6) wet wells (e.g., replaced a plugged check valve in wet well #5) and replaced surge suppressors and fuses as needed for pump station instrumentation equipment.
- Cleaned upper level equipment and applied corrosion inhibitor fluid.
- Inspected wet wells for excessive corrosion to critical equipment.
- Tabulated annual flow totals and reset totalizer equipment.
- Great Lakes Building Systems replaced a faulty security door sensor and performed a security system check.

- Technicians from GHD, a subcontractor to the town, conducted a supervisory control and data acquisition (SCADA) system integrity test.
- Removed and replaced 18-inch length of steel discharge pipe at pump base in wet well #2.
- Removed abandoned overhead phone lines for safety purposes.
- Purchased and delivered a new air conditioner wall unit for future installation.
- Contractor mowed entire cap and trimmed along perimeter chain link fence.
- Performed bimonthly site/security check, data retrieval, and analysis.

3.0 MONITORING ACTIVITIES

The Town of Cheektowaga retained URS Corporation to perform monitoring activities as outlined in Section 3.1 of the O&M plan. During the period of January 2004 through the present, URS performed groundwater hydraulic monitoring (Section 3.1.1.2 of the O&M plan) and effluent monitoring (Section 3.1.4 of the O&M plan) on a quarterly basis. URS also performed the semi-annual groundwater quality monitoring (Section 3.1.1.3 of the O&M plan) during this period. A summary of the monitoring activities is presented in the following subsections. Hydraulic and groundwater sampling locations are shown on Figure 3-1.

3.1 Groundwater Hydraulic Monitoring

Groundwater and surface water elevations were monitored on a quarterly basis at all locations listed in Table 3.1 of the O&M Plan. The hydraulic monitoring data tables showing groundwater elevations are presented in Appendix C. In Appendix C, Table C-1 lists the measured elevations and Table C-2 provides a comparison of the measured levels in the wells and corresponding manholes/wet wells.

The data presented in Appendix C indicate that groundwater levels outside the collection system were higher than the levels measured in the corresponding wet well or manhole for each measurement date. Therefore, these data demonstrate that the collection system is operating as designed.

3.2 Groundwater Quality Monitoring

This semi-annual round of groundwater sampling was conducted between November 25 and 27, 2019. All overburden and bedrock wells listed in Table 3.2 of the O&M plan were purged and sampled using dedicated/disposable equipment. Figure 3-1 shows the well locations. Low flow sampling techniques were used with the exceptions noted below.

Passive diffusion bags (PDBs) were placed in three monitoring wells with low recharge rates (GW-04S, GW-07S, and GW-07D) on September 19, 2019. The PDBs were removed from the wells during the November 2019 sampling event, poured into the appropriate sample containers for analysis of volatile organic compounds (VOCs). Following removal of the PDBs, the three wells were purged dry. Field water quality parameters (i.e., pH, specific conductivity, temperature,

dissolved oxygen, oxidation reduction potential, and turbidity) were measured during the purging process. The other required analytical parameters (i.e., semivolatile organic compounds [SVOCs] and metals) were collected after water levels recovered (the next day for GW-07D and GW-07S and later the same day for GW-04S).

Purge logs and sampling summary sheets with water quality measurements are provided in Appendix D. Following collection, the samples were packed with ice in coolers and transported under chain-of-custody (CoC) control to Eurofins TestAmerica Laboratories of Amherst, New York.

The groundwater samples were analyzed for the VOCs, SVOCs, and metals listed in Table 3.2 of the O&M plan as revised in accordance with Table 3-6 in the Semi Annual Report dated September 2007 (January through June 2007) and as approved by the December 6, 2006 and November 29, 2007 correspondence from the NYSDEC authorizing a reduction in the parameters list (included as Table 3-1 in this report).

Laboratory Report

The groundwater analytical data package was prepared by Eurofins TestAmerica in accordance with NYSDEC Category A deliverable requirements. A limited data review was performed by a URS chemist in accordance with the following United States Environmental Protection Agency (USEPA) guidelines:

- Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846 Method 8260B & 8260C, SOP HW-24, Rev. 4, October 2014;
- Validating Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846 Method 8270D, SOP HW-22, Rev. 5, December 2010;
- ICP-AES Data Validation, SOP HW-3a, Rev. 1, September 2016; and
- Mercury and Cyanide Data Validation, SOP HW-3c, Rev. 1, September 2016.

Qualifications applied to the data include "J/UJ" (estimated concentration/estimated quantitation limit), "J+" (estimated concentration with possible high bias), and "U" (not detected).

URS prepared a Data Applicability Report (DAR) following the guidelines provided in NYSDEC Division of Environmental Remediation (DER-10) *Technical Guidance for Site Investigation and Remediation, Appendix 2B,* dated May 2010. The DAR dated February 2020 is submitted separately from this report.

Results

Table 3-2 of this report presents the groundwater sample results compared with NYSDEC Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations Class GA water quality standards.

No VOCs were detected at concentrations above the Class GA water quality standards at any location. Only one SVOC, 1,4-dichlorobenzene, was detected at a concentration above its Class GA water quality standard. It was present in well GW-03D at a concentration of 3.6 micrograms per liter (μ g/L), slightly exceeding its water quality standard of 3.0 μ g/L

The metals iron, magnesium, manganese, and sodium exceeded Class GA standards in most site wells. The sample from well GW-07D also had concentrations of chromium, cadmium, lead, and nickel exceeding the respective Class GA standards.

Comparison to Historical Results

Organics

Results are consistent with historical results; there have been very few and infrequent detections of VOCs/SVOCs.

Metals

No significant changes in metals concentrations were observed when compared to previous analytical results. The concentrations of iron, magnesium, manganese, and sodium in most site wells were similar to the concentrations found during previous sampling events.

Sodium concentrations were generally elevated in bedrock wells (GW-01D, GW-03D, GW-08D, and GW-26D) and shallow wells adjacent to roads (GW-01S). The sodium concentrations were also elevated in GW-03S and GW-08SR. The higher sodium concentrations in

the bedrock wells may be attributed to the bedrock composition and the elevated concentrations in the shallow wells may be the result of seasonal road de-icing activities.

Trend Analysis

Organics

There is an insufficient number and frequency of detections to define trends.

Metals

A trend analysis of groundwater parameters that routinely exceed Class GA groundwater standards was performed and is presented graphically in Figures E-1 through E-19 of Appendix E. A review of the trend analysis indicated that no significant changes or trends in concentrations of any of the parameters exceeding groundwater standards have occurred over the semi-annual sampling events. The Mann-Kendall Nonparameteric Test for Trend was used to determine the trends summarized below ("--" indicates no discernable trend):

Figure Monitoring Well Parameters Routinely Exceeding Groundwater Standards						
	wen	Iron	Magnesium	Manganese	Sodium	
E-1	GW-01D			Downward	Upward	
E-2	GW-01S	Downward		Upward	Downward	
E-3	GW-03D	Downward	Downward	Downward	Downward	
E-4	GW-03S	Downward	Upward	Downward	Upward	
E-5	GW-04D	Downward	Upward	Downward	Upward	
E-6	GW-04S		Upward	Downward		
E-7	GW-07D		Upward			
E-8	GW-07S	Downward	Upward	Downward	Upward	
E-9	GW-08D	Downward	Downward	Downward		
E-10	GW-08SR		Upward			
E-11	GW-26D	Downward	Downward	Downward	Upward	
E-12	GW-28S	Downward	Downward	Downward	Downward	
E-13	GW-29S				Downward	
		Downward	Downward	Downward	Downward	
E-14	GW-30S	(with seasonal	(with seasonal	(with seasonal	(with seasonal	
		variation)	variation)	variation)	variation)	
E-15	GW-31S	Upward	Downward	Downward	Downward	

Figure	Monitoring Well	Parameters F	Routinely Exceed T	ling Groundwater 'rend	Standards and
	wen	Iron	Magnesium	Manganese	Sodium
E-16	GW-328	Downward	Downward	Upward	Downward (with seasonal variation)
E-17	GW-33S	Downward	Downward	Downward	Downward
E-18	GW-34S	Downward	Downward	Seasonal Variation	Downward
E-19	GW-358	Downward	Downward	Downward	Downward

3.3 Groundwater Discharge Monitoring

URS completed two quarterly sampling events (September 2019 and December 2019) of the groundwater collection system discharge since the previous semi-annual report. The sampling was performed in accordance with the requirements of Discharge Permit No. 19-04-CH016 between the Buffalo Sewer Authority (BSA) and the Town of Cheektowaga. The permit requires quarterly sampling and analysis of metals (barium, cadmium, chromium, copper, lead, nickel, and zinc) and total suspended solids. A copy of the permit, which shows the monitoring parameters and associated discharge limits, is included as Appendix F.

The September 2019 event included the analysis of additional parameters required once per permit period (i.e., once every three years). The additional parameters included VOCs by Method 624.1, SVOCs by Method 625.1, pesticides and polychlorinated biphenyls (PCBs) by Method 608.3 and Total Mercury by Method 245.1. All additional parameters were non-detect except for the VOCs ethylbenzene and toluene, which were detected in the effluent at 0.56 μ g/L and 1.2 μ g/L respectively.

During the sampling events in September 2019 and December 2019, each regulated parameter was below the limits set by the permits. Copies of the data summary tables that were included with the monitoring reports submitted to the BSA are included as Appendix G.

3.4 Monitoring Well Inspections

During the November 2019 groundwater sampling event, a well inspection was performed. All wells appeared to be in good condition with the exception of previously existing minor damage to the risers on GW-07D, GW-01S, and GW-01D. The wells are still functional. The monitoring well inspection logs may be found in Appendix H.

4.0 SUMMARY AND RECOMMENDATIONS

General Maintenance: The Town will continue to maintain mechanical equipment at the landfill on an as-needed basis and operate the groundwater collection and discharge system as designed. The Town will also continue regular inspections, mow the cap once per year, and plow snow to access the Control Building, as necessary.

Groundwater Hydraulic Monitoring: Hydraulic monitoring has been performed on a quarterly basis in conjunction with the discharge monitoring. Water level measurement data demonstrates that the hydraulic gradient is from outside the landfill towards the collection trench, as designed. Continued quarterly monitoring is recommended.

Groundwater Quality Monitoring: Groundwater sample results indicate that only low levels of SVOCs and metals are present. Similar concentrations of most parameters were found during previous sampling events. The next round of groundwater sampling will be conducted in May 2020. Low flow sampling techniques will be used. Passive diffusion bags will be used again for VOC analyses at the three wells (GW-04S, GW-07S, and GW-07D) that go dry when using low flow sampling.

Groundwater Discharge Monitoring: Groundwater discharges remain within permit limits. Continued quarterly monitoring is recommended.

TABLES

TABLE 3-1

APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

GROUNDWATER SAMPLING SUMMARY OPERATION AND MAINTENANCE PLAN PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK

LOCATIONS

GW-1D/1S GW- 3D/3S GW- 4D/4S GW- 7D/7S GW- 8D/8S(R) GW- 26D/35S GW- 28S GW- 28S GW- 29S GW- 30S GW- 31S GW- 31S GW- 32S GW- 33S GW- 34S

FREQUENCY

semi-annually for overburden and bedrock groundwater

PARAMETERS

Field	pH conductivity temperature turbidity
VOCs	Acetone Benzene 1,2-Dichloroethene (total) 1,1,2-Trichloroethane Vinyl chloride
SVOCs	Phenol 1,3-Dichlorobenzene 1,4-Dichlorobenzene

bis(2-Ethylhexyl)phthalate

TABLE 3-1 (continued)

APPROVED REVISION OF TABLE 3.2 FROM THE O&M PLAN

GROUNDWATER SAMPLING SUMMARY OPERATION AND MAINTENANCE PLAN PFOHL BROTHERS LANDFILL SITE, CHEEKTOWAGA, NEW YORK

PARAMETERS (cont'd)

Metals Antimony Arsenic Barium Cadmium Chromium Copper Iron Lead Magnesium Manganese Mercury Nickel Silver Sodium Zinc

Location ID			GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID			GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-	
Date Sampled			11/25/19	11/25/19	11/26/19	11/26/19	11/25/19
Parameter	Units	Criteria*					
Volatile Organic Compounds							
Acetone	UG/L	50					
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3			2.4 J		
1,4-Dichlorobenzene	UG/L	3			3.6 J		
bis(2-Ethylhexyl)phthalate	UG/L	5					
Metals							
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.088	0.20	0.075	0.10	0.097
Cadmium	MG/L	0.005		0.00053 J		0.0012	0.00062 J
Chromium	MG/L	0.05	0.032	0.0015 J		0.0054	0.0032 J
Copper	MG/L	0.2		0.0021 J	0.0016 J	0.0038 J	
Iron	MG/L	0.3	0.55		0.98	0.16	0.11
Lead	MG/L	0.025					
Magnesium	MG/L	35	35.1	22.6	14.4	92.7	
Manganese	MG/L	0.3	0.021	0.95	0.22	0.028	0.020
Nickel	MG/L	0.1	0.0014 J		0.0035 J	0.032	0.0014 J
Sodium	MG/L	20				90.0	89.7
Zinc	MG/L	2	0.016			0.016	0.017

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 and 6/2004 Addenda). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

J - The analyte was positively identified, the quantitation is an estimation. Empty cell - Not Detected.

Location ID			GW-04S	GW-04S	GW-07D	GW-07D	GW-07S
Sample ID			GW-04S	GW-04S	GW-07D	GW-07D	GW-07S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-	
Date Sampled			11/25/19	11/25/19	11/25/19	11/26/19	11/25/19
Parameter	Units	Criteria*					
Volatile Organic Compounds							
Acetone	UG/L	50	5.6 J	NA	4.4 J	NA	4.3 J
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3	NA		NA		NA
1,4-Dichlorobenzene	UG/L	3	NA		NA		NA
bis(2-Ethylhexyl)phthalate	UG/L	5	NA		NA	4.0 J	NA
Metals							
Arsenic	MG/L	0.025	NA		NA		NA
Barium	MG/L	1	NA	0.11	NA	0.11	NA
Cadmium	MG/L	0.005	NA	0.0013	NA	0.0022	NA
Chromium	MG/L	0.05	NA	0.0074	NA	0.57	NA
Copper	MG/L	0.2	NA	0.0054 J	NA	0.054	NA
Iron	MG/L	0.3	NA		NA		NA
Lead	MG/L	0.025	NA		NA		NA
Magnesium	MG/L	35	NA	25.8	NA		NA
Manganese	MG/L	0.3	NA	0.11	NA	0.15	NA
Nickel	MG/L	0.1	NA	0.0058 J	NA	0.25	NA
Sodium	MG/L	20	NA	28.0	NA	76.6	NA
Zinc	MG/L	2	NA	0.014	NA	0.12	NA

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 and 6/2004 Addenda). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

J - The analyte was positively identified, the quantitation is an estimation. Empty cell - Not Detected.

Location ID Sample ID Matrix			GW-07S	GW-08D	GW-08D	GW-08SR	GW-26D
			GW-07S	FD-112619	GW-08D	GW-08SR	GW-26D
			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-	
Date Sampled			11/26/19	11/26/19	11/26/19	11/26/19	11/27/19
Parameter	Units	Criteria*		Field Duplicate (1-1)			
Volatile Organic Compounds							
Acetone	UG/L	50	NA				
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3					
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5					
Metals							
Arsenic	MG/L	0.025					0.0059 J
Barium	MG/L	1	0.40	0.090	0.089	0.13	0.12
Cadmium	MG/L	0.005					
Chromium	MG/L	0.05	0.0013 J	0.011	0.013	0.0013 J	
Copper	MG/L	0.2	0.0020 J	0.0033 J	0.0038 J	0.0020 J	
Iron	MG/L	0.3	0.15	0.22	0.20		
Lead	MG/L	0.025					
Magnesium	MG/L	35	41.7	15.4	15.7	52.4	16.5
Manganese	MG/L	0.3	0.031	0.030	0.030	0.70	0.34
Nickel	MG/L	0.1	0.027	0.0047 J	0.0045 J		0.0025 J
Sodium	MG/L	20	60.4	297			310
Zinc	MG/L	2		0.040	0.045		0.014

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 and 6/2004 Addenda). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

J - The analyte was positively identified, the quantitation is an estimation. Empty cell - Not Detected.

Location ID			GW-28S	GW-29S	GW-30S	GW-31S	GW-32S
Sample ID			GW-28S	GW-29S	GW-30S	GW-31S	GW-32S
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-	
Date Sampled			11/26/19	11/27/19	11/27/19	11/27/19	11/27/19
Parameter	Units	Criteria*					
Volatile Organic Compounds							
Acetone	UG/L	50				4.3 J	
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3					
1,4-Dichlorobenzene	UG/L	3					
bis(2-Ethylhexyl)phthalate	UG/L	5					
Metals							
Arsenic	MG/L	0.025		0.023			
Barium	MG/L	1	0.094	0.17	0.14	0.089	0.049
Cadmium	MG/L	0.005		0.00062 J			0.00054 J
Chromium	MG/L	0.05					
Copper	MG/L	0.2	0.0024 J				
Iron	MG/L	0.3					0.021 J
Lead	MG/L	0.025					
Magnesium	MG/L	35	25.9	54.2	30.8	28.3	24.8
Manganese	MG/L	0.3		0.59	0.90	0.67	0.30
Nickel	MG/L	0.1	0.0021 J			0.0025 J	
Sodium	MG/L	20	12.5	7.0	94.1	3.6	3.6
Zinc	MG/L	2		0.0023 J		0.0043 J	0.0032 J

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 and 6/2004 Addenda). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

J - The analyte was positively identified, the quantitation is an estimation. Empty cell - Not Detected.

Location ID		GW-33S	GW-34S	GW-35S	
Sample ID		GW-33S	GW-34S	GW-35S	
Matrix		Groundwater	Groundwater	Groundwater	
Depth Interval (f	ft)	-	-	-	
Date Sampled		11/27/19	11/26/19	11/27/19	
Parameter	Units	Criteria*			
Volatile Organic Compounds					
Acetone	UG/L	50			
Semivolatile Organic Compounds					
1,3-Dichlorobenzene	UG/L	3			
1,4-Dichlorobenzene	UG/L	3			
bis(2-Ethylhexyl)phthalate	UG/L	5			
Metals					
Arsenic	MG/L	0.025			
Barium	MG/L	1	0.070	0.12	0.091
Cadmium	MG/L	0.005	0.00056 J		
Chromium	MG/L	0.05	0.0015 J	0.0034 J	
Copper	MG/L	0.2		0.0019 J	
Iron	MG/L	0.3	0.024 J	0.025 J	0.026 J
Lead	MG/L	0.025			
Magnesium	MG/L	35		39.6	23.6
Manganese	MG/L	0.3	0.0090	0.035 B	0.16
Nickel	MG/L	0.1		0.0038 J	
Sodium	MG/L	20	3.1	17.1	3.0
Zinc	MG/L	2	0.0028 J		0.0025 J

*Criteria- NYSDEC TOGS (1.1.1), Ambient Water Quality Standards and Guidance Values and Groundwater Effluent Limitations. June 1998 (includes 4/2000 and 6/2004 Addenda). Class GA. * - PCB Criteria based on sum of the aroclors.

Flags assigned during chemistry validation are shown.

Concentration Exceeds Criteria

J - The analyte was positively identified, the quantitation is an estimation. Empty cell - Not Detected.

FIGURES




APPENDIX A

EXAMPLE DAILY INSPECTION SHEETS

J:\Projects\11172700.00000\WORD\DRAFT\Semi Annual Report Jul-Dec19\Semi Annual Report Jul-Dec19 040220.docx

Daily Lo	gsheet	ohl Brothers L	S Landfill Site Town of Cheektowaga						
Date Time	8/1/19		Weather conditions Read by:	Chear -JWW					
WW-3 WW-2	Level of Water from bottom (ft.) 99 0 4.7	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs. 2792 /162					
WW-1 WW-6 WW-4	4.0	0	84256 120588	7593					
WW-5 Flow Tota	<u> </u>	33.2	332226	1763					
Surge Sup	Outside temp T = 72 Current A =	41795=	Set point $SP = 40$						
Motor Con	trol Center 480 Volts 480 Amps 10	volts amps	Which WW was running 1 2 3 456	? AC					
Filter	Checked	Changed							
Comments AC	s and/or Current Conditio	ns 7 Slow	Death						

Daily Lo	gsheet Pt	ohl Brothers	Landfill Site	na /
Date Time	1305	_	Weather conditions _ Read by: _	Cldy Wind
WW-3 WW-2 WW-1 WW-6	Level of Water from bottom (ft.) 49. 4.7 4.7 7.3	Flow gallons / minute () () () () () () () () () () () () ()	Flow Totals gallons 0 231878 1051950	Pump Run Time Hrs. 2792 (62 7658 (7884
WW-4 WW-5	<u>le.9</u> (e.4	0 36.0	205237	8569 2236
Flow Tota	alizer at Meter chambe	er	2727573	
Heat Trac	e Outside temp T = 5 Current A =	6	Set point SP = 40°	
Motor Cor	Amos	volts	Which WW was running?	-
Filter	Checked	_amps Changed	123400	
Comments	s and/or Current Conditi Data	ons		
				β

	Pfo	ohl Brothers	Landfill Site								
Daily Lo	ogsheet		Town of Cheektowaga								
Date Time	12/9/.9		Weather conditions Read by:	-1057 -JWN							
WW-3 WW-2 WW-1 WW-6 WW-4 WW-5 Flow Tot	Level of Water from bottom (ft.) 99.0 4.6 4.6 7.2 6.9 4.4 ralizer at Meter chambe	Flow gallons / minute 6 4/.0 6 0 0 0	Flow Totals gallons /36 /62 3943/6 1869458 650/46 /7172/7 4663424	Pump Run Time Hrs. 2792 733 7728 8095 8774 2534							
Heat Trac	Heat Trace Outside temp T = $\frac{43}{Current A = 1.9}$ Surge Suppressor events $\frac{418072}{CURRENT = 40}$										
Motor Co Filter	ntrol Center Volts 480 Amps 10 Checked	volts amps Changed	Which WW was running 12 3 4 5 6	?							
Comment	Comments and/or Current Conditions										

APPENDIX B

MONTHLY FLOW SUMMARIES JULY 2019 – DECEMBER 2019

Direct Discharge Flow Data

6/30/2019	1311630	12,908	
Tin 11:5 unl other sta	ne; Bpm ess wise Totalizer Reading ted (Gallons)	Daily Total Discharge (Gallons)	Notes
1		9,463	
2	10,66	1,201	04:16 inhibit
3	10,66	4 0	
4	10,66	4 0	
5	10,66	4 0	
6	16,01	5,353	09:44 enable 12:18 inhibit
7	29,75	5 13,736	17:28 enable
8	80,24	50,490	
9	98,07	17,834	
10	130,79	5 32,715	
11	201,81	2 71,016	
12	217,03	4 15,221	
13	229,26	0 12,225	
14	240,18	010,920	
15	252,07	1 11,890	
16	263,47	7 11,406	
17	271,59	3 8,116	
18	283,24	0 11,646	
19	290,48	4 7,244	-
20	302,74	1	
21	314,38	8 11,646	
22	323,85	4 9,465	
23	333,64	8 9,793	
24	343,96	6 10,317	
25	353,83	6 9,870	
26	363,44	8 9,612	
27	454,88	5 91,436	
28	503,12	6 48,241	
29	512,58	3 9,457	
30	518,80	3 6,219	
31	528,67	0 9867	
	528,67	0 528,656	



July 2019

Direct Discharge Flow Data

	9,867	528670	7/31/2019			
Notes	Daily Total Discharge (Gallons)	Totalizer Reading (Gallons)	Time; 11:58pm unless otherwise stated	Aug-19		
	12,097	540,768		1		
	9,479	550,247		2		
	10,603	560,851		3		
	8,923	569,774		4		
	9,143	578,918		5		
allanning a literature, a stationen and the mediane of the source	8,904	587,822		6		
	4.396	592,219		7		
a a second transmission and the second se	9,133	601.353		8		
	10,375	611.728		9		
n sonti interna stornen sontiti sontiti	9,345	621.074		10		
Mananaran da Waliograman - Adalaman - Adalama	10,107	631,181		11		
An	9.342	640,524		12		
05:56 inhibit 13:01 enable	4.888	645.413		13		
	14,177	659,590		14		
annen (Suvingen - 1951) - Handhideriy (* 1960) anne 199	9,922	669.512		15		
en sinte overen in interested and addressed in all alloways of	8.227	677.740		16		
11:06 inhibit	17.587	695,327		17		
generalised in the second second state of the second second second second second second second second second s	0	695.327		18		
18:51 enable	28.363	723.690		19		
22:57 inhibit	114.324	838.015		20		
12:38 enable	20,057	858,072		21		
4. Contract in the second statement of Children and Arthogen and Arthogen Statements (Statements)	6,567	864,640		22		
generalisti zacida di konte concerna di Antonia manana di Antonia manani di Antonia di Antonia di Antonia di An P	5.085	869,725		23		
n hala da ana ana ang ang ang ang ang ang ang an	7.544	877,270		24		
	15.184	892,455		25		
23:15 inhibit	15.304	907.760		26		
e	0	907.760		27		
11:40 enable	19.732	927.492		28		
	3.182	930.674		29		
afte fait internet of the line of the statement of the statement of the statement of the statement of the state	8.745	939.420		30		
, <u>, , , , , , , , , , , , , , , , , , </u>	14394	953.815		31		
Andrew , Langer C., Ary Manufflore, 1 Manufflore, 1	425 129	425 145		**************************************		



August 2019

Direct Discharge Flow Data

8/31/2019		953815	14,394	
Sep-19	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Notes
1		953,815	0	
2		973,505	19,690	
3		1,061,476	87,971	
4		1,112,453	. 50,976	
5		1,119,326	6,873	
6		1,128,252	8,925	
7		1,125,252	0	
8		1,132,165	3,913	
9		1,160,571	28,405	
10	š.	1,172,393	11,822	
11		1,201,643	29,250	
12		1,201,643	0	5
13		1,201,643	0	
14		1,201,643	0	
15		1,201,643	0	
16		1,201,643	0	
17		1,201,643	0	
18		1,201,643	0	
19		1,340,339	138,695	•
20		1,536,847	196,507	
21		1,600,728	63,881	
22		1,603,757	3,028	
23		1,621,614	17,857	
24		1,628,873	7,258	
25		1,658,387	29,514	
26		1,707,929	49,541	
27		1,824,098	116,169	
28		1,849,461	25,362	
29		1,851,434	1,973	
30		1,874,516	23,081	
31				3
		920,701	920,691	





Direct Discharge Flow Data

	、 I	1071540	00.00.1				
9/30/2019	1	18/4516	23,081				
Oct-19	11me; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Notes			
1		1,909,809	35,292	18:23 inhibit			
2		1,909,809	0				
3		1,909,809	0				
4		1,909,809	0				
5		1,909,809	0				
6		1,909,809	0				
7		1,992,794	82,985	15:12 enable			
8		2,221,848	229,054				
9		2,331,240	109,392				
10		2,340,762	9,522				
11		2,349,144	8,382				
12		2,349,144	0	· · · · · · · · · · · · · · · · · · ·			
13		2,353,087	3,943				
14	L	2,403,271	50,183				
15		2,410,409	7,138				
16		2,429,202	18,793				
17		2,520,495	91,292	r			
18		2,627,683	107,188	· · · · · · · · · · · · · · · · · · ·			
19	-	2,657,099	29,416	· · · · · · · · · · · · · · · · · · ·			
20		2,675,080	17,981	· · · · · · · · · · · · · · · · · · ·			
21		2,686,702	11,622	· · · · · · · · · · · · · · · · · · ·			
22		2,707,523	20,820				
23		2,788,427	80,903	03:11 inhibit / 13:02 enable			
24		2,871,103	82,676	20:24 inhibit			
25		2,871,103	0	·			
26		2,871,103	0				
27		2,871,103	Ó	· · · · · · · · · · · · · · · · · · ·			
28		2,871,103	Q				
29		2,871,103	0				
30		2,871,103	0				
31		2,922,552	51449	07:52 enable / 13:28 inhibit			
		1,048,036	1,048,031				

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30

October

Direct Discharge Flow Data

10/31/201	9	2922552	51,449				
Nov-19	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Galions)	Notes			
1		2,522,552	0				
2		3,048,601	126,049				
3		3,274,572	225,970	10:27 enable			
4		3,364,346	89,774				
5		3,367,726	3,379	09:40 inhibit			
6		3,367,726	0				
7		3,367,726	- 0				
8		3,367,726	0				
9		3,367,726	0				
10		3,367,726	0				
11		3,367,726	0				
12		3,367,726	0				
13		3,367,726	0				
14		3,367,726	0				
15		3,367,726	0				
16		3,367,726	0				
17		3,367,726	0				
18		3,367,726	0				
19		3,367,726	0				
20		3,367,726	0				
21		3,506,746	139,020	08:38 enable			
22		3,700,283	193,537				
23		3,785,538	85,255				
24		3,870,601	85,063				
25		3,954,519	83,917				
26		4,037,764	83,245				
27		4,175,827	138,062	22:40 inhibit			
28		4,175,827	0				
29		4,270,251	94,424	07:48 enable			
30 -		4,309,523	39,272				
31							
		1,386,971	1,386,967				



November 2019

Direct Discharge Flow Data

11/30/2019		4309523	39,272	
Dec-19	Time; 11:58pm unless otherwise stated	Totalizer Reading (Gallons)	Daily Total Discharge (Gallons)	Notes
1		4,320,771	11,247	10:50 inhibit
2		4,321,181	410	23:44 enable
3		4,447,159	125,978	
4		4,484,773	37,614	
5		4,497,895	13,122	
6		4,525,876	27,981	
7		4,632,895	107,019	
. 8	2	4,647,146	14,251	
9		4,665,299	18,153	11:44 inhibit
10		4,758,496	93,196	07:56 enable
11		4,818,110	59,614	
12		4,833,393	15,283	
13		4,856,710	23,316	
14 .		4,859,320	2,610	09:50 inhibit
15		4,944,587	85,267	09:19 enable
16		5,019,960	75,373	
17		5,040,358	20,398	
18		5,056,091	15,733	
19		5,075,909	20,398	
20		5,176,399	100,490	
21		5,194,705	18,306	
22		5,210,646	15,941	a a a a a a a a a a a a a a a a a a a
23		5,225,750	15,104	
24		5,248,390	22,639	
25		5,341,669	93,279	
26		5,357,799	16,129	an a
27		5,372,532	14,733	
28		5,388,840	16,308	
29		5,432,239	43,399	12:48 inhibit
30		5,450,915	18,675	20:36 enable
31		5,570,815	119900	
		1,261,292	1,261,866	



December 2019

APPENDIX C

HYDRAULIC MONITORING TABLES

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Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-01D	1073088.634	1117968.213	694.41	NM	696.12	D	1						
MNW								9/19/2019 1110	3.48	692.64	0.00	692.64	
MNW								11/25/2019 1251	2.80	693.32	0.00	693.32	
MNW								12/19/2019 1029	2.77	693.35	0.00	693.35	
GW-01S	1073087.779	1117961.500	694.53	NM	696.19	S	1						
MNW								9/19/2019 1109	4.92	691.27	0.00	691.27	
MNW								11/25/2019 1250	3.70	692.49	0.00	692.49	
MNW								12/19/2019 1025	3.56	692.63	0.00	692.63	
GW-03D	1073819.106	1114602.426	692.35	NM	693.88	D	1						
MNW								9/19/2019 0925	1.95	691.93	0.00	691.93	
MNW								11/25/2019 0904	1.68	692.20	0.00	692.20	
MNW								12/19/2019 0908	1.59	692.29	0.00	692.29	
GW-03S	1073812.622	1114605.762	692.61	NM	693.80	S	1						
MNW								9/19/2019 0924	12.30	681.50	0.00	681.50	
MNW								11/25/2019 0903	2.33	691.47	0.00	691.47	
MNW								12/19/2019 0903	2.70	691.10	0.00	691.10	
GW-04D	1072289.432	1114685.625	690.89	NM	692.75	D	1						
MNW								9/19/2019 1121	12.94	679.81	0.00	679.81	
MNW								11/25/2019 1532	11.91	680.84	0.00	680.84	
MNW								12/19/2019 1043	12.49	680.26	0.00	680.26	
GW-04S	1072284.456	1114685.127	690.76	NM	692.72	S	1						
MNW	,							9/19/2019 1122	4.89	687.83	0.00	687.83	
MNW	,							11/25/2019 1531	4.08	688.64	0.00	688.64	
MNW								12/19/2019 1042	4.09	688.63	0.00	688.63	

NM - No Measurement

Filter = ([tblGWD].[LOGDATE] Between #7/1/2019# And #12/31/2019#)

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.



MNW

SG

Manhole Monitoring Point Monitoring Well Staff Gauge

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-07D	1071242.458	1117669.925	697.15	NM	699.94	D	1						
MNW								9/19/2019 1042	47.07	652.87	0.00	652.87	
MNW								11/25/2019 1016	42.23	657.71	0.00	657.71	
MNW								12/19/2019 1017	57.42	642.52	0.00	642.52	
GW-07S	1071238.157	1117666.265	697.47	NM	699.51	S	1						
MNW								9/19/2019 1043	6.11	693.40	0.00	693.40	
MNW								11/25/2019 1016	4.62	694.89	0.00	694.89	
MNW								12/19/2019 1019	4.29	695.22	0.00	695.22	
GW-08D	1073713.617	1116795.328	695.28	NM	697.79	D	1						
MNW								9/19/2019 0937	5.94	691.85	0.00	691.85	
MNW								11/25/2019 0912	5.67	692.12	0.00	692.12	
MNW								12/19/2019 0918	5.56	692.23	0.00	692.23	
GW-08SR	1073714.172	1116786.343	695.08	NM	697.50	S	1						
MNW								9/19/2019 0935	5.28	692.22	0.00	692.22	
MNW								11/25/2019 0911	5.14	692.36	0.00	692.36	
MNW								12/19/2019 0918	5.13	692.37	0.00	692.37	
GW-26D	1071698.573	1115997.470	696.01	NM	698.50	D	1						
MNW								9/19/2019 1029	6.78	691.72	0.00	691.72	
MNW								11/25/2019 0953	6.50	692.00	0.00	692.00	
MNW								12/19/2019 0952	6.42	692.08	0.00	692.08	
GW-28S	1073129.479	1117648.927	698.60	NM	700.95	S	1						
MNW	,							9/19/2019 0957	9.95	691.00	0.00	691.00	
MNW	,							11/25/2019 0918	8.41	692.54	0.00	692.54	
MNW								12/19/2019 0925	8.36	692.59	0.00	692.59	

NM - No Measurement

Filter = ([tblGWD].[LOGDATE] Between #7/1/2019# And #12/31/2019#)

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type:

MNW

MH

SG

Manhole Monitoring Point Monitoring Well Staff Gauge

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Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-29S	1072552.638	1117761.993	697.50	NM	699.63	S	1						
MNW	,							9/19/2019 1014	8.97	690.66	0.00	690.66	
MNW	r							11/25/2019 0941	6.59	693.04	0.00	693.04	
MNW	1							12/19/2019 0942	6.93	692.70	0.00	692.70	
GW-30S	1072096.109	1117743.563	693.67	NM	696.58	S	1						
MNW	,							9/19/2019 1018	7.82	688.76	0.00	688.76	
MNW	r							11/25/2019 0944	7.67	688.91	0.00	688.91	
MNW	1							12/19/2019 0947	7.73	688.85	0.00	688.85	
GW-31S	1071786.280	1117191.441	695.84	NM	698.62	S	1						
MNW	,							9/19/2019 1022	5.79	692.83	0.00	692.83	
MNW	1							11/25/2019 0947	6.00	692.62	0.00	692.62	
MNW	1							12/19/2019 0951	2.51	696.11	0.00	696.11	
GW-32S	1071613.793	1116364.200	696.19	NM	698.37	S	1						
MNW	,							9/19/2019 1026	5.12	693.25	0.00	693.25	
MNW	1							11/25/2019 0949	2.45	695.92	0.00	695.92	
MNW	1							12/19/2019 0954	2.55	695.82	0.00	695.82	
GW-33S	1072165.625	1115561.866	695.94	NM	698.24	S	1						
MNW	,							9/19/2019 1034	5.05	693.19	0.00	693.19	
MNW	r							11/25/2019 0957	3.77	694.47	0.00	694.47	
MNW	1							12/19/2019 1002	4.18	694.06	0.00	694.06	
GW-34S	1072979.205	1114730.200	692.51	NM	694.77	S	1						
MNW	,							9/19/2019 0913	4.05	690.72	0.00	690.72	
MNW	1							11/25/2019 0930	2.61	692.16	0.00	692.16	
MNW	r							12/19/2019 0850	2.80	691.97	0.00	691.97	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

Type: Manhole Monitoring Point MNW Monitoring Well Staff Gauge

MH

SG

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
GW-35S	1071701.925	1115985.585	696.19	NM	697.39	S	1						
MNW	/							9/19/2019 1030	5.52	691.87	0.00	691.87	
MNW	/							11/25/2019 0952	3.09	694.30	0.00	694.30	
MNW	/							12/19/2019 0958	2.90	694.49	0.00	694.49	
MH-01	1073806.665	1114810.501	698.62	NM	698.62	NA	1						
MH	1							9/19/2019 0919	9.25	689.37	0.00	689.37	
MH	1							11/25/2019 0857	10.19	688.43	0.00	688.43	
MF	1							12/19/2019 0857	9.99	688.63	0.00	688.63	
MH-03	1073736.789	1115259.334	699.40	NM	699.40	NA	1						
MH	1							9/19/2019 0929	10.14	689.26	0.00	689.26	
MH	1							11/25/2019 0907	11.07	688.33	0.00	688.33	
MF	1							12/19/2019 0912	11.18	688.22	0.00	688.22	
MH-07	1073838.229	1116243.757	696.82	NM	696.82	NA	1						
MH	1							9/19/2019 0931	8.37	688.45	0.00	688.45	
MH	1							11/25/2019 0909	9.30	687.52	0.00	687.52	
MF	1							12/19/2019 0914	9.08	687.74	0.00	687.74	
MH-10	1073540.729	1117381.524	703.01	NM	703.01	NA	1						
MH	1							9/19/2019 0942	14.42	688.59	0.00	688.59	
MH	1							11/25/2019 0916	14.44	688.57	0.00	688.57	
MH	1							12/19/2019 0921	15.05	687.96	0.00	687.96	
MH-15	1072531.567	1117761.125	699.02	NM	699.02	NA	1						
MH	4							9/19/2019 1015	12.21	686.81	0.00	686.81	
MH	1	1					1	11/25/2019 0940	13.13	685.89	0.00	685.89	
MH	1							12/19/2019 0941	14.74	684.28	0.00	684.28	

NM - No Measurement

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Type: Manhole Monitoring Point Monitoring Well Staff Gauge

MH

SG

MNW

Location ID Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
MH-16	1072133.714	1117748.238	698.57	NM	698.57	NA	1						
М	н							9/19/2019 1017	11.80	686.77	0.00	686.77	
М	Н							11/25/2019 0943	12.71	685.86	0.00	685.86	
М	Н							12/19/2019 0945	14.50	684.07	0.00	684.07	
MH-17	1071813.137	1117180.019	702.16	NM	702.16	NA	1						
м	н							9/19/2019 1021	15.41	686.75	0.00	686.75	
М	Н							11/25/2019 0946	16.34	685.82	0.00	685.82	
М	Н							12/19/2019 0950	18.10	684.06	0.00	684.06	
MH-20	1071756.395	1115997.024	706.20	NM	706.20	NA	1						
м	н							9/19/2019 1028	19.38	686.82	0.00	686.82	
М	Н							11/25/2019 0951	19.72	686.48	0.00	686.48	
М	Н							12/19/2019 0957	19.79	686.41	0.00	686.41	
MH-22	1072158.023	1115589.309	698.05	NM	698.05	NA	1						
м	н							9/19/2019 1033	8.62	689.43	0.00	689.43	
М	Н							11/25/2019 0955	8.97	689.08	0.00	689.08	
М	Н							12/19/2019 1002	8.00	690.05	0.00	690.05	
MH-25	1072483.928	1114820.313	698.17	NM	698.17	NA	1						
м	н							9/19/2019 0905	8.76	689.41	0.00	689.41	
М	Н							11/25/2019 0849	9.80	688.37	0.00	688.37	
М	Н							12/19/2019 0840	9.59	688.58	0.00	688.58	
SG-01	1073882.887	1114813.101	NM	NM	690.00	NA	1			İ			
s	G							9/19/2019 0920	-0.70	690.70	0.00	690.70	
s	3							11/25/2019 0859	-0.78	690.78	0.00	690.78	
S	G							12/19/2019 0858	-0.87	690.87	0.00	690.87	

NM - No Measurement

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Manhole Monitoring Point Monitoring Well Staff Gauge

Type: MH MNW

SG

Location Type	ID /	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
SG-02		1073738.27	1116805.85	NM	NM	690.00	NA	1						
	SG								9/19/2019 0938	-3.10	693.10	0.00	693.10	
	SG								11/25/2019 0913	-3.28	693.28	0.00	693.28	
	SG								12/19/2019 0919	-3.44	693.44	0.00	693.44	
WW-01		1073676.903	1115710.476	NM	NM	684.02	NA	1						
	мн								9/19/2019 0730	-5.30	689.32	0.00	689.32	
	MH								11/25/2019 0730	-4.10	688.12	0.00	688.12	
	MH								12/19/2019 0745	-4.40	688.42	0.00	688.42	
WW-02		1073684.724	1116792.311	NM	NM	684.18	NA	1						
	мн								9/19/2019 0730	-4.70	688.88	0.00	688.88	
	MH								11/25/2019 0730	-4.70	688.88	0.00	688.88	
	MH								12/19/2019 0745	-4.00	688.18	0.00	688.18	
WW-03		1073140.339	1117618.499	NM	NM	683.80	NA	1						
	мн								9/19/2019 0730	-4.87	688.67	0.00	688.67	
	MH								11/25/2019 0730	-4.97	688.77	0.00	688.77	
	MH								12/19/2019 0745	-4.86	688.66	0.00	688.66	
WW-04		1072057.563	1117610.508	NM	NM	676.62	NA	1						
	мн								9/19/2019 0730	-10.0	686.62	0.00	686.62	
	MH								11/25/2019 0730	-8.90	685.52	0.00	685.52	
	MH								12/19/2019 0745	-6.90	683.52	0.00	683.52	
WW-05		1071661.368	1116370.876	NM	NM	676.14	NA	1						
	мн								9/19/2019 0730	-10.5	686.64	0.00	686.64	
	MH							1	11/25/2019 0730	-9.30	685.44	0.00	685.44	
	ΜН								12/19/2019 0745	-6.50	682.64	0.00	682.64	

NM - No Measurement

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Manhole Monitoring Point Monitoring Well Staff Gauge

Type: MH MNW

SG

Location ID / Type	Northing	Easting	Ground Elevation (ft)	Casing Elevation (ft)	Meas.point (Riser)Elev.(ft)	Geol. Zone	Specific Gravity	Date / Time	Depth to Water (ft)	Water Elev. (ft)	Product Thick. (ft)	Corrected Water Elev. (ft)	Remark
WW-06	1072988.420	1114811.518	NM	NM	681.89	NA	1						
MH								9/19/2019 0730	-8.10	689.99	0.00	689.99	
MH								11/25/2019 0730	-7.10	688.99	0.00	688.99	
MH								12/19/2019 0745	-7.40	689.29	0.00	689.29	

NM - No Measurement

The value noted in the column labeled Specific Gravity is an assumed value for free product, if found.

 Type:

 MH
 Manhole Monitoring Point

 MNW
 Monitoring Well

 SG
 Staff Gauge

TABLE C-2 PFOHL BROTHERS LANDFILL SITE **OVERBURDEN HYDRAULIC GRADIENT**

L	WELL PAIR:	WW-1	*	Level	WW-2	GW-8SR	Level	SG-02	Level
		Water Level	Water Level	Difference	Water Level	Water Level	Difference	Water Level	Difference
Γ	DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft)
Γ	9/19/2019	689.32			688.88	692.22	3.34	693.10	4.22
Γ	11/25/2019	688.12			688.88	692.36	3.48	693.28	4.40
	12/19/2019	688.42			688.18	692.37	4.19	693.44	5.26
Γ	WELL PAIR:	WW-3	GW-28S	Level	WW-4	*	Level		
L		Water Level	Water Level	Difference	Water Level	Water Level	Difference		
Γ	DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)		
Γ	9/19/2019	688.67	691.00	2.33	686.62				
Γ	11/25/2019	688.77	692.54	3.77	685.52				
Γ	12/19/2019	688.66	692.59	3.93	683.52				
					-			•	
Γ	WELL PAIR:	WW-5	GW-32S	Level	WW-6	GW-34S	Level		
L		Water Level	Water Level	Difference	Water Level	Water Level	Difference		
Γ	DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)		
Γ	9/19/2019	686.64	693.25	6.61	689.99	690.72	0.73		
Γ	11/25/2019	685.44	695.92	10.48	688.99	692.16	3.17		
Γ	12/19/2019	682.64	695.82	13.18	689.29	691.97	2.68		
		-			-			•	
Г	WELL PAIR:	MH-1	SG-1	Level	MH-15	GW-29S	Level		
ſ	WELL PAIR:	MH-1 Water Level	SG-1 Water Level	Level Difference	MH-15 Water Level	GW-29S Water Level	Level Difference		
	WELL PAIR: DATE	MH-1 Water Level (ft amsl)	SG-1 Water Level (ft amsl)	Level Difference (ft)	MH-15 Water Level (ft amsl)	GW-29S Water Level (ft amsl)	Level Difference (ft)		
-	WELL PAIR: DATE 9/19/2019	MH-1 Water Level (ft amsl) 689.37	SG-1 Water Level (ft amsl) 690.70	Level Difference (ft) 1.33	MH-15 Water Level (ft amsl) 686.81	GW-29S Water Level (ft amsl) 690.66	Level Difference (ft) 3.85		
	WELL PAIR: DATE 9/19/2019 11/25/2019	MH-1 Water Level (ft amsl) 689.37 688.43	SG-1 Water Level (ft amsl) 690.70 690.78	Level Difference (ft) 1.33 2.35	MH-15 Water Level (ft amsl) 686.81 685.89	GW-29S Water Level (ft amsl) 690.66 693.04	Level Difference (ft) 3.85 7.15		
-	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019	MH-1 Water Level (ft amsl) 689.37 688.43 688.63	SG-1 Water Level (ft amsl) 690.70 690.78 690.87	Level Difference (ft) 1.33 2.35 2.24	MH-15 Water Level (ft amsl) 686.81 685.89 684.28	GW-29S Water Level (ft amsl) 690.66 693.04 692.70	Level Difference (ft) 3.85 7.15 8.42		
-	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019	MH-1 Water Level (ft amsl) 689.37 688.43 688.63	SG-1 Water Level (ft amsl) 690.70 690.78 690.87	Level Difference (ft) 1.33 2.35 2.24	MH-15 Water Level (ft amsl) 686.81 685.89 684.28	GW-29S Water Level (ft amsl) 690.66 693.04 692.70	Level Difference (ft) 3.85 7.15 8.42		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR:	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S	Level Difference (ft) 1.33 2.35 2.24 Level	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S	Level Difference (ft) 3.85 7.15 8.42 Level		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR:	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level	Level Difference (ft) 1.33 2.35 2.24 Level Difference	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level	Level Difference (ft) 3.85 7.15 8.42 Level Difference		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level (ft amsl)	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level (ft amsl)	Level Difference (ft) 1.33 2.35 2.24 Level Difference (ft)	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level (ft amsl)	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level (ft amsl)	Level Difference (ft) 3.85 7.15 8.42 Level Difference (ft)		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE 9/19/2019	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level (ft amsl) 686.77	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level (ft amsl) 688.76	Level Difference (ft) 1.33 2.35 2.24 Level Difference (ft) 1.99	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level (ft amsl) 686.75	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level (ft amsl) 692.83	Level Difference (ft) 3.85 7.15 8.42 Level Difference (ft) 6.08		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE 9/19/2019 11/25/2019	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level (ft amsl) 686.77 685.86	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level (ft amsl) 688.76 688.91	Level Difference (ft) 1.33 2.35 2.24 Level Difference (ft) 1.99 3.05	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level (ft amsl) 686.75 685.82	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level (ft amsl) 692.83 692.62	Level Difference (ft) 3.85 7.15 8.42 Level Difference (ft) 6.08 6.80		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level (ft amsl) 686.77 685.86 684.07	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level (ft amsl) 688.76 688.91 688.85	Level Difference (ft) 1.33 2.35 2.24 Level Difference (ft) 1.99 3.05 4.78	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level (ft amsl) 686.75 685.82 684.06	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level (ft amsl) 692.83 692.62 696.11	Level Difference (ft) 3.85 7.15 8.42 Level Difference (ft) 6.08 6.80 12.05		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level (ft amsl) 686.77 685.86 684.07	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level (ft amsl) 688.76 688.91 688.85	Level Difference (ft) 1.33 2.35 2.24 Level Difference (ft) 1.99 3.05 4.78	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level (ft amsl) 686.75 685.82 684.06	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level (ft amsl) 692.83 692.62 696.11	Level Difference (ft) 3.85 7.15 8.42 Level Difference (ft) 6.08 6.80 12.05		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 12/19/2019 WELL PAIR:	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level (ft amsl) 686.77 685.86 684.07 MH-20	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level (ft amsl) 688.76 688.91 688.85 GW-35S	Level Difference (ft) 1.33 2.35 2.24 Level Difference (ft) 1.99 3.05 4.78 Level	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level (ft amsl) 686.75 685.82 684.06 MH-22	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level (ft amsl) 692.83 692.62 696.11 GW-33S	Level Difference (ft) 3.85 7.15 8.42 Level Difference (ft) 6.08 6.80 12.05 Level		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 12/19/2019 WELL PAIR:	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level (ft amsl) 686.77 685.86 684.07 MH-20 Water Level	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level (ft amsl) 688.76 688.91 688.85 GW-35S Water Level	Level (ft) 1.33 2.35 2.24 Level Difference (ft) 1.99 3.05 4.78 Level Difference	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level (ft amsl) 686.75 685.82 684.06 MH-22 Water Level	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level (ft amsl) 692.83 692.62 696.11 GW-33S Water Level	Level Difference (ft) 3.85 7.15 8.42 Level Difference (ft) 6.08 6.80 12.05 Level Difference		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE DATE	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level (ft amsl) 686.77 685.86 684.07 MH-20 Water Level (ft amsl)	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level (ft amsl) 688.76 688.91 688.85 GW-35S Water Level (ft amsl)	Level (ft) 1.33 2.35 2.24 Level Difference (ft) 1.99 3.05 4.78 Level Difference (ft)	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level (ft amsl) 686.75 685.82 684.06 MH-22 Water Level (ft amsl)	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level (ft amsl) 692.83 692.62 696.11 GW-33S Water Level (ft amsl)	Level Difference (ft) 3.85 7.15 8.42 Level Difference (ft) 6.08 6.80 12.05 Level Difference (ft)		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE 9/19/2019 12/19/2019 WELL PAIR: DATE 9/19/2019	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level (ft amsl) 686.77 685.86 684.07 MH-20 Water Level (ft amsl) 686.82	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level (ft amsl) 688.76 688.91 688.85 GW-35S Water Level (ft amsl) 691.87	Level (ft) 1.33 2.35 2.24 Level Difference (ft) 1.99 3.05 4.78 Level Difference (ft) 5.05	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level (ft amsl) 686.75 685.82 684.06 MH-22 Water Level (ft amsl) 689.43	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level (ft amsl) 692.83 692.62 696.11 GW-33S Water Level (ft amsl) 693.19	Level Difference (ft) 3.85 7.15 8.42 Level Difference (ft) 6.08 6.80 12.05 Level Difference (ft) 3.76		
	WELL PAIR: DATE 9/19/2019 11/25/2019 12/19/2019 WELL PAIR: DATE 9/19/2019 12/19/2019 WELL PAIR: DATE 9/19/2019 11/25/2019 11/25/2019	MH-1 Water Level (ft amsl) 689.37 688.43 688.63 MH-16 Water Level (ft amsl) 686.77 685.86 684.07 MH-20 Water Level (ft amsl) 686.82 686.48	SG-1 Water Level (ft amsl) 690.70 690.78 690.87 GW-30S Water Level (ft amsl) 688.76 688.85 GW-35S Water Level (ft amsl) 691.87 694.30	Level (ft) 1.33 2.35 2.24 Level Difference (ft) 1.99 3.05 4.78 Level Difference (ft) 5.05 7.82	MH-15 Water Level (ft amsl) 686.81 685.89 684.28 MH-17 Water Level (ft amsl) 686.75 685.82 684.06 MH-22 Water Level (ft amsl) 689.43 689.08	GW-29S Water Level (ft amsl) 690.66 693.04 692.70 GW-31S Water Level (ft amsl) 692.83 692.62 696.11 GW-33S Water Level (ft amsl) 693.19 693.19 694.47	Level Difference (ft) 3.85 7.15 8.42 Level Difference (ft) 6.08 6.80 12.05 Level Difference (ft) 3.76 5.39		

Notes:

* = No corresponding monitoring well. NA = Not applicable

APPENDIX D

GROUNDWATER PURGE AND SAMPLE COLLECTION LOGS

Project:	60411174			Site:	Pfohl B	Brothers	Well I.D.:	GW-01S
Date:	11/25/2019	Sampling F	Personnel:	Rob Murp	ohy, Kevin M	cGovern	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/S	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	3.70'	Depth to Well Bottom:	14.94'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	6.9		Estimated Purge Volume (liters): _	8.0
Sample ID:		GW-01S		Sample Time:	13	:40	QA/QC:	None
Sample Othe	Parameters:	Riser pipe is bulg	nd TAL Meta ed inwards,	ais could not remov	e stainless s	steel bailer fro	m within well, sa	mpled around it.

PURGE PARAMETERS

ТІМЕ	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:00	7.37	11.51	1.70	4.97	466	-88	275	3.70
13:05	7.24	11.21	1.71	1.98	237	-81	190	4.85
13:10	7.15	11.24	1.72	1.44	181	-86	190	4.65
13:15	7.14	11.28	1.72	1.38	117	-93	190	4.65
13:20	7.14	11.24	1.73	1.47	78.3	-98	190	4.65
13:25	7.13	11.22	1.75	1.37	49.8	-102	190	4.24
13:30	7.12	11.29	1.75	1.33	35.1	-105	190	4.81
13:35	7.12	11.30	1.77	1.34	22.1	-107	190	4.79
13:40	7.12	11.27	1.76	1.36	11.8	-108	190	4.78
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:	60411174			Site:	Pfohl E	Brothers	Well I.D.:	GW-01D
Date:	11/25/2019 Sampling Personne			Rob Murp	hy, Kevin M	cGovern	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	2.80'	Depth to Well Bottom:	39.65'	Well Diameter:	4"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	91.0	-	Estimated Purge Volume (liters): _	60.0
Sample ID:	Parameters:	GW-01D VOCs, SVOCs, a	and TAL Meta	Sample als	14	:50	QA/QC:	None
Othe	r information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:50	7.36	11.62	1.42	1.57	0.0	-30	1000	2.80
13:55	7.37	11.73	1.46	0.83	0.0	-115	1000	2.84
14:00	7.34	11.76	1.46	0.91	0.0	-171	1000	2.85
14:05	7.41	11.81	1.46	1.70	0.0	-217	1000	2.85
14:10	7.41	11.79	1.46	2.31	0.0	-228	1000	2.85
14:15	7.42	11.79	1.46	3.33	0.0	-235	1000	2.85
14:20	7.38	11.79	1.46	3.55	0.0	-241	1000	2.85
14:25	7.40	11.80	1.47	4.37	0.0	-254	1000	2.85
14:30	7.41	11.77	1.47	4.54	0.0	-260	1000	2.85
14:35	7.38	11.83	1.47	4.64	0.0	-266	1000	2.85
14:40	7.36	11.78	1.47	4.89	0.0	-272	1000	2.85
14:45	7.34	11.76	1.47	4.98	0.0	-273	1000	2.85
14:50	7.38	11.80	1.47	5.35	0.0	-278	1000	2.85
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:	60411174			Site:	Pfohl I	Brothers	Well I.D.:	GW-03S
Date:	11/26/2019 Sampling Personne			Rob Murph	ny, Eleanor	Eshenour	Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	2.53'	Depth to Well Bottom:	13.22'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	6.6	-	Estimated Purge Volume (liters): _	8.3
Sample ID:	Parameters:	GW-03S VOCs, SVOCs,	and TAL Meta	Sample Time:	10):59	QA/QC:	None
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:13	7.15	11.00	2.30	8.36	0.0	76	180	3.91
10:18	6.99	11.20	2.28	5.56	0.0	79	180	4.52
10:23	7.09	11.09	2.06	6.47	0.0	80	180	5.19
10:28	7.08	11.00	2.05	6.58	0.0	84	180	5.95
10:33	7.08	11.03	2.06	6.50	0.0	88	180	6.44
10:38	7.07	11.04	2.06	6.37	0.0	91	180	6.95
10:43	7.06	11.06	2.07	6.25	0.0	94	180	7.56
10:48	7.04	11.10	2.07	6.18	0.0	97	180	7.91
10:53	7.03	11.15	2.08	5.57	0.0	100	180	8.43
10:56	7.03	11.21	2.09	5.57	0.0	100	180	8.68
10:59	7.03	11.26	2.10	5.49	0.0	101	180	8.71
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:	60411174			Site:	Pfohl B	rothers	Well I.D.:	GW-03D
Date:	11/26/2019 Sampling Personne			Rob Murph	ny, Eleanor E	Eshenour	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/S	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	1.75'	Depth to Well Bottom:	35.70'	Well Diameter:	4"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	83.9		Estimated Purge Volume (liters): _	60.0
Sample ID:	Parameters	GW-03D	and TAL Met	Sample Time:	12	:14	QA/QC:	MS/MSD
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)	
11:14	7.51	11.78	1.29	6.70	0.0	-43	1000	1.75	Ĩ
11:19	7.25	12.00	1.28	1.28	0.0	-156	1000	1.75	
11:24	7.24	11.99	1.28	1.21	0.0	-175	1000	1.75	
11:29	7.24	12.01	1.39	3.58	0.0	-182	1000	1.75	
11:34	7.23	12.03	1.39	9.13	0.0	-182	1000	1.75	Air bubble
11:39	7.23	12.02	1.39	9.19	0.0	-183	1000	1.75	on sensor
11:44	7.21	12.02	1.38	1.17	0.0	-186	1000	1.75	
11:49	7.20	12.04	1.39	1.14	0.0	-191	1000	1.75	
11:54	7.20	12.05	1.39	1.03	0.0	-193	1000	1.75	
11:59	7.20	12.06	1.39	1.02	0.0	-195	1000	1.75	
12:04	7.22	12.04	1.39	1.52	0.0	-197	1000	1.75	
12:09	7.22	12.06	1.39	1.40	0.0	-198	1000	1.75	
12:14	7.22	12.05	1.38	1.41	0.0	-198	1000	1.75	
Tolerance:	0.1		3%	10%	10%	+ or - 10			1

Project:		60411174		Site:	Pfohl Brothers		Well I.D.: _	GW-04S	
Date:	11/25/2019	Sampling	Personnel:	Rob Mur	phy, Kevin M	cGovern	_ Company: _	URS Corporation	
Purging/ Sampling Device:		Geopump 2		_Tubing Type: _	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint	
Measuring Point:	Below Top of Riser	Initial Depth to Water:	4.08'	Depth to Well Bottom:	16.23'	Well Diameter:	2"	Screen Length:	
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	7.5	-	Estimated Purge Volume (liters): _	0.0	
Sample ID:		GW-4S		Sample Time:	VOC's- 115 and Meta	:34/ SVOC's als- 17:20	QA/QC:	None	
Sample Parameters: VOCs, SVOCs, and TAL Metals Other Information: Placed passive diffusion bag (PDB) in well 9/19/19, sampled VOCs from PDB at 15:34 on 11/25/19. Well historically goes dry at very low purge rates (<75ml/min).									
PURGE PARAMETERS									

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)	
15:35	8.91	10.47	0.539	5.14	0.0	-54	Intial	4.08	
15:44	9.00	10.32	0.521	10.64	0.0	-47	1.0 Gal removed	NM	
15:48	8.88	10.82	0.533	6.60	143	-19	2.0 Gal removed	NM	
15:50	8.71	11.17	0.525	10.72	775	-67	3.0 Gal removed	Dry	
Allow Recha	arge								
17:20	8.18	1064.00	0.583	14.87	130.0	-242		12.97	Sample
Tolerance:	0.1		3%	10%	10%	+ or - 10			J

Project:		60411174	Site:	Pfohl Brothers		Well I.D.:	GW-04D	
Date:	11/25/2019	Sampling	Personnel:	Rob Murphy, Kevin McGovern			_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	11.91'	Depth to Well Bottom:	45.57'	Well Diameter:	4"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	83.1	-	Estimated Purge Volume (liters): _	12.9
Sample ID:	Parameters:	GW-4D VOCs, SVOCs, a	and TAL Meta	Sample Time:	17	:15	QA/QC:	None
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
16:15	7.62	10.55	1.93	12.00	0.0	-232	350	11.91
16:20	7.55	10.60	1.93	6.75	0.0	-240	225	12.17
16:25	7.49	10.63	1.97	4.41	0.0	-271	200	12.73
16:30	7.45	10.61	1.98	4.03	0.0	-282	200	12.62
16:35	7.44	10.62	1.99	4.58	0.0	-287	200	12.80
16:40	7.41	10.60	1.99	5.03	0.0	-292	200	12.95
16:45	7.42	10.57	1.99	5.40	0.0	-296	200	13.10
16:50	7.41	10.54	2.00	5.67	0.0	-297	200	13.17
16:55	7.40	10.52	2.00	5.99	0.0	-302	200	13.29
17:00	7.38	10.49	2.00	6.15	0.0	-4	200	13.37
17:05	7.34	10.51	2.01	6.30	0.0	-310	200	13.48
17:10	7.31	10.51	2.01	6.30	0.0	-314	200	13.55
17:15	7.30	10.43	2.04	6.39	0.0	-316	200	13.62
Tolerance:	0.1		3%	10%	10%	+ or - 10		

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill							WELL NO.:		GW-07S	
PROJECT NO.: 60411174										
STAFF: Rob Murphy, Kevin McGovern, Eleanor Eshenour										
DATE(S): 11/25/19 11/26/19										
		0								
1. TOTAL CASING AND S	SCREEN LENG	TH (FT.)			=	35.3	3	WELL ID. 1"	VOL. (GAL/ 0.04	40
2. WATER LEVEL BELOW	V TOP OF CAS	SING (FT.)			=	4.62	2	2"	0.1	7
3. NUMBER OF FEET ST	ANDING WATE	ER (#1 - #2	2)		=	30.7	'1	3"	0.3	18
4. VOLUME OF WATER/	FOOT OF CASI	NG (GAL.)			=	0.17	7	4"	0.6	6
5. VOLUME OF WATER I	N CASING (GA	L.)(#3 x #4	ł)		=	5.22	2	5"	1.0)4
6. VOLUME OF WATER	TO REMOVE (C	GAL.)(#5 x	3)		=			6"	1.5	50
7. VOLUME OF WATER A	ACTUALLY REI	MOVED (G	AL.)		=	9.0		8"	8" 2.60	
							V	′=0.0408 x (CASINC	DIAMETER [INC	CHES]) ²
PARAMETERS	Initial	2	4	6	9	Sample				
рН	8.02	8.03	8.06	7.99	7.92	7.62				
SPEC. COND. (mS/cm)	0.786	0.765	0.763	0.762	0.757	0.802				
DO (mg/l)	7.36	6.89	7.94	11.15	8.25	7.46				
TEMPERATURE (⁰ C)	10.78	11.18	11.38	11.05	11.25	11.34				
TURBIDITY (NTU)	0.0	0.0	0.0	0.0	152	0.0				
ORP (millivolts)	-81	-41	-4	1	5	68				
TIME	12:09	12:12	12:15	12:22	12:29	11/26/19 @ 13:18				
COMMENTS: 10:30 - Fill VOCs from passive diffusion bag (PDB), PDB was installed on 9/19/19 12:09 - Begin hand bailing well. 12:29 - Well dry after removing 9 gallons. 11/26/2019 13:15 - Return to well, depth to water = 4.74 feet. 13:18 - Collect sample for SVOCs and Metals.										

WELL PURGING LOG

URS Corporation

SITE NAME:	Pfohl Brot	hers Lar	ndfill			WELL N	10.: <u> </u>	GW-07D				
PROJECT NO.:	60411174											
STAFF: Rob Murphy, Kevin McGovern, Eleanor Eshenour												
DATE(S):	DATE(S): 11/25/19, 11/26/19											
1. TOTAL CASING	AND SCRE	EN LENG	TH (FT.)			=	60.83	WELL ID. 1"	VOL. (GAL/FT) 0.040			
2. WATER LEVEL E	BELOW TOP	P OF CAS	ING (FT.)			=	42.23	2"	0.17			
3. NUMBER OF FEI	ET STANDI	NG WATE	ER (#1 - #2	!)		=	18.60	3"	0.38			
4. VOLUME OF WA	TER/FOOT	OF CASI	NG (GAL.)			=	0.66	4"	0.66			
5. VOLUME OF WA	TER IN CA	SING (GA	L.)(#3 x #4	•)		=	12.30	5"	1.04			
6. VOLUME OF WA	TER TO RE	EMOVE (G	GAL.)(#5 x	3)		=		6"	1.50			
7. VOLUME OF WA	TER ACTU	ALLY REM	NOVED (G	AL.)		=	12.3	8"	2.60			
								V=0.0408 x (CASING	DIAMETER [INCHES]) ²			
					ACCUN	ULATED	VOLUME PURGED	(GALLONS)				
PARAMETERS		Init	3	6	9	12.3						
рН		7.06	7.60	7.73	7.82	7.99						
SPEC. COND. (mS/cr	m)	0.900	0.810	0.841	0.943	0.947						
DO (mg/l)		3.31	11.88	9.82	7.73	7.94						
TEMPERATURE (⁰ C)		12.06	11.45	10.90	11.16	11.18						
TURBIDITY (NTU)		0.0	0.0	2.1	6.9	81.0						
ORP (millivolts)		-190	-131	-131	-196	-153						
TIME		10:35	10:50	11:12	11:47	12:00						
COMMENTS: 10:20 - Fill VOCs from passive diffusion bag (PDB), PDB was installed on 9/19/19 10:35 - Begin hand bailing well. 12:00 - Well dry after removing 12.3 gallons 11/26/2019 13:00 - return to well, depth to water = 59.75 feet. 13:05 - Collect sample for SVOCs and Metals. Strong Sulfur Odor Could not take sample paramaters, all available water used in sample bottles												
Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-08SR				
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Date:	11/26/2019	Sampling	Personnel:	Rob Murph	ny, Eleanor	Eshenour	_ Company: _	URS Corporation				
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint				
Measuring Point:	Below Top of Riser	Initial Depth to Water:	5.15'	Depth to Well Bottom:	13.02'	Well Diameter:	2"	Screen Length:				
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	4.9	-	Estimated Purge Volume (liters): _	9.3				
Sample ID:	Parameters:	GW-8SR VOCs, SVOCs, a	and TAL Meta	Sample Time:	15:53		QA/QC:	None				
Othe	r Information:											

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:06	6.93	11.79	1.65	4.18	79.4	8	230	6.09
15:11	6.82	11.21	1.64	1.69	55.5	25	195	6.75
15:16	6.77	11.17	1.65	1.10	41.7	26	195	7.10
15:21	6.75	11.19	1.66	0.84	31.5	-1	195	7.38
15:26	6.70	11.26	1.68	0.72	25.0	-63	195	7.61
15:31	6.67	11.31	1.70	0.70	25.8	-113	195	7.75
15:36	6.65	11.35	1.75	0.68	21.7	-134	195	7.83
15:41	6.65	11.29	1.94	1.21	0.0	-149	195	7.84
15:44	6.65	11.29	1.97	1.02	0.0	-155	195	7.87
15:47	6.66	11.32	2.04	0.85	0.0	-157	195	7.90
15:50	6.65	11.31	2.09	0.84	0.0	-159	195	7.91
15:53	6.65	11.32	2.10	0.81	0.0	-161	195	7.94
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-08D
Date:	11/26/2019	Sampling	Personnel:	Rob Murph	ıy, Eleanor I	Eshenour	_ Company:	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	5.71'	Depth to Well Bottom:	36.54'	Well Diameter:	4"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	76.2		Estimated Purge Volume (liters):	61.0
Sample ID:		GW-8D		Sample Time:	14	:54	QA/QC:	Duplicate (FD-112619)
Sample Othe	Parameters: r Information:	VOCs, SVOCs,	and TAL Meta	als				

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:53	7.31	11.64	3.96	5.03	0.0	-71	1000	5.71
13:58	7.12	11.66	3.18	2.46	0.0	-138	1000	5.71
14:03	7.09	11.71	3.18	1.63	0.0	-194	1000	5.71
14:08	6.99	11.80	2.43	1.06	0.0	-197	1000	5.71
14:13	7.00	11.81	2.35	0.77	0.0	-183	1000	5.71
14:18	6.98	11.82	2.33	0.72	0.0	-169	1000	5.71
14:23	6.95	11.80	2.33	0.78	0.0	-163	1000	5.71
14:28	6.98	11.81	2.32	0.80	0.0	-151	1000	5.71
14:33	6.95	11.81	2.32	0.70	0.0	-139	1000	5.71
14:38	6.98	11.82	2.31	0.67	0.0	-132	1000	5.71
14:43	6.99	11.82	2.31	0.65	0.0	-123	1000	5.71
14:48	6.93	11.81	2.31	0.62	0.0	-111	1000	5.71
14:51	6.90	11.78	2.31	0.60	0.0	-104	1000	5.71
14:54	6.89	11.79	2.31	0.61	0.0	-101	1000	5.71
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-26D
Date:	11/27/2019	Sampling	Personnel:	Rob Murpl	ny, Eleanor	Eshenour	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	6.54'	Depth to Well Bottom:	40.70'	Well Diameter:	4"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	84.4	-	Estimated Purge Volume (liters): _	51.6
Sample ID:	Parameters:	GW-26D VOCs, SVOCs, a	9	:33	QA/QC:	None		
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:33	6.87	12.65	2.43	7.58	0.0	-41	860	6.54
8:38	6.99	11.97	2.58	1.94	0.0	-85	860	6.54
8:43	7.00	11.93	2.58	1.49	0.0	-98	860	6.54
8:48	7.00	11.90	2.58	1.31	0.0	-104	860	6.54
8:53	7.01	11.90	2.59	1.24	0.0	-108	860	6.54
8:58	7.01	11.90	2.59	1.18	0.0	-110	860	6.54
9:03	7.02	11.90	2.58	1.10	0.0	-114	860	6.54
9:08	7.02	11.92	2.59	1.28	0.0	-115	860	6.54
9:13	7.02	11.93	2.59	1.18	0.0	-116	860	6.54
9:18	7.01	11.93	2.59	1.17	0.0	-116	860	6.54
9:23	7.02	11.93	2.59	1.09	0.0	-118	860	6.54
9:28	7.02	11.94	2.59	1.11	0.0	-119	860	6.54
9:33	7.01	11.95	2.58	1.09	0.0	-119	860	6.54
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl E	Brothers	Well I.D.:	GW-28S
Date:	11/26/2019	Sampling	Personnel:	Rob Murph	ny, Eleanor	Eshenour	_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	8.70'	Depth to Well Bottom:	15.52'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	4.2	-	Estimated Purge Volume (liters): _	4.4
Sample ID:	Parameters:	GW-28S VOCs, SVOCs, a	and TAL Meta	Sample Time:	16	5:48	QA/QC:	None
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
16:23	7.35	11.97	0.650	4.18	0.0	12	200	8.70
16:28	7.24	12.01	0.638	1.59	0.0	26	170	9.89
16:33	7.22	11.93	0.634	1.15	0.0	33	170	9.98
16:38	7.22	11.93	0.628	1.02	0.0	33	170	10.12
16:43	7.23	11.95	0.627	0.96	0.0	31	170	10.19
16:48	7.23	11.90	0.628	0.94	0.0	32	170	10.21
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl B	rothers	Well I.D.:	GW-29S
Date:	11/27/2019	Sampling	Personnel:	Rob Murphy, Eleanor Eshenour			_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		_Tubing Type: _	LDPE/S	Silicone	Pump/Tubing Inlet _ Location: _	Screen midpoint
Measuring Point:	Below Top of Riser	Initial Depth to Water:	7.15'	Depth to _Well Bottom: _	20.04'	Well Diameter:	2"	Screen Length:
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	8.0		Estimated Purge Volume (liters): _	10.3
Sample ID:		GW-29S		Sample Time:	11	:26	QA/QC:	None
Sample Othe	Parameters: r Information:	VOCs, SVOCs, Orange particula Bypassed Horib	and TAL Meta ates at start o a for first 2 m	als f purge. inutes of flow.				

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:37	7.06	12.92	0.959	6.45	>1000	-72	210	7.15
10:42	6.94	13.10	0.964	3.32	373	-83	210	8.97
10:47	7.05	13.20	0.899	3.94	142	-71	210	9.45
10:52	7.05	13.24	0.903	3.69	95.7	-70	210	9.93
10:57	7.02	13.25	0.919	3.48	124	-76	210	10.26
11:02	7.01	13.26	0.951	4.10	100	-81	210	10.43
11:07	6.98	13.34	0.966	3.90	82.2	-86	210	10.53
11:12	6.90	13.36	0.966	4.09	72.9	-89	210	10.62
11:17	6.91	13.34	0.968	3.94	52.1	-91	210	10.65
11:20	6.90	13.32	0.975	3.21	49.1	-99	210	10.65
11:23	6.90	13.24	0.976	2.53	50.7	-99	210	10.60
11:26	6.89	13.26	0.978	2.76	56.9	-103	210	10.62
Tolerance:	0.1		3%	10%	10%	+ or - 10		

60411174				Pfohl Brothers			GW-30S		
11/27/2019	Sampling	Personnel:	Rob Murphy, Eleanor Eshenour			_ Company: _	URS Corporation		
	Geopump 2		_Tubing Type:	LDPE/	Silicone	Pump/Tubing Inlet _ Location: _	Screen midpoint		
Below Top of Riser	Initial Depth to Water:	7.78'	Depth to Well Bottom:	17.97'	Well Diameter:	2"	Screen Length:		
Stainles	ss Steel		Volume in 1 Well Casing (liters):	6.3	-	Estimated Purge Volume (liters): _	12.2		
	GW-30S		Sample Time:	12	::32	QA/QC:	None		
Sample Parameters: VOCs, SVOCs, and TAL Metals Other Information: Orange particulates at start of purge.									
	11/27/2019 Below Top of Riser Stainles Stainles e Parameters: er Information:	Sampling Geopump 2 Below Top Initial Depth of Riser Initial Depth to Water: Stainless Steel GW-30S e Parameters: VOCs, SVOCs, a er Information: Orange particula Bypassed Horiba	11/27/2019 Sampling Personnel: Geopump 2 Below Top of Riser Initial Depth to Water: 7.78' Stainless Steel GW-30S e Parameters: VOCs, SVOCs, and TAL Meters or Information: Orange particulates at start on Bypassed Horiba for first 2 m	11/27/2019 Sampling Personnel: Rob Murph Geopump 2 Tubing Type:	11/27/2019 Sampling Personnel:	11/27/2019 Sampling Personnel: Rob Murphy, Eleanor Eshenour Geopump 2 Tubing Type: LDPE/Silicone Below Top Initial Depth Depth to Well of Riser to Water: 7.78' Well Bottom: 17.97' Diameter: Volume in 1 Well Casing (liters): 6.3 6.3 Stainless Steel Sample Time: 12:32 e Parameters: VOCs, SVOCs, and TAL Metals Orange particulates at start of purge. Bypassed Horiba for first 2 minutes of flow. Bypassed Horiba for first 2 minutes of flow.	11/27/2019 Sampling Personnel: Rob Murphy, Eleanor Eshenour Company:		

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:52	6.97	12.98	2.39	3.16	176	-30	305	7.78
11:57	7.03	12.91	1.38	1.92	16.8	-42	305	7.82
12:02	6.97	12.90	1.29	1.40	0.0	-56	305	7.82
12:07	6.94	12.89	1.30	1.35	0.0	-66	305	7.82
12:12	6.92	12.90	1.32	1.12	0.0	-77	305	7.83
12:17	6.91	12.89	1.33	1.36	0.0	-85	305	7.84
12:22	6.95	12.89	1.33	1.10	0.0	-91	305	7.84
12:27	6.95	12.91	1.340	1.00	0.0	-96	305	7.84
12:32	6.95	12.96	1.350	1.00	0.0	-98	305	7.84
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl	Brothers	Well I.D.:	GW-31S			
Date:	11/27/2019	Sampling	Personnel:	Rob Murph	y, Eleanor	Eshenour	_ Company: _	URS Corporation			
Purging/ Sampling Device:		Geopump 2		_Tubing Type:	LDPE,	/Silicone	Pump/Tubing Inlet _ Location: _	Screen midpoint			
Measuring Point:	Below Top of Riser	Initial Depth to Water:	2.83'	Depth to Well Bottom:	9.57'	Well Diameter:	2"	Screen Length:			
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	4.2	_	Estimated Purge Volume (liters):	8.9			
Sample ID:		GW-31S		Sample Time:	1:	3:43	QA/QC:	None			
Sample Parameters: <u>VOCs, SVOCs, and TAL Metals</u> Other Information:											
	Tubing became disconnected momentarily at 13:20.										

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:50	7.35	11.21	0.724	5.60	0.0	17	235	2.83
12:55	7.08	10.64	0.771	1.61	0.0	11	160	3.59
13:00	7.03	10.66	0.766	1.02	0.0	-19	160	4.01
13:05	6.99	10.66	0.763	0.84	0.0	-35	160	4.08
13:10	6.97	10.64	0.761	0.81	0.0	-44	160	4.15
13:15	6.95	10.56	0.761	0.92	0.0	-47	160	4.20
13:20	7.04	10.88	0.754	2.26	0.0	-65	160	3.30
13:25	6.95	10.11	0.747	4.12	0.0	-80	160	3.32
13:28	7.03	10.64	0.750	4.04	0.0	-55	160	3.41
13:31	6.99	10.48	0.751	3.44	0.0	-52	160	3.61
13:34	6.92	10.90	0.749	2.19	0.0	-52	160	3.71
13:37	6.88	10.39	0.747	1.50	0.0	-52	160	3.85
13:40	6.87	10.39	0.747	1.74	0.0	-53	160	3.92
13:43	6.87	10.40	0.746	1.62	0.0	-53	160	3.96
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl	Brothers	Well I.D.:	GW-32S
Date:	11/27/2019	Sampling	Personnel:	Rob Murphy, Eleanor Eshenour			_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE	/Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top Initial Depth of Riser to Water: <u>2.38'</u>		Depth to Well Bottom:	9.93'	Well Diameter:	2"	Screen Length:	
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	4.7	-	Estimated Purge Volume (liters): _	9.8
Sample ID: GW-32S Sample Parameters: <u>VOCs, SVOCs, and TAL Me</u>				Sample Time:	14	4:47	QA/QC:	None
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:07	7.41	11.42	0.558	6.68	0.0	-10	245	2.38
14:12	7.41	10.87	0.557	3.61	0.0	34	245	3.00
14:17	7.25	10.85	0.551	2.40	0.0	62	245	3.10
14:22	7.19	10.90	0.550	1.78	0.0	73	245	3.15
14:27	7.18	10.93	0.547	1.44	0.0	80	245	3.19
14:32	7.16	10.95	0.545	1.28	0.0	84	245	3.19
14:37	7.15	10.95	0.544	1.15	0.0	86	245	3.21
14:42	7.14	10.83	0.544	1.13	0.0	87	245	3.25
14:47	7.14	10.74	0.542	1.09	0.0	87	245	3.24
Tolerance:	0.1	I	3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl	Brothers	Well I.D.:	GW-33S
Date:	11/27/2019	Sampling	Personnel:	Rob Murphy, Eleanor Eshenour			_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE	/Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top Initial Depth of Riser to Water: <u>3.59'</u>		Depth to Well Bottom:	8.21'	Well Diameter:	2"	Screen Length:	
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	2.9	-	Estimated Purge Volume (liters): _	4.4
Sample ID:	Parameters:	GW-33S VOCs, SVOCs, a	and TAL Meta	Sample Time:	15	5:44	QA/QC:	None
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:13	7.31	9.98	0.821	8.22	0.0	102	160	3.59
15:18	7.18	9.53	0.835	3.61	0.0	115	140	4.51
15:23	7.05	9.38	0.839	2.77	0.0	125	140	4.75
15:28	7.02	9.02	0.840	2.49	0.0	128	140	4.92
15:33	7.00	9.44	0.842	2.22	0.0	131	140	5.08
15:38	6.99	9.43	0.843	2.10	0.0	134	140	5.19
15:41	6.98	9.42	0.845	1.96	0.0	135	140	5.22
15:44	6.95	9.42	0.85	1.93	0.0	137	140	5.27
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl I	Brothers	Well I.D.:	GW-34S
Date:	11/26/2019	Sampling	Personnel:	Rob Murphy, Eleanor Eshenour			_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE/	'Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top Initial Depth of Riser to Water: <u>2.61'</u>		Depth to Well Bottom:	10.01'	Well Diameter:	2"	Screen Length:	
Casing Type:	Stainles	ss Steel		Volume in 1 Well Casing (liters):	4.6	-	Estimated Purge Volume (liters): _	4.9
Sample ID:	Parameters:	GW-34S VOCs, SVOCs, a	and TAL Meta	Sample 	9	:09	QA/QC:	None
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:34	6.85	11.35	1.07	3.34	0.0	35	140	2.61
8:39	6.91	9.13	1.11	1.80	0.0	63	140	3.64
8:44	6.90	9.09	1.10	1.50	0.0	73	140	3.75
8:49	6.88	8.88	1.10	1.27	0.0	82	140	3.85
8:54	6.86	8.78	1.10	1.30	0.0	90	140	3.89
8:59	6.88	8.56	1.08	1.37	0.0	93	140	3.93
9:04	6.91	8.42	1.07	1.47	0.0	94	140	3.98
9:09	6.89	8.16	1.05	1.50	0.0	97	140	4.01
Tolerance:	0.1		3%	10%	10%	+ or - 10		

Project:		60411174		Site:	Pfohl	Brothers	Well I.D.:	GW-35S
Date:	11/27/2019	Sampling	Personnel:	Rob Murphy, Eleanor Eshenour			_ Company: _	URS Corporation
Purging/ Sampling Device:		Geopump 2		Tubing Type:	LDPE	/Silicone	Pump/Tubing Inlet Location:	Screen midpoint
Measuring Point:	Below Top Initial Depth of Riser to Water: <u>3.13'</u>		Depth to Well Bottom:	7.46'	Well Diameter:	2"	Screen Length:	
Casing Type:	Stainle	ss Steel		Volume in 1 Well Casing (liters):	2.7	-	Estimated Purge Volume (liters): _	6.7
Sample ID: GW-35S Sample Parameters: <u>VOCs, SVOCs, and TAL Me</u>				Sample Time:	10	D:13	QA/QC:	None
Othe	r Information:							

PURGE PARAMETERS

TIME	рН	TEMP (°C)	COND. (mS/cm)	DISS. O ₂ (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:42	7.30	11.30	0.655	3.96	0.0	-19	225	3.13
9:47	7.20	11.00	0.607	2.22	0.0	-12	215	3.66
9:52	7.24	10.98	0.586	1.44	0.0	-2	215	3.71
9:57	7.26	10.96	0.581	1.27	0.0	4	215	3.76
10:02	7.24	10.91	0.580	1.10	0.0	6	215	3.77
10:07	7.24	10.98	0.580	0.97	0.0	8	215	3.77
10:10	7.25	10.98	0.580	0.95	0.0	9	215	3.82
10:13	7.25	11.01	0.580	0.91	0.0	9	215	3.80
Tolerance:	0.1		3%	10%	10%	+ or - 10		

 Project Name:
 Pfohl Brothers Landfill
 Project Number:
 60411174

 Sampling Crew Members:
 R. Murphy, K. McGovern
 Supervisor:
 R. Murphy

Date of Sampling:

<u>November 25, 2019</u>

Sample I.D. Number	Well Number	Well Volume (liters)	Volume Purged (liters)	Sample Time	Sample Description	Analysis Required	Chain-of- Custody Number
GW-07D	GW-07D	46.6	46.6	10:20	Groundwater	VOCa	Not Applicable
GW-07S	GW-07S	19.8	34.1	10:30	Groundwater	VOCS	Not Applicable
GW-01S	GW-01S	6.9	8.0	13:40	Groundwater		Not Applicable
GW-01D	GW-01D	91.0	60.0	14:50	Groundwater	VOCs/SVOCs/	Not Applicable
GW-04S	GW-04S	7.5	11.4	15:34,17:20	Groundwater	Metals	Not Applicable
GW-04D	GW-04D	83.1	12.9	17:15	Groundwater		Not Applicable
							Not Applicable

Additional Comments:

All wells were purged using low flow methods until parameter stabilization with the exception of wells GW-04S, GW-07D, and GW-07S that were sampled for VOCs using passive diffusion bags (PDBs). GW-04S, GW-07D, and GW-07S were then purged dry. Remaining parameters were collected after recovery at GW-04S.

 Project Name:
 Pfohl Brothers Landfill
 Project Number:
 60411174

 Sampling Crew Members:
 R. Murphy, E. Eshenour
 Supervisor:
 R. Murphy

 Date of Sampling:
 November 26, 2019
 Vertice
 Vertice

Sample I.D. Number	Well Number	Well Volume (liters)	Volume Purged (liters)	Sample Time	Sample Description	Analysis Required	Chain-of- Custody Number
GW-34S	GW-34S	4.6	4.9	9:09	Groundwater		Not Applicable
GW-03S	GW-03S	6.6	8.3	10:59	Groundwater		Not Applicable
GW-03D	GW-03D	83.9	60.0	12:14	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-03D	GW-03D	83.9	60.0	12:14	Matrix Spike		Not Applicable
GW-03D	GW-03D	83.9	60.0	12:14	Matrix Spike Duplicate		Not Applicable
GW-07D	GW-07D	46.6	46.6	13:05	Groundwater	SV/OCs/Metals	Not Applicable
GW-07S	GW-07S	19.8	34.1	13:18	Groundwater	SVOCs/Metals	Not Applicable

Additional Comments:

GW-07D and GW-07S were sampled for SVOCs and Metals after recharging overnight.

All other wells were purged using low flow methods until parameter stabilization.

 Project Name:
 Pfohl Brothers Landfill
 Project Number:
 60411174

 Sampling Crew Members:
 R. Murphy, E. Eshenour
 Supervisor:
 R. Murphy

 Date of Sampling:
 November 26, 2019
 Vertice
 Vertice

Sample I.D. Number	Well Number	Well Volume (liters)	Volume Purged (liters)	Sample Time	Sample Description	Analysis Required	Chain-of- Custody Number
GW-08D	GW-08D	76.2	61.0	14:54	Groundwater	VOCs/SVOCs/ TAL Metals	Not Applicable
FD-112619	GW-08D	76.2	61.0	14:54	Field Duplicate		Not Applicable
GW-08SR	GW-08SR	4.9	9.3	15:53	Groundwater		Not Applicable
GW-28S	GW-28S	4.2	4.4	16:48	Groundwater		Not Applicable
TB-112519+ 112619	-	-	-	-	Trip Blank	VOCs	Not Applicable

Additional Comments:

All wells were purged using low flow methods until parameter stabilization.

Project Name: Project Number: 60411174 Pfohl Brothers Landfill Sampling Crew Members: R. Murphy, E. Eshenour Supervisor: R. Murphy Date of Sampling: November 27, 2019 Well Chain-of-Sample I.D. Well Volume Puraed Sample Analysis

Number	Number	Volume (liters)	(liters)	Sample Time	Description	Required	Custody Number
GW-26D	GW-26D	84.4	51.6	9:33	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-35S	GW-35S	2.7	6.7	10:13	Groundwater		Not Applicable
GW-29S	GW-29S	8.0	10.3	11:26	Groundwater		Not Applicable
GW-30S	GW-30S	6.3	12.2	12:32	Groundwater		Not Applicable
GW-31S	GW-31S	4.2	8.9	13:43	Groundwater		Not Applicable
GW-32S	GW-32S	4.7	9.8	14:47	Groundwater		Not Applicable
GW-33S	GW-33S	2.9	4.4	15:44	Groundwater		Not Applicable

Additional Comments:

All wells were purged using low flow methods until parameter stabilization.

Also submitted a trip blank (TB-112719) with these samples for analysis of VOCs.

APPENDIX E

GROUNDWATER TREND ANALYSIS

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FIGURE E-1 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-01D



FIGURE E-2 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-01S



FIGURE E-3 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-03D



FIGURE E-4 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-03S



FIGURE E-4 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-03S



FIGURE E-5 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-04D



FIGURE E-6 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-04S



FIGURE E-7 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-07D



FIGURE E-7 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-07D



FIGURE E-7 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-07D



FIGURE E-8 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-07S



FIGURE E-9 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-08D



FIGURE E-10 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-08SR



FIGURE E-11 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-26D



FIGURE E-12 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-28S



FIGURE E-13 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-29S



FIGURE E-13 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-29S



FIGURE E-14 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-30S



FIGURE E-15 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-31S



FIGURE E-16 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-32S


FIGURE E-17 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-33S



FIGURE E-18 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-34S



FIGURE E-19 TRENDS OF PARAMETERS ROUTINELY EXCEEDING GROUNDWATER STANDARDS IN MONITORING WELL GW-35S



APPENDIX F

BSA PERMIT 19-04-CH016

AUTHORIZATION TO DISCHARGE UNDER THE BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NO. 19-04-CH016 USEPA Category 40 CFR Part 403

In accordance with the provisions of the Federal Water Pollution Control Act, as amended, and the Sewer Regulations of the Buffalo Sewer Authority, authorization is hereby granted to:

THE TOWN OF CHEEKTOWAGA

to discharge wastewater from a facility located at:

PFOHL BROTHERS LANDFILL REMEDIATION SITE 1000 AERO DRIVE

CHEEKTOWAGA, NEW YORK 14225

The wastewater permitted herein shall be discharged to the Town of Cheektowaga sewer system, which is connected to the Buffalo Municipal Sewer System and Treatment facilities, and which wastewater will be treated at the Buffalo Sewer Authority's Treatment Plant.

Issuance of this permit is based upon a permit application filed on **February 19, 2019** analytical data. This permit is granted in accordance with discharge limitations, monitoring requirements and other conditions set forth in Parts I and II hereof.

Effective this 1st ^{day} of April, 2019 To Expire the 31st day of March, 2022 General Manager Signed this <u>2014</u> day of <u>MA2214</u>, 2019

PAGE 1 OF 6

MAR 2 7 2019 ENGINEERING DEPT.

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PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall (see attached map) shall be limited and monitored **quarterly** by the permittee as specified below.

Sample		Discharge Limitations ⁽¹⁾	Samp	ling Requirements
Point	Parameter	Daily Max	Period	Туре
001	pН	5.0 - 12.0 S.U.	1 day	Composite ²
	Total Cadmium	1.17 lbs.	1 day	Composite ²
	Total Chromium	1.17 lbs.	1 day	Composite ²
	Total Copper	3.74 lbs.	1 day	Composite ²
	Total Lead	1.17 lbs.	1 day	Composite ²
	Total Nickel	3.27 lbs.	1 day	Composite ²
	Total Zinc	5.84 lbs.	1 day	Composite ²
	Total Barium	2.34 lbs.	1 day	Composite ²
	Total Suspended Solids ⁵	250 mg/l	1 day	Composite ²
	Total Flow	140,100 gallons ⁶	1 day	Discharge meter reading

Footnotes are explained on page 5.

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Permit No. 19-04-CH016 Part I Page 3 of 6

PART I: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS

During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall (see attached map) shall be limited and monitored **once** by the permittee as specified below.

Sample		Discharge Limitations ⁽¹⁾	Sampling Requirements		
Point	Parameter	Daily Max	Period	Туре	
001	Total Mercury	0.001 lbs.	1 day	Composite ²	
	USEPA Test				
	Method 608 ⁴	To be monitored	1 day	Grab ³	
	USEPA Test				
	Method 624 ⁴	To be monitored	1 day	Grab ³	
	USEPA Test				
	Method 625 ⁴	To be monitored	1 day	Grab ³	

Footnotes are explained on page 5.

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Permit No. 19-04-CH016 Part I Page 4 of 6

PART I: SPECIFIC CONDITIONS

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B. DISCHARGE MONITORING REPORTING REQUIREMENTS

During the period beginning the effective date of this permit and lasting until the expiration date, discharge monitoring results shall be summarized and reported **quarterly** by the permittee on the days specified below:

Sample		Reporting Requirements					
Point 001	Parameter All except USEPA Test Methods 608, 624, 625 & T Mercury	Initial Report June 30, 2019	Subsequent Reports Every March 31 st , June 30 th , September 30 th and December 31 st				
	USEPA Test Methods 608, 624 and 625 &	June 30, 2019					

* Please submit new discharge permit application 6 months prior to the expiration of this permit*

Permit No. 19-04-CH016 Part I Page 5 of 6

PART I: SPECIFIC CONDITIONS

C. SPECIAL REQUIREMENTS

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- 1. Mass limits based on an average discharge of 140,100 gpd.
- 2. Composite samples may be time proportioned.
- 3. Four grab samples must be collected at equally spaced intervals throughout the sample day. The four (4) grab samples must be composited by a NYSDOH certified laboratory prior to analysis.
- 4. The permittee must report any compound whose concentration is equal to or greater than 0.01 mg/L. The permittee is not authorized to discharge any of the parameters evaluated by these test procedures which may cause or contribute to a violation of water quality standards or harm the sewerage system. Any parameter detected may, at the discretion of the BSA, be specifically limited and incorporated in this permit.
- 5. Surchargeable over 250 mg/L.
- 6. Flow is an action level only. If the permittee consistently exceeds this level, the BSA must be notified so that this permit can be modified.

Permit No. 19-04-CH016 Part I Page 6 of 6



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TOWN OF CHEEKTOWAGA/BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM PERMIT

PART II GENERAL CONDITIONS

A. MONITORING AND REPORTING

1. Local Limits

Except as otherwise specified in this permit, the permit holder shall comply with all specific prohibitions, limits on pollutants or pollutant parameters set forth in the Buffalo Sewer Authority Sewer Use Regulations, as amended from time to time, and such prohibitions, limits and parameters shall be deemed pretreatment standards for purposes of the Clean Water Act

2. Definitions

Definitions of terms contained in this permit are as defined in the Town of Cheektowaga Local Law No. 2 and the Buffalo Sewer Authority Sewer Use Regulations.

3. Discharge Sampling Analysis

All Wastewater discharge samples and analyses and flow measurements shall be representative of the volume and character of the monitored discharge. Methods employed for flow measurements and sample collections and analyses shall conform to the Buffalo Sewer Authority "Sampling Measurement and Analytical Guidelines Sheet."

4. **Recording of Results**

For each measurement or sample taken pursuant to the requirements of the permit, the Permittee shall record the information as required in the "Sampling Measurement and Analytical Guidelines Sheet."

5. Additional Monitoring by Permittee

If the Permittee monitors any pollutants at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified in 40 CFR Part 136 the results of such monitoring shall be included in the calculation and reporting of values required under Part I, B. Such increased frequency shall also be indicated.

6. Reporting

All reports prepared in accordance with this Permit shall be submitted to:

Patrick Bowen, P.E. Town Engineer 275 Alexander Ave. Cheektowaga, New York, 14211

All self-monitoring reports shall be prepared in accordance with the BSA "Sampling Measurement and Analytical Guidelines Sheet." These reporting requirements shall not relieve the Permittee of any other reports, which may be required by the

N.Y.S.D.E.C. or the U.S.E.P.A.

B. PERMITTEE REQUIREMENTS

1. Change in Discharge

All discharges authorized herein shall be consistent with the terms and conditions of this permit and with the information contained in the TC/BPDES Permit Application on which basis this permit is granted. In the event of any facility expansions, production increases, process modifications or the installation, modification or repair of any pretreatment equipment which may result in new, different or increased discharges of pollutants, a new TC/BPDES Permit Application must be submitted prior to any change. Following receipt of an amended application, the BSA may modify this permit to specify and limit any pollutants not previously limited. In the event that the proposed change will be covered under an applicable Categorical Standard, a Baseline Monitoring Report must be submitted at least ninety (90) days prior to any discharge.

2. Records Retention

All records and information resulting from the monitoring activities required by this permit including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained at this facility for a minimum of three (3) years, or longer if requested by the General Manager and/or Town Engineer.

3. Notification of Slug, Accidental Discharge or Spill

In the event that a slug, accidental discharge or any spill occurs at the facility for which this permit is issued, it is the responsibility of the Permittee to immediately notify the B.S.A. Treatment Plant at 883-1820 of the quantity and character of such discharge. If requested by the B.S.A., within five (5) days following all such discharges, the Permittee shall submit a report describing the character and duration of the discharge, the cause of the discharge, and measures taken or that will be taken to prevent a recurrence of such discharge.

4. Noncompliance Notification

If, for any reason, the Permittee does not comply with or will be unable to comply with any discharge limitation specified in this permit, the Permittee or their assigns must verbally notify the Industrial Waste Section at 883-1820 within twenty-four (24) hours of becoming aware of the violation. The Permittee shall provide the Industrial Waste Section with the following information, in writing, within five (5) days of becoming aware of such condition:

- a. a description of the discharge and cause of noncompliance and;
- b. the period of noncompliance, including exact dates and times; or, if not corrected, the anticipated time the noncompliance is expected to continue, and steps being taken to reduce, eliminate and prevent recurrence of the noncomplying discharge.

5. Adverse Impact

The Permittee shall take all reasonable steps to minimize any adverse impact to the Buffalo and Town Sewerage System resulting from noncompliance with any discharge limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

6. Waste Residuals

Solids, sludges, filter backwash or other pollutants removed in the course of treatment or control of wastewaters and/or the treatment of intake waters, shall be disposed of in a manner such as to prevent any pollutant from such materials from entering the Buffalo or Town Sewer System.

7. **Power Failures**

In order to maintain compliance with the discharge limitations and prohibitions of this permit, the Permittee shall provide an alternative power source sufficient to operate the wastewater control facilities; or, if such alternative power source is not provided the Permittee shall halt, reduce or otherwise control production and/or controlled discharges upon the loss of power to the wastewater control facilities.

8. Treatment Upsets

- a. Any industrial user which experiences an upset in operations that places it in a temporary state of noncompliance, which is not the result of operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation, shall inform the Industrial Waste Section immediately upon becoming aware of the upset. Where such information is given verbally, a written report shall be filed by the user within five (5) days. The report shall contain:
 - (i) A description of the upset, its cause(s) and impact on the discharger's compliance status.
 - (ii) The duration of noncompliance, including exact dates and times of noncompliance, and if the noncompliance is continuing, the time by which compliance is reasonably expected to be restored
 - (iii) All steps taken or planned to reduce, eliminate, and prevent recurrence of such an upset.
- b. An industrial user which complies with the notification provisions of this Section in a timely manner shall have an affirmative defense to any enforcement action brought by the Industrial Waste Section/Town Engineer for any noncompliance of the limits in this permit, which arises out of violations attributable to and alleged to have occurred during the period of the documented and verified upset.

9. Treatment Bypasses

- a. A bypass of the treatment system is prohibited unless the following conditions are met:
 - (i) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage; or
 - (ii) There was no feasible alternative to the bypass, including the use of auxiliary treatment or retention of the wastewater; and
 - (iii) The industrial user properly notified the Industrial Waste Section as described in paragraph b. below.
- b. Industrial users must provide immediate notice to the Industrial Waste Section upon delivery of an unanticipated bypass. If necessary, the Industrial Waste Section may require the industrial user to submit a written report explaining the cause(s), nature, and duration of the bypass, and the steps being taken to prevent its recurrence.
- c. An industrial user may allow a bypass to occur which does not cause pretreatment standards or requirements to be violated, but only if it is for essential maintenance to ensure efficient operation of the treatment system. Industrial users anticipating a bypass must submit notice to the Industrial Waste Section at least ten (10) days in advance. The Industrial Waste Section may only approve the anticipated bypass if the circumstances satisfy those set forth in paragraph a. above.

C. PERMITTEE RESPONSIBILITIES

1. Permit Availability

The originally signed permit must be available upon request at all times for review at the address stated on the first page of this permit.

2. Inspections

The Permittee shall allow the representatives of the Buffalo Sewer Authority or Town of Cheektowaga upon the presentation of credentials and during normal working hours or at any other reasonable times, to have access to and copy any records required in this permit; and to sample any discharge of pollutants.

3. Transfer of Ownership or Control

In the event of any change in control or ownership of facilities for which this permit has been issued the permit shall become null and void. The succeeding owner shall submit a completed Town of Cheektowaga/ Buffalo Sewer Authority permit application prior to discharge to the sewer system.

D. PERMITTEE LIABILITIES

1. Permit Modification

After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to the following:

- a. Violation of any terms or conditions of this permit,
- b. Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts,
- c. A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

2. Imminent Danger

In the event there exists an imminent danger to health or property, the permitter reserves the right to take immediate action to halt the permitted discharge to the sewerage works.

3. Civil and Criminal Liability

Nothing in this permit shall relieve the Permittee from any requirements, liabilities, or penalties under provisions of the Town of Cheektowaga Local Law No. 2, the "Sewer Regulations of the Buffalo Sewer Authority" or any Federal, State and/or local laws or regulations.

4. **Penalties for Violations of Permit Conditions**

The "Sewer Regulations of the Buffalo Sewer Authority" and Town of Cheektowaga Local Law No. 2, provide that any person who violates a B.P.D.E.S. permit condition is liable to the Authority and/or the Town for a civil penalty of up to \$10,000 per day for each violation. Any person who willfully or negligently violates permit conditions will be referred to the New York State Attorney General.

E. NATIONAL PRETREATMENT STANDARDS

If a pretreatment standard or prohibition (including any Schedule of Compliance specified in such pretreatment standard or prohibition) is established under Section 307 (b) of the Act for a pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with such pretreatment standard or prohibition.

F. PLANT CLOSURE

In the event of plant closure, the Permittee is required to notify the Industrial Waste Section/Town Engineer in writing as soon as an anticipated closure date is determined, but in no case later than five (5) days of the actual closure.

G. CONFIDENTIALITY

Except for data determined to be confidential under Section 308 of the Act, all reports prepared in accordance with the terms of this permit shall be available for public inspection at the offices of the Buffalo Sewer Authority or Town Engineer of the Town of Cheektowaga. As required by the Act, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in Section 309 of the Act.

H. SEVERABILITY

The provisions of this permit are severable, and if any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

APPENDIX G

DISCHARGE REPORT SUMMARY TABLES

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SAMPLING FIELD SHEET



Client Name: Pfohl Brothers Landfill								
Address: Aero Drive, Cheektowaga, NY								
Contact: Patrick T. Bowen, P.E. Phone: 716-897-7288								
Installation:								
Sample Point: SP-001								
Sample Location: Meter Chamber - ball valve on 6" HDPE forcemain								
Date:9/19/19Crew:R. Murphy, K. McGovern								
Weather:56° F, mostly clear								
Sampling Device: NA								
Time of Installation: 8:00 Type of Sample: Composite (for metals and TSS), plus 4 grabs								
Sample Interval: NA Sample Volume: NA								
Comments and Observations: Wells WW-01, WW-04, WW-05, WW-06 running at the time of sample set-up. PLC display volumes: WW-01 (84,256 gals), WW-02 (0 gals), WW-03 (0 gals), WW-04 (4 500 mole) WW 05 (740 040 mole) WW 02 (200 005 mole) 8 Mil 05 (4 004 044 mole)								
Date: 9/20/19 Crew: R. Murphy, K. McGovern Weather: 56° F, clear								
Time of Collection: 8:00								
Field Measurements:								
8:00/RJM pH Calibration: Buffer 7- 7 Buffer 4- 4 Buffer 10- 10 (time/initial)								
pH Measurement: 7.20								
Temperature: <u>17.1°C</u>								
Identification: EFF-092019								
Physical Observations:								
Laboratory: TestAmerica Buffalo NY								
Comments: Wells WW-01, WW-04, WW-05, WW-06 running at the time of sample pick-up.								
PLC display volumes: WW-01 (135,334 gals), WW-02 (0 gals), WW-03 (0 gals), WW-04 (46,959 gals), WW-05 (755,074 gals), WW-06 (476,465 gals) & MH-25 (1,410,601 gals)								
Reviewed By: Reviewed By: Date: 9/20/19								
(Supervisor)								

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS SEPTEMBER 2019

Sample ID	EFF-092019									
Matrix	Effluent Water									
Date Sampled	9/20/2019									
Parameter	Re	esult		Mass	s Loading	Discharge Limitation		Violations		
	(n	ng/L)		(lk	os/day)	(lbs/day)		(Y/N)		
Total Barium		0.35			0.61		2.34	No		
Total Cadmuim	<(1)	0.0005		<	0.0009		1.17	No		
Total Chromium	<	0.0010		<	0.0017		1.17	No		
Total Copper		0.0039	J		0.0068		3.74	No		
Total Lead	<	0.0030		<	0.0052		1.17	No		
Total Mercury*	<	0.0001		<	0.0002	C).001	No		
Total Nickel		0.0027	J		0.005		3.27	No		
Total Zinc		0.023	В		0.040		5.84	No		
Total Suspended Solids		24			NA ⁽²⁾	2	50 ⁽³⁾	No		
рН ⁽⁴⁾		7.20			NA	5.0) - 12.0	No		
ethylbenzene*	(0.00056	J		NA		NA	No		
toluene*		0.0012	J		NA		NA	No		
Total Flow ⁽⁵⁾					208,957	14	0,100	Yes**		

Notes:

(1) < = Compound not detected, method detection limit shown

- (2) NA = Not Applicable
- (3) Discharge Limitation in units of mg/L
- (4) pH measurement and Discharge Limitation in Standard Units
- (5) Total Flow reported in gallons, sample was collected over a 24 hour period
- *= USEPA Test Methods 608, 624, 625 and Total Mercury performed once per permit duration. All detected results reported.
- **= Flow is listed in the permit as an action level only. If the permittee consistently exceeds this level, the BSA must be notified so that this permit can be modified.
- J= Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
- B= Compound was found in the blank and sample.

Calculation:
$$\left(\frac{x \text{ mg}}{L}\right) \left(\frac{y \text{ gal}}{\text{day}}\right) \left(\frac{1 \text{ lb}}{453,600 \text{ mg}}\right) \left(\frac{3.785 \text{ L}}{\text{gal}}\right) = \frac{x \times y}{119,841} \frac{\text{lb}}{\text{day}}$$

SAMPLING FIELD SHEET



	fohl Brothers Landfi	II						
Address: Aero Drive, Cheektowaga, NY								
Contact: F	Patrick T. Bowen, P.I	E. Phone:	716-897-7288					
Installation:	· · ·							
Sample Point: 5	SP-001							
Sample Location:	Meter Chaml	per - ball valve on 6" HDP	E forcemain					
Date:	12/19/19 Crew:	R. Murphy, K. McGov	ern					
Weather: 1	2° F. mostlv clear							
Sampling Device:	NA							
Time of Installation	8:30	Type of Sample:	Composite					
Sample Interval:	NA	Sample Volume:	NA					
PLC display v WW-04 (650,	olumes: WW-01 (39 146 gals), WW-05 (1	94,316 gals), WW-02 (21, I,882,138 gals), WW-06 (708 gals), WW-03 (136 gals), 2,078,083 gals) & MH-25 (5,058,745 gals).					
Date: Weather:1	<u>12/20/19</u> Crew: 3 [°] F, clear	R. Murphy, K. McGov	ern					
Date: Weather:1 Time of Collection: Field Measuremen 8:30/F	<u>12/20/19</u> Crew: <u>3° F, clear</u> <u>8:30</u> ts:	R. Murphy, K. McGov	ern 7 Buffer 4- 4 Buffer 10- 10					
Date: Weather:1 Time of Collection: Field Measuremen 8:30/R (time/ini	<u>12/20/19</u> Crew: <u>3° F, clear</u> <u>8:30</u> ts: <u>8JM</u> tial)	R. Murphy, K. McGov	ern 					
Date: Weather:1 Time of Collection: Field Measuremen 8:30/R (time/ini	<u>12/20/19</u> Crew: <u>3° F, clear</u> <u>8:30</u> ts: 2JM tial)	R. Murphy, K. McGov	ern 7Buffer 44Buffer 1010 7.26 5.8°C					
Date: Weather:1 Time of Collection: Field Measuremen 8:30/R (time/ini	<u>12/20/19</u> Crew: <u>3° F, clear</u> <u>8:30</u> ts: RJM tial)	R. Murphy, K. McGov	ern 7Buffer 44Buffer 1010 7.26 5.8°C					
Date: Weather:1 Time of Collection: Field Measuremen 8:30/R (time/ini	<u>12/20/19</u> Crew: <u>3° F, clear</u> <u>8:30</u> ts: RJM tial) EFF-122019	R. Murphy, K. McGov	ern 7Buffer 44Buffer 1010 7.26 					
Date: Weather:1 Time of Collection: Field Measuremen 8:30/F (time/ini Identification:E Physical Observatio	<u>12/20/19</u> Crew: <u>3° F, clear</u> <u>8:30</u> ts: RJM tial) EFF-122019 ons:	R. Murphy, K. McGov	ern 7 Buffer 4- <u>4</u> Buffer 10- <u>10</u> 7.26 <u>5.8°C</u>					
Date: Weather:1 Time of Collection: Field Measuremen 8:30/F (time/ini Identification:E Physical Observati Laboratory: _Tes	<u>12/20/19</u> Crew: <u>3° F, clear</u> <u>8:30</u> ts: <u>RJM</u> EFF-122019 ons: stAmerica, Buffalo, N	R. Murphy, K. McGov	ern 7Buffer 44Buffer 1010 7.26 					
Date: Weather: Time of Collection: Field Measuremen 8:30/F (time/ini Identification: Physical Observation Laboratory: Comments: PLC display vertice	12/20/19 Crew: 3° F, clear 8:30 ts: 9:30 ons: 9:30 stAmerica, Buffalo, N 9:30 ts: 9:30 ts:	R. Murphy, K. McGov — pH Calibration: Buffer 7- pH Measurement: Temperature: NY t the time of sample pick- 94,316 gals), WW-02 (21,	ern 7 Buffer 4- <u>4</u> Buffer 10- <u>10</u> 7.26 5.8°C <u>up.</u> 708 gals), WW-03 (136 gals),					
Date: Weather: Time of Collection: Field Measuremen 8:30/F (time/ini Identification: Physical Observation Laboratory: Comments: PLC display vo WW-04 (650, 7)	12/20/19 Crew: 3° F, clear 8:30 ts: 9:30 ons: 9:30 stAmerica, Buffalo, N 9:30 olumes: WW-01 (3:9 146 gals), WW-05 (1) 1:30	R. Murphy, K. McGov — — — — — — — — — — — — — — — — — — —	ern 7 Buffer 4- <u>4</u> Buffer 10- <u>10</u> 7.26 5.8°C up. 708 gals), WW-03 (136 gals), 2,096,468 gals) & MH-25 (5,098,359 gals).					

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS DECEMBER 2019

Sample ID		EFF-122019								
Matrix	Effluent Water									
Date Sampled	12/20/2019									
Parameter	F	Result		Ма	ass Loading	Discharge Limitation	Violations			
		(mg/L)			(lbs/day)	(lbs/day)	(Y/N)			
Total Barium		0.24			0.08	2.34	No			
Total Cadmuim	<(1)	0.0005		<	0.0002	1.17	No			
Total Chromium		0.0012	J		0.0004	1.17	No			
Total Copper		0.0035	J		0.0012	3.74	No			
Total Lead	<	0.0030		<	0.0010	1.17	No			
Total Nickel		0.0022	J		0.001	3.27	No			
Total Zinc		0.010	В		0.003	5.84	No			
Total Suspended Solids		113			NA ⁽²⁾	250 ⁽³⁾	No			
рН ⁽⁴⁾		7.26			NA	5.0 - 12.0	No			
Total Flow ⁽⁵⁾					39,614	140,100	No			

Notes:

- (1) < = Compound not detected, method detection limit shown
- (2) NA = Not Applicable
- (3) Discharge Limitation in units of mg/L
- (4) pH measurement and Discharge Limitation in Standard Units
- (5) Total Flow reported in gallons, sample was collected over a 24 hour period
- J= Result is less than the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.
- B= Compound was found in the blank and sample.

Calculation:
$$\left(\frac{x \text{ mg}}{L}\right) \left(\frac{y \text{ gal}}{\text{day}}\right) \left(\frac{1 \text{ lb}}{453,600 \text{ mg}}\right) \left(\frac{3.785 \text{ L}}{\text{gal}}\right) = \frac{x \times y}{119,841} \frac{\text{lb}}{\text{day}}$$

APPENDIX H

MONITORING WELL INSPECTION LOGS

			١	WELL INSPE	CTION SUI	MMARY		
Pro	ect Name:			Pfohl Brothers Lai	<u>ndfill</u>	Project Number:	60411174	_
Insp	ection Crew Members	5:		<u>R. Murphy, K. Mcc</u>	<u>Govern</u>	Supervisor:	<u>R. Murphy</u>	
Dat	e(s) of Inspection:		<u> </u>	November 25, 201	2			
	Well I.D. Number	Lock	Surface Seal	Protective Casing	Riser	Water Level (ft. BTOC)	Well Depth (ft. BTOC)	Other Comments
	GW-01S	ОК	ок	ОК	Bulged	3.70	14.94	
	GW-01D	ОК	ок	ОК	Bulged	2.80	39.65	
	GW-03S	ОК	ОК	OK	ОК	2.33	13.22	
	GW-03D	ОК	ОК	ОК	ОК	1.68	35.70	
	GW-04S	ОК	ОК	ОК	ОК	4.08	16.23	
	GW-04D	ок	ок	ОК	ОК	11.91	45.57	
	GW-07S	ОК	ок	ОК	ОК	4.62	35.33	
	GW-07D	ОК	ок	ОК	Damaged	42.23	60.83	

Additional Comments:

Project Name:			Pfohl Brothers La	<u>ndfill</u>	Project Number:	60411174	_				
nspection Crew Memb	oers:		<u>R. Murphy, K. Mc</u>	<u>Govern</u>	Supervisor:	<u>R. Murphy</u>					
Date(s) of Inspection:			<u>November 25, 201</u>	<u>9</u>							
Well I.D. Number	- Lock	Surface Seal	Protective Casing	Riser	Water Level (ft. BTOC)	Well Depth (ft. BTOC)	Other Comments				
GW-08SR	ОК	ОК	ОК	ОК	5.14	13.02					
GW-08D	ОК	ОК	ОК	ОК	5.67	36.54					
GW-26D	ОК	ОК	ОК	ОК	6.50	40.70					
GW-28S	ОК	ОК	ОК	ОК	8.41	15.52					
GW-29S	ОК	ОК	ОК	ОК	6.59	20.04					
GW-30S	ОК	ОК	ОК	ОК	7.67	17.97					
GW-31S	ОК	ОК	ОК	ОК	6.00	9.57					
	ОК	ОК	ОК	ОК	2.45	9.93					

WELL INSPECTION SUMMARY											
Project Name: <u>Pfohl Brothers Landfill</u> Project Number: <u>60411174</u>											
Inspection Crew Memb	nspection Crew Members:		<u>R. Murphy, K. Mc</u>	<u>Govern</u>	Supervisor:	<u>R. Murphy</u>					
Date(s) of Inspection:			November 25, 201	<u>9</u>							
Well I.D. Number	Lock	Surface Seal	Protective Casing	Riser	Water Level (ft. BTOC)	Well Depth (ft. BTOC)	Other Comments				
GW-33S	ОК	ОК	ОК	ОК	3.77	8.21					
GW-34S	ОК	ОК	ОК	ок	2.61	10.01					
GW-35S	ОК	ОК	ОК	ОК	3.09	7.46					

DATA APPLICABILITY REPORT

SEMI-ANNUAL GROUNDWATER MONITORING

PFOHL BROTHERS LANDFILL SITE

Analyses Performed by:

EUROFINS TESTAMERICA, BUFFALO 10 HAZELWOOD DRIVE AMHERST, NY

Prepared for:

TOWN OF CHEEKTOWAGA CHEEKTOWAGA, NY 14225

Prepared by:

AECOM 257 WEST GENESEE STREET, SUITE 400 BUFFALO, NY 14202-2657

FEBRUARY 2020

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III.	DATA DELIVERABLE COMPLETENESS	.2
IV.	SAMPLE RECEIPT/PRESERVATION/HOLDING TIMES	.2
V.	NON-CONFORMANCES	.2
VI.	SAMPLE RESULTS AND REPORTING	.3
VII.	SUMMARY	.3

TABLES

(Following Text)

Table 1Validated Groundwater Sample ResultsTable 2Validated Field QC Sample Results

APPENDICES

Appendix A – Validated Sample Reporting Forms

Appendix B - Support Documentation

I. INTRODUCTION

This Data Applicability Report (DAR) has been prepared following the guidelines provided in New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation DER-10 Technical Guidance for Site Investigation and Remediation, Appendix 2B-Guidance for Data Deliverables and the Development of Data Usability Summary Reports, May 2010. This DAR discusses the usability of the analytical data for groundwater samples collected during the May 2019 semi-annual monitoring program at the Pfohl Brothers Landfill Site, located in Cheektowaga, NY.

II. ANALYTICAL METHODOLOGIES and DATA APPLICABILITY PROCEDURES

The data being evaluated are from the November 25-27, 2019 sampling of nineteen (19) groundwater samples, one (1) field duplicate, one (1) matrix spike (MS)/matrix spike duplicate (MSD) pair, and two (2) trip blanks. The analytical laboratory that performed the analyses was Eurofins TestAmerica, Buffalo located in Amherst, NY. The samples were analyzed for the following project specific parameters: Volatile Organic Compounds (VOCs) following United States Environmental Protection Agency (USEPA) Method 8260C, Semivolatile Organic Compounds (SVOCs) by USEPA Method 8270D, and metals by USEPA Methods 6010C/7470A. Not all samples were analyzed for all parameters.

A limited data review was performed in accordance with the following USEPA Region II data validation guidelines:

- Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846 Method 8260B & 8260C, SOP HW-24, Rev. 4, October 2014;
- Validating Semivolatile Organic Compounds by Gas Chromatography/Mass Spectrometry, SW-846 Method 8270D, SOP HW-22, Rev. 5, December 2010;
- ICP-AES Data Validation, SOP HW-3a, Rev. 1, September 2016; and
- Mercury and Cyanide Data Validation, SOP HW-3c, Rev. 1, September 2016.

The data applicability evaluation included a review of completeness of all required deliverables; holding times; quality control (QC) results (surrogate recoveries, blanks, matrix spike recoveries, duplicate analyses, and laboratory control sample recoveries) to determine if the data are within the protocol-required QC limits and specifications; a determination that all samples were analyzed using established and agreed upon analytical protocols; and a review of laboratory data qualifiers.

Definitions of USEPA data qualifiers are presented at the end of this text. The analytical results are presented on Table 1 (groundwater) and Table 2 (field QC). Copies of the laboratory results (i.e., sample reporting forms) are presented in Appendix A. Documentation supporting the qualification of data is presented in Appendix B. Only analytical deviations affecting data usability are discussed in this report.

III. DATA DELIVERABLE COMPLETENESS

In accordance with the project requirements, limited deliverable data packages (level 2) were provided by the laboratory, which only consisted of analytical summaries, QC reporting forms and case narratives.

IV. SAMPLE RECEIPT/PRESERVATION/HOLDING TIMES

All samples were received by the laboratory intact, properly preserved and under proper chain-ofcustody (COC). All samples were analyzed within the required holding times (HT).

Due to the low recharge rates of monitoring wells GW-07D and GW-07S, the VOC aliquots were collected on 11/25/19, while the SVOC/metals aliquots were collected on 11/26/19. All aliquots of sample GW-04S were collected on 11/25/19, however the VOCs were collected at 15:34 while the SVOCs/metals were collected at 17:20, due to a low recharge rate.

V. NON-CONFORMANCES

Instrument Calibration

The percent difference (%D) between the VOC initial calibration (ICAL) average relative response factors (RRF) and the RRF in the continuing calibration standards (CCAL) exceeded the QC limit and showed a decreasing response (i.e., low bias) for VOC vinyl chloride. The results for this compound in associated samples GW-26D, GW-29S, GW-30S, GW-31S, GW-32S, GW-33S, GW-35S, and TB-112719 were qualified 'UJ'.

Laboratory Method Blanks

Zinc (Zn) was detected in the metals laboratory method blank below the reporting limit (RL). The detected results for Zn in sample GW-01S, GW-03D, GW-07S, and GW-28S were qualified 'U' at the RL.

The detected Zn results in the remaining samples were greater than the RL, therefore the 'B' qualifier applied by the lab was removed. Manganese (Mn) was also detected in the method blank, however since the Mn results in the associated samples were greater than the RL, the 'B' qualifier applied by the laboratory was removed, and no further qualification was deemed necessary.

VI. SAMPLE RESULTS AND REPORTING

The method blank associated with the initial SVOC analysis showed a surrogate recovery slightly below the lower QC limit, all sample surrogate recoveries were acceptable. The laboratory re-extracted the samples outside of the holding time and re-analyzed them. The method blank associated with the reextraction batch had acceptable surrogate recoveries. Since the sample results were similar between the initial and re-extraction batch; the sample results have been reported from the initial extraction.

All RLs were reported in accordance with method requirements and were adjusted for sample size and dilution factors. Results for compounds/analytes detected below the RL are qualified 'J'.

A field duplicate was collected at groundwater location GW-08D. The field duplicate results exhibited good field and analytical precision.

VII. **SUMMARY**

All sample analyses were found to be compliant with the method criteria and usable as reported, except where previously noted. All sample results qualified 'UJ' are considered conditionally usable. AECOM does not recommend the recollection of any samples.

Prepared By: Ann Marie Kropovitch, Chemist \mathcal{H} Date: 2/26/20Chemist \mathcal{H} Date: 2/26/20

DEFINITIONS OF USEPA DATA QUALIFIERS

- U The analyte was analyzed for, but was not detected above the level of the sample reporting limit.
- J The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.
- J+ The metal result is an estimated quantity, but the result may be biased high.
- J- The metal result is an estimated quantity, but the result may be biased low.
- UJ The analyte was analyzed for, but not detected. The reporting limit is approximate and may be inaccurate or imprecise.
- R The data are unusable. The sample results are rejected due to serious deficiencies in meeting quality control criteria. The analyte may or may not be present in the sample.

Location ID		GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID		GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		•	-	-	-	-
Date Sampled		11/25/19	11/25/19	11/26/19	11/26/19	11/25/19
Parameter	Units					
Volatile Organic Compounds						
1,1,2-Trichloroethane	UG/L	1.0 U				
1,2-Dichloroethene (total)	UG/L	2.0 U				
Acetone	UG/L	10 U				
Benzene	UG/L	1.0 U				
Vinyl chloride	UG/L	1.0 U				
Semivolatile Organic Compounds						
1,3-Dichlorobenzene	UG/L	10 U	10 U	2.4 J	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	3.6 J	10 U	10 U
bis(2-Ethylhexyl)phthalate	UG/L	5.0 U				
Phenol	UG/L	5.0 U				
Metals						2
Antimony	MG/L	0.020 U				
Arsenic	MG/L	0.010 U				
Barium	MG/L	0.088	0.20	0.075	0.10	0.097
Cadmium	MG/L	0.0010 U	0.00053 J	0.0010 U	0.0012	0.00062 J
Chromium	MG/L	0.032	0.0015 J	0.0040 U	0.0054	0.0032 J
Copper	MG/L	0.010 U	0.0021 J	0.0016 J	0.0038 J	0.010 U
Iron 🧧	MG/L	0.55	6.4	0.98	0.16	0.11
Lead	MG/L	0.0050 U				
Magnesium	MG/L	35.1	22.6	14.4	92.7	73.6
Manganese	MG/L	0.021	0.95	0.22	0.028	0.020
Mercury	MG/L	0.00020 U				
Nickel	MG/L	0.0014 J	0.010 U	0.0035 J	0.032	0.0014 J

Flags assigned during chemistry validation are shown.

MADE BY: AMK 2/19/20 CHECKED BY: PRF 2/26/20

Location ID		GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Sample ID		GW-01D	GW-01S	GW-03D	GW-03S	GW-04D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			•	-	•	-
Date Sampled		11/25/19	11/25/19	11/26/19	11/26/19	11/25/19
Parameter	Units					
Metals					۵.	
Silver	MG/L	0.0030 U				
Sodium	MG/L	109	182	157	90.0	89.7
Zinc	MG/L	0.016	0.010 U	0.010 U	0.016	0.017

Flags assigned during chemistry validation are shown.

MADE BY: AMK 2/19/20 CHECKED BY: PRF 2/26/20

Location ID		GW-04S	GW-04S	GW-07D	GW-07D	GW-07S
Sample ID		GW-04S	GW-04S	GW-07D	GW-07D	GW-07S
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		•	-	-	-	•
Date Sampled		11/25/19	11/25/19	11/25/19	11/26/19	11/25/19
Parameter	Units					
Volatile Organic Compounds						
1,1,2-Trichloroethane	UG/L	1.0 U	NA	1.0 U	NA	1.0 U
1,2-Dichloroethene (total)	UG/L	2.0 U	NA	2.0 U	NA	2.0 U
Acetone	UG/L	5.6 J	NA	4.4 J	NA	4.3 J
Benzene	UG/L	1.0 U	NA	1.0 U	NA	1.0 U
Vinyl chloride	UG/L	1.0 U	NA	1.0 U	NA	1.0 U
Semivolatile Organic Compounds					2	
1,3-Dichlorobenzene	UG/L	NA	10 U	NA	10 U	NA
1,4-Dichlorobenzene	UG/L	NA	🕆 10 U	NA	10 U	NA
bis(2-Ethylhexyl)phthalate	UG/L	NA	5.0 U	NA	[°] 4.0 J	NA
Phenol	UG/L	NA	5.0 U	NA	5.0 U	NA
Metals			21			
Antimony	MG/L	NA	0.020 U	NA	0.020 U	NA
Arsenic	MG/L	NA	0.010 U	NA	0.010 U	NA
Barium	MG/L	NA	0.11	NA	0.11	NA
	MG/L	NA	0.0013	NA	0.0022	NA
	MG/L	, NA	0.0074	NA	0.57	NA
Copper	MG/L	NA	0.0054 J	ା NA	0.054	NA
lron	MG/L	NA	2.0	NA	15.0	NA
Lead	MG/L	NA	0.0050 U	NA	0.22	NA
Magnesium	MG/L	NA	25.8	NA	36.0	NA
Manganese	MG/L	NA	0.11	NA	0.15	NA
Mercury	MG/L	NA	0.00020 U	NA	0.00020 U	NA
Nickel	MG/L	NA	0.0058 J	NA	0.25	NA

Flags assigned during chemistry validation are shown.

MADE BY: AMK 2/19/20 CHECKED BY: PRF 2/26/20

Detection Limits shown are PQL

Location ID		GW-04S	GW-04S	GW-07D	GW-07D	GW-07S
Sample ID		GW-04S	GW-04S	GW-07D	GW-07D	GW-07S
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		•	-	•	-	-
Date Sampled		11/25/19	11/25/19	11/25/19	11/26/19	11/25/19
Parameter	Units					
Metals						þ.
Silver	MG/L	NA	0.0030 U	∃ NA	0.0030 U	NA
Sodium	MG/L	NA	28.0	NA	76.6	NA
Zinc	MG/L	NA	0.014	NA	0.12	NA

Flags assigned during chemistry validation are shown.

MADE BY: AMK 2/19/20 CHECKED BY: PRF 2/26/20

Location ID		GW-07S	GW-08D	GW-08D	GW-08SR	GW-26D
Sample ID		GW-07S	FD-112619	GW-08D	GW-08SR	GW-26D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	=	•	-
Date Sampled		11/26/19	11/26/19	11/26/19	11/26/19	11/27/19
Parameter	Units		Field Duplicate (1-1)			
Volatile Organic Compounds		2				
1,1,2-Trichloroethane	UG/L	NA	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethene (total)	UG/L	NA	2.0 U	2.0 U	2.0 U	2.0 U
Acetone	UGAL	NA	10 U	10 U	10 U	10 U
Benzene	UG/L	NA	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl chloride	UG/L	NA	1.0 U	1.0 U	1.0 U	1.0 UJ
Semivolatile Organic Compounds						
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	10 U	10 U	10 U 👘
bis(2-Ethylhexyl)phthalate	UG/L	5.0 U 👘	5.0 U	5.0 U	5.0 U	5.0 U
Phenol	UG/L	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Metals						
Antimony	MG/L	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Arsenic	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.0059 J
Barium	MG/L	0.40	0.090	0.089	0.13	0.12
	MG/L	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
	MG/L	_{s.} 0.0013 J	0.011	0.013	0.0013 J	0.0040 U
Copper	MG/L	0.0020 J	0.0033 J	0.0038 J	0.0020 J	0.010 U
Iron	MG/L	0.15	0.22	0.20	8.0	2.8
Lead	MG/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Magnesium	MG/L	41.7	15.4	15.7	52.4	16.5
Manganese	MG/L	0.031	0.030	0.030	0.70	0.34
Mercury	MG/L	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U
Nickel	MG/L	0.027	0.0047 J	0.0045 J	0.010 U	0.0025 J

Flags assigned during chemistry validation are shown.

MADE BY: AMK 2/19/20 CHECKED BY: PRF 2/26/20
Location ID		GW-07S	GW-08D	GW-08D	GW-08SR	GW-26D
Sample ID		GW-07S	FD-112619	GW-08D	GW-08SR	GW-26D
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)	Interval (ft)			•		8 .
Date Sampled		11/26/19	11/26/19	11/26/19	11/26/19	11/27/19
Parameter	Units		Field Duplicate (1-1)			
Metals					5. 1	
Silver	MG/L	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U
Sodium	MG/L	60.4	297	305	151	310
Zinc	MG/L	0.010 U	0.040	0.045	0.010 U	0.014

Flags assigned during chemistry validation are shown.

Location ID		GW-28S	GW-29S	GW-30S	GW-31S	GW-32S
Sample ID		GW-28S	GW-29S	GW-305	GW-31S	GW-32S
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		· .	-	-	-	-
Date Sampled		11/26/19	11/27/19	11/27/19	11/27/19	11/27/19
Parameter	Units		+			
Volatile Organic Compounds						
1,1,2-Trichloroethane	UG/L	1.0 U				
1,2-Dichloroethene (total)	UG/L	2.0 U				
Acetone	UG/L	10 U	10 U	10 U	4.3 J	10 U
Benzene	UG/L	1.0 U				
Vinyl chloride	UG/L	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Semivolatile Organic Compounds				й. -	9	0
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	° 10 U	10 U
1,4-Dichlorobenzene	UGAL	10 U				
bis(2-Ethylhexyl)phthalate	UG/L	5.0 U				
Phenol UG/L		5.0 U				
Metals						
Antimony	MG/L	0.020 U				
Arsenic	MG/L	0.010 U	0.023	0.010 U	0.010 U	0.010 U
Barium	MG/L	0.094	0.17	0.14	≈ 0.089	0.049
Cadmium	MG/L	0.0010 U	0.00062 J	0.0010 U	0.0010 U	0.00054 J
Chromium	MG/L	0.0040 U				
Copper	MG/L	0.0024 J	0.010 U	0.010 U	0.010 U	0.010 U
Iron	MG/L	0.32	13.0	5.1	2.4	0.021 J
Lead	MG/L	0.0050 U				
Magnesium	MG/L	25.9	54.2	30.8	28.3	24.8
Manganese	MG/L	1.3	0.59	0.90	0.67	0.30
Mercury	MG/L	0.00020 U				
Nickel	MG/L	0.0021 J	0.010 U	0.010 U	0.0025 J	0.010 U

Flags assigned during chemistry validation are shown.

Location ID		GW-28S	GW-29S	GW-30S	GW-31S	GW-32S	
Sample ID		GW-28S	GW-29\$	GW-30S	GW-31S	GW-32S	
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater	
Depth Interval (ft)	nterval (ft)		-	•	-	-	
Date Sampled		11/26/19	11/27/19	11/27/19	11/27/19	11/27/19	
Parameter	Units						
Metals							
Silver	MG/L	0.0030 U					
Sodium	MG/L	12.5	7.0	94.1	3.6	3.6	
Zinc	MG/L	0.010 U	0.0023 J	0.010 U	0.0043 J	0.0032 J	

Flags assigned during chemistry validation are shown.

Location ID		GW-33S	GW-34S	GW-35S	
Sample ID		GW-33S	GW-34S	GW-35S	
Matrix		Groundwater	Groundwater	Groundwater	
Depth Interval (ft)			-	-	
Date Sampled		11/27/19	11/26/19	11/27/19	
Parameter	Units				
Volatile Organic Compounds					
1,1,2-Trichloroethane	UG/L	1.0 U	1.0 U	1.0 U	
1,2-Dichloroethene (total)	UG/L	2.0 U	2.0 U	2.0 U	
Acetone	UG/L	10 U	10 U	10 U	
Benzene	UG/L	1.0 U	1.0 U	1.0 U	
Vinyl chloride	UG/L	1.0 UJ	1.0 U	1.0 UJ	
Semivolatile Organic Compounds					
1,3-Dichlorobenzene	UG/L	10 U	10 U	10 U	
1,4-Dichlorobenzene	UG/L	10 Ú	10 U	10 U	
bis(2-Ethylhexyl)phthalate	UG/L	5.0 U	5.0 U	5.0 U	
Phenol	UG/L	5.0 U	5.0 U	5.0 U	
Metals					
Antimony	MG/L	0.020 U	0.020 U	0.020 U	
Arsenic	MG/L	0.010 U	0.010 U	0.010 U	
Barium	MG/L	0.070	0.12	0.091	
Cadmium	MG/L	0.00056 J	0.0010 U	0.0010 U	
Chromium	MG/L	0.0015 J	0.0034 J	0.0040 U	
Copper	MG/L	0.010 U	0.0019 J	0.010 U	
Iron	MG/L	0.024 J	0.025 J	0.026 J	
Lead	MG/L	0.0050 U	0.0050 U	0.0050 U	
Magnesium	MG/L	37.4	39.6	23.6	
Manganese	MG/L	0.0090	0.035 B	0.16	
Mercury	MG/L	0.00020 U	0.00020 U	0.00020 U	
Nickel	MG/L	0.010 U	0.0038 J	0.010 U	

Flags assigned during chemistry validation are shown.

Location ID		GW-33S	GW-34S	GW-35S		
Sample ID		GW-335	GW-34S	GW-35S		
Matrix		Groundwater	Groundwater	Groundwater		
Depth Interval (ft)	-	-	-	•		
Date Sampled		11/27/19	7/19 11/26/19 11/27/1			
Parameter	Units					
Metals						
Silver	MG/L	0.0030 U	0.0030 U	0.0030 U		
Sodium	MG/L	3.1	17.1	3.0		
Zinc	MG/L	0.0028 J	0.010 U	0.0025 J		

Flags assigned during chemistry validation are shown.

TABLE 2 VALIDATED FIELD QC SAMPLE RESULTS PFOHL BROTHERS LANDFILL SITE

Location ID		FIELDQC	FIELDQC	
Sample ID		TB-112519+112619	TB-112719	
Matrix		Groundwater	Quality Control	
Depth Interval (ft)		-	-	
Date Sampled	Date Sampled			
Parameter	Units	Trip Blank (1-1)	Trip Blank (1-1)	
Volatile Organic Compounds				
1,1,2-Trichloroethane	UG/L	1.0 U	1.0 U	
1,2-Dichloroethene (total)	UG/L	2.0 U	2.0 U	
Acetone	UG/L	10 U	10 U	
Benzene	UG/L	1.0 U	1.0 U	
Vinyl chloride	UG/L	1.0 U	1.0 UJ	

Flags assigned during chemistry validation are shown.

MADE BY: AMK 2/19/20 CHECKED BY: PRF 2/26/20

J:\Projecta\11172700.00000\GIS\dB\Program\EDMS.mde Printad: 226/2020 1:16:04 PM [LOGDATE] > #11/1/2019# AND [LOCID] = FIELDQC

Detection Limits shown are PQL

APPENDIX A

VALIDATED SAMPLE REPORTING FORMS

Matrix: Water

6

Lab Sample ID: 480-163455-1

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-26D Date Collected: 11/27/19 09:33

A	Baaula	Ouelline		1401	11-14		Descend	Analyzed	
Analyte	Result	Quaimer		MUL		D	Prepared	Analyzed	
	ND		1.0	0.23	ug/L			11/30/19 13:46	
	ND		2.0	0.81	ug/L			1//30/19 13:46	
Acetoné	ND		10	3.0	ug/L			11/30/19 13:48	Ĩ
Benzene	ND	1	1.0	0.41	ug/L			11/30/19 13:48	1
Vinyl chloride	ND	05	1.0	0.90	ug/L			11/30/19 13:48	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	103		77 - 120					11/30/19 13:48	
Foluene-d8 (Surr)	98		80 - 120					11/30/19 13:48	1
1-Bromofluorobenzene (Surr)	99		73 - 120					11/30/19 13:48	1
Dibromofluoromethane (Surr)	102		75-123					11/30/19 13:48	1
Vethod: 8270D - Semivolatile	Organic Co	mpounds	(GC/MS)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
,3-Dichlorobenzene	ND		10	0.48	ug/L		12/03/19 15:25	12/05/19 16:04	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		12/03/19 15:25	12/05/19 16:04	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		12/03/19 15:25	12/05/19 16:04	1
Phenol	ND		5.0	0.39	ug/L		12/03/19 15:25	12/05/19 16:04	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
2.4.6-Tribromophenol	79		41 - 120				12/03/19 15:25	12/05/19 16:04	1
2-Fluorobiohenvl	97	1. St.	48 - 120				12/03/19 15:25	12/05/19 16:04	1
2-Fluorophenol	70		35 - 120				12/03/19 15:25	12/05/19 16:04	1
Vitrobenzene-d5	75		46 - 120				12/03/19 15:25	12/05/19 16:04	. : :: 1
Phenol-d5	53		22 - 120				12/03/19 15:25	12/05/19 16:04	1
p-Terphenyl-d14	83		60 - 148				12/03/19 15:25	12/05/19 16:04	1
Nothed: 6010C - Motale (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dii Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/02/19 15:19	1
Arsenic	0.0059	J	0.010	0.0056	mg/L		11/30/19 12:45	12/02/19 15:19	1
Barium	0.12		0.0020	0.00070	mg/L		11/30/19 12:45	12/02/19 15:19	1
Cadmium	ND		0.0010	0.00050	mg/L		11/30/19 12:45	12/02/19 15:19	1
Chromium	ND		0.0040	0.0010	mg/L		11/30/19 12:45	12/02/19 15:19	<u>_</u> 1
Copper	ND		0.010	0.0016	mg/L		11/30/19 12:45	12/02/19 15:19	1
ron	2.8		0.050	0.019	mg/L		11/30/19 12:45	12/02/19 15:19	···· 1
ead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/02/19 15:19	1
laonesium	16.5		0.20	0.043	mg/L		11/30/19 12:45	12/02/19 15:19	1
Vanganese	0.34		0.0030	0.00040	mg/L		11/30/19 12:45	12/02/19 15:19	1
lickel	0.0025	J	0.010	0.0013	ma/L		11/30/19 12:45	12/02/19 15:19	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/02/19 15:19	1
Sodium	310		1.0	0.32	mg/L		11/30/19 12:45	12/02/19 15:19	1
Vinc	0.014		0 010	0.0015	ma/l		11/30/19 12:45	12/02/19 15:19	1
	0.014		3.010	2.0010					
Vethod: 7470A - Mercury (CV	4A)								
Inalyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac



6

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample	ID:	GV	V-35S
Date Collected: 1	1/27	/19	10:13

Lab Sample ID: 480-163455-2 **Matrix: Water**

Date Received: 11/27/19 16:50

	Qualifier Qualifier	1.0 1.0 2.0 10 1.0 1.0 1.0 1.0 5.0 5.0 Limits 41 - 120 48 - 120 35 - 123	0.23 0.81 3.0 0.41 0.90 MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L ug/L ug/L ug/L ug/L	D	Prepared Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	Analyzed 11/30/19 14:12 11/30/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 1
	Qualifier Qualifier	2.0 10 1.0 1.0 <i>Limits</i> 77 - 120 80 - 120 73 - 120 75 - 123 (GC/MS) RL 10 5.0 5.0 <i>Limits</i> 41 - 120 48 - 120 35 - 120 46 - 120	0.20 0.81 3.0 0.41 0.90 MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L ug/L ug/L ug/L	D	Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	11/30/19 14:12 11/30/19 14:13 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Qualifier Qualifier	2.0 10 1.0 1.0 <i>Limits</i> 77 - 120 80 - 120 73 - 120 75 - 123 (GC/MS) <u>RL</u> 10 10 5.0 5.0 <i>Limits</i> 41 - 120 48 - 120 35 - 120 46 - 120	MDL 0.48 0.48 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L ug/L ug/L ug/L	D	Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	11/30/19 14:12 11/30/19 14:13 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
UDD y 44997 Cult DDDD y 6507819	Qualifier Qualifier Qualifier	1.0 1.0 1.0 Limits 77 - 120 80 - 120 73 - 120 75 - 123 (GC/MS) RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	0.41 0.90 MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L ug/L ug/L	D	Prepared Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	1/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 12/05/19 16:33 12/05/19 16:33	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
10 17 17 17 17 17 17 17 17 17 17 17 17 17	Qualifier Qualifier Qualifier	1.0 1.0 1.0 1.0 1.0 1.0 80 - 120 73 - 120 75 - 123 (GC/MS) RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	MDL 0.41 0.90 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L ug/L	D	Prepared Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	Analyzed 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 <i>Dil Fac</i> 1 1 1 1 <i>Dil Fac</i> 1 1 <i>Dil Fac</i> 1 1 1 1 1 1 1 1 1 1 1 1 1
y y 4 9 7 O III III y 65 1 7 6 1 1 1 y 65 1 7 1 </td <td>Qualifier empounds Qualifier</td> <td>Limits 77 - 120 80 - 120 73 - 120 75 - 123 (GC/MS) RL 10 10 5.0 5.0 5.0 Limits 41 - 120 48 - 120 46 - 120</td> <td>MDL 0.48 0.46 2.2 0.39</td> <td>Unit ug/L ug/L ug/L ug/L</td> <td>D</td> <td>Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25</td> <td>Analyzed 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33</td> <td>Dil Fac 1 1 1 1 1 Dil Fac 1 1 1 1 1 1 1 1 1 1 1</td>	Qualifier empounds Qualifier	Limits 77 - 120 80 - 120 73 - 120 75 - 123 (GC/MS) RL 10 10 5.0 5.0 5.0 Limits 41 - 120 48 - 120 46 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	D	Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	Analyzed 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	Dil Fac 1 1 1 1 1 Dil Fac 1 1 1 1 1 1 1 1 1 1 1
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04 91 07 0 11 10 10 10 10 10 10 10 10 10 10 10 1	ompounds Qualifier Qualifier	77 - 120 80 - 120 73 - 120 75 - 123 (GC/MS) RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	D	Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
94 91 07 Cult 10 10 10 10 10 10 10 10 10 10 10 10 10 1	ompounds Qualifier Qualifier	80 - 120 73 - 120 75 - 123 (GC/MS) RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	D	Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 11/30/19 14:12 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
91 07 Cult D D D D 10 10 10 10 10 10 10 10 10 10	ompounds Qualifier Qualifier	73 - 120 75 - 123 (GC/MS) RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	<u>D</u>	Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	11/30/19 14:12 11/30/19 14:12 Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 1 1 1 1 1 1 1 1 1 1 1 1 1
07 Cult ID ID ID ID ID ID ID ID ID ID ID ID ID	ompounds Qualifier Qualifier	75 - 123 (GC/MS) RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	<u>ם</u>	Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 Dii Fac 1 1 1 1 <i>Dii Fac</i> 1 1
Colt ID ID ID ID ID ID ID ID ID ID ID ID ID	ompounds Qualifier Qualifier	(GC/MS) <u>RL</u> 10 10 5.0 5.0 <u>Limits</u> 41 - 120 48 - 120 35 - 120 46 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	<u>D</u>	Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	Dii Fac 1 1 1 1 <i>Dii Fac</i> 1 1
ult 10 10 10 10 10 10 10 10 10 10 10 10 10	Qualifier Qualifier	RL 10 10 5.0 5.0 41 - 120 48 - 120 35 - 120 46 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L ug/L	<u>D</u>	Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	Dil Fac 1 1 1 1 <i>Dil Fac</i> 1 1
10 10 10 10 10 10 10 10 10 10 10 10 10 1	Qualifier	10 10 5.0 5.0 <i>Limits</i> 41 - 120 48 - 120 35 - 120 46 - 120	0.48 0.46 2.2 0.39	ug/L ug/L ug/L ug/L	3	12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 1 1 1 1 Dii Fac 1 1
ND ND ND ND 65 01 67 81 49	Qualifier	10 5.0 5.0 <u>Limits</u> 41 - 120 48 - 120 35 - 120 46 - 120	0.46 2.2 0.39	ug/L ug/L ug/L		12/03/19 15:25 12/03/19 15:25 12/03/19 15:25 Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 1 1 1 1 1 1
ND ND 65 01 67 81 49	Qualifier	5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	2.2 0.39	ug/L ug/L		12/03/19 15:25 12/03/19 15:25 Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	12/05/19 16:33 12/05/19 16:33 Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 1 <i>Dil Fac</i> 1 1
ND 65 01 67 81 49	Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	0.39	ug/L		12/03/19 15:25 Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	12/05/19 16:33 Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 DII Fac 1 1 1
65 01 67 81 49	Qualifier	Limits 41 - 120 48 - 120 35 - 120 46 - 120				Prepared 12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	Analyzed 12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	Dii Fac 1 1 1
65 01 67 81 49	- (beggi bb	41 - 120 48 - 120 35 - 120 46 - 120				12/03/19 15:25 12/03/19 15:25 12/03/19 15:25	12/05/19 16:33 12/05/19 16:33 12/05/19 16:33	1 1 1 1
01 67 81 49		48 - 120 35 - 120 46 - 120				12/03/19 15:25 12/03/19 15:25	12/05/19 16:33 12/05/19 16:33	1
67 81 49		35 - 120 46 - 120				12/03/19 15:25	12/05/19 16:33	1
81 49		46 - 120						
4 9						12/03/19 15:25	12/05/19 16:33	ar 1917 1
10		22.120				12/03/19 15:25	12/05/19 16:33	1
87		60 - 148				12/03/19 15:25	12/05/19 16:33	1
ult	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ID		0.020	0.0068	mg/L		11/30/19 12:45	12/02/19 15:23	1
D		0.010	0.0056	mg/L		11/30/19 12:45	12/02/19 15:23	1
91		0.0020	0.00070	mg/L		11/30/19 12:45	12/02/19 15:23	1
D		0.0010	0.00050	mg/L		11/30/19 12:45	12/02/19 15:23	1
ID		0.0040	0.0010	mg/L		11/30/19 12:45	12/02/19 15:23	1
ID		0.010	0.0016	mg/L		11/30/19 12:45	12/02/19 15:23	1
26	J	0.050	0.019	mg/L		11/30/19 12:45	12/02/19 15:23	1
ID		0.0050	0.0030	mg/L		11/30/19 12:45	12/02/19 15:23	1
.6		0.20	0.043	mg/L		11/30/19 12:45	12/02/19 15:23	1
16		0.0030	0.00040	mg/L		11/30/19 12:45	12/02/19 15:23	² 1
ID		0.010	0.0013	mg/L		11/30/19 12:45	12/02/19 15:23	1
ID		0.0030	0.0017	ma/L		11/30/19 12:45	12/02/19 15:23	1
0		1.0	0.32	ma/l		11/30/19 12:45	12/02/19 15:23	· · ·
25		0.010	0.0015	^o mo/l		11/30/19 12:45	12/02/19 15:23	1
		0.010	0.0010					•
	• <i>u</i> -		2	8	-	n ·	A	DU
	Qualifier –	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
	ND 26 ND 3.6 16 ND 3.0 25 ult	VD 26 J VD 3.6 16 VD 3.0 25 J ult Qualifier	VD 0.010 26 J 0.050 ND 0.0050 3.6 0.20 16 0.0030 ND 0.010 ND 0.0030 3.0 1.0 25 J 0.010	ND 0.010 0.0016 26 J 0.050 0.019 ND 0.0050 0.0030 3.6 0.20 0.043 16 0.0030 0.0040 ND 0.010 0.0013 ND 0.0030 0.0017 3.0 1.0 0.32 25 J 0.010 0.0015	ND 0.010 0.0016 mg/L 26 J 0.050 0.019 mg/L ND 0.0050 0.0030 mg/L 3.6 0.20 0.043 mg/L 16 0.0030 0.0010 mg/L ND 0.010 0.0013 mg/L ND 0.0030 0.0017 mg/L 3.0 1.0 0.32 mg/L 25 J 0.010 0.0015 mg/L ult Qualifier RL MDL Unit	ND 0.010 0.0016 mg/L 26 J 0.050 0.019 mg/L ND 0.0050 0.0030 mg/L 3.6 0.20 0.043 mg/L 16 0.0030 0.0010 mg/L ND 0.010 0.0013 mg/L ND 0.0030 0.0017 mg/L 3.0 1.0 0.32 mg/L 25 J 0.010 0.0015 mg/L	ND 0.010 0.0016 mg/L 11/30/19 12:45 26 J 0.050 0.019 mg/L 11/30/19 12:45 ND 0.0050 0.0030 mg/L 11/30/19 12:45 3.6 0.20 0.043 mg/L 11/30/19 12:45 16 0.0030 0.0040 mg/L 11/30/19 12:45 ND 0.010 0.0013 mg/L 11/30/19 12:45 ND 0.010 0.0013 mg/L 11/30/19 12:45 ND 0.010 0.0017 mg/L 11/30/19 12:45 3.0 1.0 0.32 mg/L 11/30/19 12:45 25 J 0.010 0.0015 mg/L 11/30/19 12:45 uit Qualifier RL MDL Unit D Prepared	ND 0.010 0.0016 mg/L 11/30/19 12:45 12/02/19 15:23 26 J 0.050 0.019 mg/L 11/30/19 12:45 12/02/19 15:23 ND 0.0050 0.0030 mg/L 11/30/19 12:45 12/02/19 15:23 3.6 0.20 0.043 mg/L 11/30/19 12:45 12/02/19 15:23 16 0.0030 0.00040 mg/L 11/30/19 12:45 12/02/19 15:23 ND 0.010 0.0013 mg/L 11/30/19 12:45 12/02/19 15:23 ND 0.0030 0.0017 mg/L 11/30/19 12:45 12/02/19 15:23 ND 0.0030 0.0017 mg/L 11/30/19 12:45 12/02/19 15:23 3.0 1.0 0.32 mg/L 11/30/19 12:45 12/02/19 15:23 25 J 0.010 0.0015 mg/L 11/30/19 12:45 12/02/19 15:23 utt Qualifier RL MDL Unit D Prepared Analyzed

6

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-295 Date Collected: 11/27/19 11:26						La	b Sample	ID: 480-163 Matrix	455-3 : Water
Date Received: 11/27/19 16:50									
Method: 8260C - Volatile Orga	nic Compo	unds by G	C/MS			_	_		
Analyte	Result	Qualifier	RL	MDL	Unit	<u>D</u>	Prepared	Analyzed	DII Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/30/19 14:36	÷ 1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/30/19 14:36	1
Acetone	ND		10	3.0	ug/L			11/30/19 14:36	1
Benzene	ND	1	1.0	0.41	ug/L			11/30/19 14:36	1
Vinyl chloride	ND	33	1.0	0.90	ug/L			11/30/19 14:36	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120					11/30/19 14:36	1
Toluene-d8 (Surr)	93		80 - 120					11/30/19 14:36	1
4-Bromofluorobenzene (Surr)	95		73 - 120					11/30/19 14:36	1
Dibromofluoromethane (Surr)	100		75 - 123					11/30/19 14:36	1
Mothod: 8270D - Somivolatile	Organic Co	mnounde	(GC/MS)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1.3-Dichlorobenzene	ND		10	0.48	ug/L		12/03/19 15:25	12/05/19 17:02	1
1.4-Dichlorobenzene	ND		10	0.46	ug/L		12/03/19 15:25	12/05/19 17:02	1
Bis(2-ethylbexvi) phthalate	ND		5.0	2.2	ua/L		12/03/19 15:25	12/05/19 17:02	1
Phenol	ND		5.0	0.39	ug/L		12/03/19 15:25	12/05/19 17:02	1
Surrogate	%Recoverv	Qualifier	Limits				Prepared	Analyzed	DII Fac
246-Trihmmonhenol	77		41 . 120				12/03/19 15:25	12/05/19 17:02	1
2-Eluombinhenvi	99		48_120				12/03/19 15:25	12/05/19 17:02	1
2-Fluomnhenol	68		35_120				12/03/19 15:25	12/05/19 17:02	1
Nitmberzene-d5	79		46 - 120				12/03/19 15:25	12/05/19 17:02	1
Phonol 45	51		22 - 120				12/03/19 15:25	12/05/19 17:02	1
p-Terphenyl-d14	77	2.4	60 - 148				12/03/19 15:25	12/05/19 17:02	1
Method: 6010C - Metals (ICP)	Pocult	Qualifier	PI	мы	Unit	п	Prenared	Analyzed	Dil Fac
Antaryte	ND		- 0.020	8800.0	mo/l		11/30/19 12:45	12/02/19 15:27	1
Anomio	0.023		0.020	0.0056	mg/L		11/30/19 12:45	12/02/19 15:27	1
Arsenic	0.023		0.010	0.00070	mg/L		11/30/19 12:45	12/02/19 15:27	1
Barium	0.0062		0.0020	0.00050	mo/l		11/30/19 12:45	12/02/19 15:27	S 1
Caomium	0.0000Z	3	0.0010	0.00000	mg/L		11/30/19 12:45	12/02/19 15:27	1
Chroman			0.0040	0.0016	mg/L		11/30/19 12:45	12/02/19 15:27	1
Copper			0.010	0.0010	mg/L		11/30/10 12:45	12/02/19 15:27	· .
IFON	13.0		0.000	0.019	ma/l		11/30/10 12:40	12/02/10 15:27	1
	NU E4 O		0.0000	0.0000	mg/l		11/30/10 12:45	12/02/10 15:27	1
wagnesium	04.Z		0.20	0.0040	ma/l		11/30/10 12:45	12/02/10 15:27	
wanganese	0.59		0.0030	0.00040	ma/l		11/30/10 12:45	12/02/10 15:27	1
			0.010	0.0013	mg/L		11/30/10 12.45	12/02/10 15:27	1
			0.0030	0.0017	mg/L		11/30/19 12.43	12/02/10 15:27	
Soaium	0.7		1.U ®	0.045	mg/L		11/30/19 12:43	12/02/18 13.27	4
ZINC	0.0023	ل.	0.010	0.0015	ng/c		11/30/19 12:45	12102119 13.21	- 1
Method: 7470A - Mercury (CV)	ΔΔ)								
Analyte	Result	Qualifier	RL	MDL	Unit 👘	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	ma/L	-	12/12/19 10:50	12/12/19 13:42	1

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Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-30S
Date Collected: 11/27/19 12:32
Date Received: 11/27/19 16:50

Sodium

Zinc

Lab Sample ID: 480-163455-4 Matrix: Water

Method: 8260C - Volatile Orga	nic Compo	unds by G	C/MS				0.55		
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/30/19 15:00	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/30/19 15:00	1
Acetone	ND		10	3.0	ug/L			11/30/19 15:00	1
Benzene	ND		1.0	0.41	ug/L			11/30/19 15:00	1
Vinyl chloride	ND	50	1.0	0.90	ug/L			11/30/19 15:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
1,2-Dichloroethane-d4 (Surr)	108		77 - 120					11/30/19 15:00	1
Toluene-d8 (Surr)	99		80 - 120					11/30/19 15:00	1
4-Bromofluorobenzene (Surr)	98		73 - 120					11/30/19 15:00	1
Dibromofluoromethane (Surr)	105		75-123					11/30/19 15:00	1
Method: 8270D - Semivolatile	Organic Co	mpounds	(GC/MS)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		12/03/19 15:25	12/05/19 17:31	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		12/03/19 15:25	12/05/19 17:31	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		12/03/19 15:25	12/05/19 17:31	1
Phenol	ND		5.0	0.39	ug/L		12/03/19 15:25	12/05/19 17:31	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
2,4,6-Tribromophenol	77		41 - 120				12/03/19 15:25	12/05/19 17:31	1
2-Fluorobiphenyl	110		48 - 120				12/03/19 15:25	12/05/19 17:31	1
2-Fluorophenol	75		35 - 120				12/03/19 15:25	12/05/19 17:31	1
Nitrobenzene-d5	89		46 - 120				12/03/19 15:25	12/05/19 17:31	1
Phenol-d5	56		22 - 120	2			12/03/19 15:25	12/05/19 17:31	1
p-Terphenyl-d14	81		60 - 148				12/03/19 15:25	12/05/19 17:31	1
Method: 6010C - Metals (ICP)				5					
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/02/19 15:31	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/02/19 15:31	1
Barium	0.14		0.0020	0.00070	mg/L		11/30/19 12:45	12/02/19 15:31	1
Cadmium	ND		0.0010	0.00050	mg/L		11/30/19 12:45	12/02/19 15:31	1
Chromium	ND		0.0040	0.0010	mg/L		11/30/19 12:45	12/02/19 15:31	1
Copper	ND		0.010	0.0016	mg/L		11/30/19 12:45	12/02/19 15:31	1
Iron	5.1		0.050	0.019	mg/L		11/30/19 12:45	12/02/19 15:31	1
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/02/19 15:31	1
Magnesium	30.8		0.20	0.043	mg/L		11/30/19 12:45	12/02/19 15:31	1
Manganese	0.90		0.0030	0.00040	mg/L		11/30/19 12:45	12/02/19 15:31	1
Nickel	ND		0.010	0.0013	mg/L		11/30/19 12:45	12/02/19 15:31	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/02/19 15:31	1

Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/12/19 10:50	12/12/19 13:43	1

1.0

0.010

94.1

ND

0.32 mg/L

0.0015 mg/L

Eurofins TestAmerica, Buffalo

11/30/19 12:45 12/02/19 15:31

11/30/19 12:45 12/02/19 15:31

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Client: AECOM Project/Site: Pfohl Brothers Landfill

Clie	nt	Sai	mpl	e ID): GI	N-31	5
Date	Co	llec	ted:	11/2	27/19	13:43	
Date	Re	cei	/ed:	11/2	7/19	16:50	

Lab Sample ID: 480-163455-5 Matrix: Water

Method: 8260C - Volatile Orga	anic Compo	unds by G	C/MS	MDI	11-14	•	Despend	Analyzed	Dil Ese
	Result	Quaimer	KL -				Fiepaieu	11/20/10 15:24	
	ND		1.0	0.23	ug/L			11/30/19 15.24	1
1,2-Dichloroethene, I otal	ND		2.0	0.01	ug/L			11/30/19 15:24	4
Acetone	4.3	J	10	3.0	ug/L			11/30/19 13.24	
Benzene	ND		1.0	0.41	ug/L			11/30/19 15.24	· · ·
Vinyl chloride	ND	US	1.0	0.90	ug/L			11/30/19 13.24	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	107		77 - 120					11/30/19 15:24	1
Toluene-d8 (Surr)	99		80 - 120					11/30/19 15:24	1
4-Bromofluorobenzene (Surr)	100		73 - 120					11/30/19 15:24	1
Dibromofluoromethane (Surr)	108		75 - 123					11/30/19 15:24	1
Method: 8270D - Semivolatile	Organic Co	mpounds	(GC/MS)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L	_	12/03/19 15:25	12/05/19 18:00	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		12/03/19 15:25	12/05/19 18:00	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		12/03/19 15:25	12/05/19 18:00	1
Phenol	ND		5.0	0.39	ug/L		12/03/19 15:25	12/05/19 18:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fac
2,4,6-Tribromophenol	74		41 - 120				12/03/19 15:25	12/05/19 18:00	1
2-Fluorobiphenyl	105		48 - 120				12/03/19 15:25	12/05/19 18:00	1
2-Fluorophenol	69		35 - 120				12/03/19 15:25	12/05/19 18:00	1
Nitrobenzene-d5	80		46 - 120				12/03/19 15:25	12/05/19 18:00	1
Phenol-d5	54		22 - 120				12/03/19 15:25	12/05/19 18:00	1
p-Terphenyl-d14	83		60 - 148				12/03/19 15:25	12/05/19 18:00	1
Method: 6010C - Metals (ICP)			25.1			_			
Analyte	Result	Qualifier	RL	MDL	Unit	 D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/02/19 15:34	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/02/19 15:34	1
Barium	0.089		0.0020	0.00070	mg/L		11/30/19 12:45	12/02/19 15:34	1
Cadmium	ND		0.0010	0.00050	mg/L		11/30/19 12:45	12/02/19 15:34	1
Chromium	ND		0.0040	0.0010	mg/L		11/30/19 12:45	12/02/19 15:34	1
Copper	ND		0.010	0.0016	mg/L		11/30/19 12:45	12/02/19 15:34	1
Iron	2.4		0.050	0.019	mg/L		11/30/19 12:45	12/02/19 15:34	1
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/02/19 15:34	1
Magnesium	28.3		0.20	0.043	mg/L		11/30/19 12:45	12/02/19 15:34	1
Manganese	0.67		0.0030	0.00040	mg/L		11/30/19 12:45	12/02/19 15:34	1
Nickel	0.0025	J	0.010	0.0013	mg/L		11/30/19 12:45	12/02/19 15:34	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/02/19 15:34	1
Sodium	3.6		1.0	0.32	mg/L		11/30/19 12:45	12/02/19 15:34	1
Zinc	0.0043	J	0.010	0.0015	mg/L		11/30/19 12:45	12/02/19 15:34	1

Method: 7470A - Mercury (CVA	A)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/12/19 10:5	0 12/12/19 13:45	1

6

Client: AECOM Project/Site: Pfohl Brothers La	andfill				Job ID: 480-10	63455-1			
Client Sample ID: GW-3 Date Collected: 11/27/19 14: Date Received: 11/27/19 16:	82S 47 50				2 2	La	b Sample	ID: 480-163 Matrix	8455-6 :: Water
Method: 8260C - Volatile O	rganic Compo Result	unds by G Qualifier	C/MS	MDL	Unit	D	Prepared	Analvzed	Dil Fac
1 1 2-Trichlomethane			1.0	0.23	ua/L		363	11/30/19 15:49	1
1.2-Dichloroethene. Total	ND		2.0	0.81	ug/L			11/30/19 15:49	1
Acetone	ND		10	3.0	ua/L			11/30/19 15:49	1
Benzene	ND		1.0	0.41	ua/L			11/30/19 15:49	1 ^{- 1}
Vinyi chloride	ND	5	1.0	0.90	ug/L			11/30/19 15:49	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	108		77 - 120					11/30/19 15:49	1
Toluene-d8 (Surr)	102		80 - 120					11/30/19 15:49	1
4-Bromofluorobenzene (Surr)	101		73 - 120					11/30/19 15:49	1
Dibromofluoromethane (Surr)	114		75-123					11/30/19 15:49	1
Method: 8270D - Semivolat	tile Organic Co	mpounds	(GC/MS)	MDI	linit	р	Prenared	Analyzed	Dil Fac
1 3 Dichlombenzene				0.48			12/03/19 15:25	12/05/19 18:29	1
			10	0.46	ug/L		12/03/19 15:25	12/05/19 18:29	1
Bis(2 othylboxd) phthelate			50	2.40	ug/L		12/03/19 15:25	12/05/19 18:29	1
Phenol	ND		5.0	0.39	ug/L		12/03/19 15:25	12/05/19 18:29	· · · · · · · · · · · · · · · · · · ·
Surrogate	%Recoverv	Qualifier	Limits				Prepared	Analyzed	Dii Fac
2 4 6-Tribromonhenol			41 - 120				12/03/19 15:25	12/05/19 18:29	1
2-Eluorobiphenvl	103		48 - 120				12/03/19 15:25	12/05/19 18:29	1
2-Fluorophenol	69		35.120				12/03/19 15:25	12/05/19 18:29	1
Nitrobenzene-d5	82		46 - 120				12/03/19 15:25	12/05/19 18:29	1
Phenol-d5	53		22 - 120				12/03/19 15:25	12/05/19 18:29	1
p-Terphenyl-d14	95		60 - 148				12/03/19 15:25	12/05/19 18:29	1
Method: 6010C - Metals (IC	(P)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/02/19 15:38	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/02/19 15:38	1
Barium	0.049		0.0020	0.00070	mg/L		11/30/19 12:45	12/02/19 15:38	1
Cadmium	0.00054	J	0.0010	0.00050	mg/L		11/30/19 12:45	12/02/19 15:38	1
Chromium	ND		0.0040	0.0010	mg/L		11/30/19 12:45	12/02/19 15:38	ି 1
Copper	ND		0.010	0.0016	mg/L		11/30/19 12:45	12/02/19 15:38	1
Iron	0.021	J	0.050	0.019	mg/L		11/30/19 12:45	12/02/19 15:38	1
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/02/19 15:38	1
Magnesium	24.8		0.20	0.043	mg/L		11/30/19 12:45	12/02/19 15:38	1
Manganese	0.30		0.0030	0.00040	mg/L		11/30/19 12:45	12/02/19 15:38	1
Nickel	ND		0.010	0.0013	mg/L		11/30/19 12:45	12/02/19 15:38	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/02/19 15:38	1
Sodium	3.6		1.0	0.32	mg/L		11/30/19 12:45	12/02/19 15:38	1
Zinc	0.0032	J	0.010	0.0015	mg/L		11/30/19 12:45	12/02/19 15:38	1
Method: 7470A - Mercury (CVAA)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/12/19 10:50	12/12/19 13:46	1



6

Client: AECOM Project/Site: Pfohl Brothers Landfill

Clie	nt Sampl	e ID: G	SW-33S
Date	Collected:	11/27/1	9 15:44
Date	Received:	11/27/1	9 16:50

Lab Sample ID: 480-163455-7 **Matrix: Water**

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L		· · ·	11/30/19 16:13	1
1.2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/30/19 16:13	1
Acetone	ND		10	3.0	ug/L			11/30/19 16:13	1
Benzene	ND		1.0	0.41	ug/L			11/30/19 16:13	1
Vinyl chloride	ND	20	1.0	0.90	ug/L			11/30/19 16:13	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fac
1,2-Dichloroethane-d4 (Surr)	102		77 - 120					11/30/19 16:13	1
Toluene-d8 (Surr)	99		80 - 120					11/30/19 16:13	1
4-Bromofluorobenzene (Surr)	98		73 - 120					11/30/19 16:13	1
Dibromofluoromethane (Surr)	108		75 - 123					11/30/19 16:13	1
Method: 8270D - Semivolatile Analyte	Organic Co Result	mpounds Qualifier	s (GC/MS) RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		12/03/19 15:25	12/05/19 18:57	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		12/03/19 15:25	12/05/19 18:57	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		12/03/19 15:25	12/05/19 18:57	1
Phenol	ND		5.0	0.39	ug/L		12/03/19 15:25	12/05/19 18:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	71		41 - 120				12/03/19 15:25	12/05/19 18:57	1
2-Fluorobiphenyl	111		48 - 120				12/03/19 15:25	12/05/19 18:57	1
2-Fluorophenol	73		35 - 120				12/03/19 15:25	12/05/19 18:57	1
Nitrobenzene-d5	90		46 - 120				12/03/19 15:25	12/05/19 18:57	1
Phenol-d5	54		22 - 120				12/03/19 15:25	12/05/19 18:57	1
p-Terphenyl-d14	92		60 - 148				12/03/19 15:25	12/05/19 18:57	1
Method: 6010C - Metals (ICP) Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/02/19 15:42	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/02/19 15:42	1
Barium	0.070		0.0020	0.00070	mg/L		11/30/19 12:45	12/02/19 15:42	1
Cadmium	0.00056	J	0.0010	0.00050	mg/L		11/30/19 12:45	12/02/19 15:42	1
Chromium	0.0015	J	0.0040	0.0010	mg/L		11/30/19 12:45	12/02/19 15:42	1
Copper	ND		0.010	0.0016	mg/L		11/30/19 12:45	12/02/19 15:42	1
Iron	0.024	J	0.050	0.019	mg/L		11/30/19 12:45	12/02/19 15:42	1
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/02/19 15:42	1
Magnesium	37.4		0.20	0.043	mg/L		11/30/19 12:45	12/02/19 15:42	1
Manganese	0.0090		0.0030	0.00040	mg/L		11/30/19 12:45	12/02/19 15:42	1
Nickel	ND		0.010	0.0013	mg/L		11/30/19 12:45	12/02/19 15:42	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/02/19 15:42	1
Sodium	3.1		1.0	0.32	mg/L		11/30/19 12:45	12/02/19 15:42	ं 1
Zinc	0.0028	J	0.010	0.0015	mg/L		11/30/19 12:45	12/02/19 15:42	1
Method: 7470A - Mercury (CV	۵۵								

Method: 1410A - Mercury (CVM	(A)								
Analyte	Result	Qualifier –	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/12/19 10:50	12/12/19 13:50	1

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6

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: TB-112719 Date Collected: 11/27/19 00:00 Date Received: 11/27/19 16:50

Lab Sample ID: 480-163455-8 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/30/19 13:23	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/30/19 13:23	1
Acetone	ND		10	3.0	ug/L			11/30/19 13:23	1
Benzene	ND		1.0	0.41	ug/L			11/30/19 13:23	1
Vinyi chloride	ND	5	1.0	0.90	ug/L			11/30/19 13:23	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	101		77 - 120					11/30/19 13:23	1
Toluene-d8 (Surr)	101		80 - 120					11/30/19 13:23	1
4-Bromofluorobenzene (Surr)	101		73 - 120					11/30/19 13:23	1
Dibromofluoromethane (Surr)	106		75-123					11/30/19 13:23	1

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Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-07D

Date Collected: 11/25/19 10:20 Date Received: 11/26/19 18:05

Lab Sample ID: 480-163358-1

Matrix: Water

Method:	8260C -	Volatile	Organic	Compounds	by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/29/19 12:33	1	and a state
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 12:33	1	6
Acetone	4.4	J	10	3.0	ug/L			11/29/19 12:33	1	
Benzene	ND		1.0	0.41	ug/L			11/29/19 12:33	1	
Vinyl chloride	ND		1.0	0.90	ug/L			11/29/19 12:33	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	103	·	77 - 120			-		11/29/19 12:33	1	
Toluene-d8 (Surr)	107		80 - 120					11/29/19 12:33	1	
4-Bromofluorobenzene (Surr)	94		73 <u>- 120</u>					11/29/19 12:33	1	
Dibromofluoromethane (Surr)	99		75 ₋ 123					11/29/19 12:33	1 - 1	

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-07S

Date Collected: 11/25/19 10:30

Lab Sample ID: 480-163358-2 Matrix: Water

Date Received: 11/26/19 18:05

Method: 8260C - Volatile Organ	ic Compounds	by GC/MS								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/29/19 12:56	1	CORDER
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 12:56	1	6
Acetone	4.3	J	10	3.0	ug/L			11/29/19 12:56	1	E N.
Benzene	ND		1.0	0.41	ug/L			11/29/19 12:56	1	
Vinyl chloride	ND		1.0	0.90	ug/L			11/29/19 12:56	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
1,2-Dichloroethane-d4 (Surr)	105		77 - 120			-		11/29/19 12:56	1	
Toluene-d8 (Suπ)	106		80 - 120					11/29/19 12:56	1	
4-Bromofluorobenzene (Surr)	94		73 <u>- 120</u>					11/29/19 12:56	1	
Dibromofluoromethane (Surr)	99		75 ₋ 123					11/29/19 12:56	1	

Client: AECOM

Job ID: 480-163358-1

ient Sample ID: GW-01S Lab Sample ID: 480-163								3358-3			
Date Collected: 11/25/19 13:40							Matrix: Wate				
ate Received: 11/26/19 18:05											
		12.78			· · · · · · · · · · · · · · · · · · ·				*		
Method: 8260C - Volatile Organic (Compounds	by GC/MS				_	- .				
	Kesun	Quaimer	RL	MUL		D	Prepared		Dil Fac		
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/29/19 13:19	1		
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 13:19	1		
Acetone	ND		10	3.0	ug/L			11/29/19 13:19	1		
Benzene	ND		1.0	0.41	ug/L			11/29/19 13:19	1		
Vinyi chloride	ND		1.0	0.90	ug/L			11/29/19 13:19	1		
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac		
1,2-Dichloroethane-d4 (Surr)	103		77 - 120					11/29/19 13:19	1		
Toluene-d8 (Surr)	105		80 - 120					11/29/19 13:19	1		
4-Bromofluorobenzene (Surr)	95		73 - 120					11/29/19 13:19	1		
Dibromofluoromethane (Surr)	100		75 - 123					11/29/19 13:19	an mari		
Method: 8270D - Semivolatile Orga	nic Compou	nds (GC/MS)			1 Jan ¹⁴	-	Descent	Apple - 1	D0 P		
	Kesult	<u></u>	RL _	MDL	Unit	D	Prepared	Analyzed	UII Fac		
	ND	2	10	0.48	ug/L		11/29/19 15:15	12/02/19 23:01	1		
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/29/19 15:15	12/02/19 23:01	1		
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/29/19 15:15	12/02/19 23:01	1		
Phenol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/02/19 23:01	1		
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac		
2,4,6-Tribromophenol	73		41 - 120				11/29/19 15:15	12/02/19 23:01	1		
2-Fluorobiphenyl	107		48 - 120				11/29/19 15:15	12/02/19 23:01	1		
2-Fluorophenol	73	× .	35 - 120				11/29/19 15:15	12/02/19 23:01	1		
Nitrobenzene-d5	84		46 - 120				11/29/19 15:15	12/02/19 23:01			
Phanol-d5	55		22 - 120				11/29/19 15:15	12/02/19 23:01	1		
o-Tembenvl-d14	88		60 - 148				11/29/19 15:15	12/02/19 23:01	. 1		
			00-140				11/20/10 10.10	12021020.01			
Method: 8270D - Semivolatile Orga	nic Compou	nds (GC/MS)	- RE								
	Result	Qualifier	RL -	MDL	Unit	<u>P</u>	Prepared	Analyzed	Dil Fac		
	ND	H L	10	0,48	Ug/L		12/06/19 15:14	12/12/19 16:07	1		
,4-Dichloropenzene	NU	m	10	0.48	Ug/L		12/06/19 15:14	12/12/19 16:07			
dis(2-einyihexyi) phihalate	ND	+	5.0	2.2	ugrt	1. 1.	12/08/19 15:14	12/12/19 16:07	1		
Phenol	ND	H	5.0	0.39	ug/L		12/06/19 15:14	12/12/19 16:07	1		
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac		
2,4,6-Tribromophenol	74		41 - 120				12/06/19 15:14	12/12/19 16:07	1		
?-Fluoroblphenyl	98		48 - 120				12/06/19 15:14	12/12/19 16:07	1		
-Fluorophenol	72		35 - 120				12/06/19 15:14	12/12/19 16:07	1		
litrobenzene-d5	100		46 - 120				12/06/19 15:14	12/12/19 16:07	1		
Phenol-d5	55		22 - 120				12/06/19 15:14	12/12/19 16:07	1		
-Terphenyl-d14	83		60 - 148				12/06/19 15:14	12/12/19 16:07	1		
Method: 6010C - Metals (ICP)	Desult	Qualifier	B I		Unit		Pressed	Anahord	Dil Eco		
	ND		KL				11/30/10 12-45	12/03/10 19:34	4		
	םוא עוא		0.020	0.0000	mg/l		11/30/13 12.40	12/03/10 10:31	1		
	NU		0.010	0.0005	111g/L		11/30/19 12:45	12/03/19 18:31	1		
sarium	0.20		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 18:31	1		
Jadmium	0.00053	J	0.0010	0.00050	mg/L		11/30/19 12:45	12/03/19 18:31	1		
hromium	0.0015	J	0.0040	0.0010	mg/L		11/30/19 12:45	12/03/19 18:31	1		
Copper	0.0021	J	0.010	0.0016	mg/L		11/30/19 12:45	12/03/19 18:31	1		
2 7 2 7 7 7 6 9 2 2	6.4		0.050	0.019	ma/l		11/30/19 12:45	12/03/19 18:31	1		



Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-01S

Lab Sample ID: 480-163358-3 Matrix: Water

Date Collected: 11/25/19 13:40 Date Received: 11/26/19 18:05

Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND	0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 18:31	1
Magnesium	22.6	0.20	0.043	mg/L		11/30/19 12:45	12/03/19 18:31	1
Manganese	0.95 B	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 18:31	1
Nickei	ND	0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 18:31	1
Silver	ND	0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 18:31	1
Sodium	182	1.0	0.32	mg/L		11/30/19 12:45	12/03/19 18:31	1
Zinc	0.0016 JB	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 18:31	1
			0.01					
Method: 7470A - Mercury (C	VAA)							
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Mercury	ND	0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 16:37	1

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Eurofins TestAmerica, Buffalo

Client: AECOM

Project/Site: Pfohl Brothers Landfill				*:					
Client Sample ID: GW-01D	1	m					Lab Samp	le ID: 480-16	3358-4
Date Collected: 11/25/19 14:50							•	Matri	x: Water
Date Received: 11/26/19 18:05	· · · · · · · · · · · · · · · · · · ·								
Method: 8260C - Volatile Organic	Compounds	by GC/MS	DI	MDI	linit		Dranamd	Analyzed	
				0.23			Prepared	Analyzeg	
1, 1, 2- The solution of the second s			1.0	0.23	ug/L			11/29/19 13:42	1
	ND ND		2.0	0.01	ug/L			11/29/19 13:42	1
Acetone	ND		10	3.0	ug/L			11/29/19 13:42	1
Benzene	ND		1.0	a 0.41	ug/L			11/29/19 13:42	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/29/19 13:42	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	105		77 - 120					11/29/19 13:42	1
Toluene-d8 (Surr)	105		80 - 120					11/29/19 13:42	1
4-Bromofluorobenzene (Suπ)	94		73 - 120					11/29/19 13:42	1
Dibromofluoromethane (Surr)	100		75 - 123		10			11/29/19 13:42	1
Method: 8270D - Semivolatile Ord	ganic Compou	nds (GC/MS	5)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/29/19 15:15	12/02/19 23:30	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/29/19 15:15	12/02/19 23:30	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ua/L		11/29/19 15:15	12/02/19 23:30	1
Phenol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/02/19 23:30	1
Surrogate	%Recoverv	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2.4.6-Tribromophenol	60		41 - 120				11/29/19 15:15	12/02/19 23:30	1
2-Fluorobinhenvl	106		48 - 120				11/29/19 15:15	12/02/19 23:30	. 1
2-Fluorophenol	77		35 - 120				11/29/19 15:15	12/02/19 23:30	1
Nitrobenzene-d5	85		46 . 120				11/20/10 15:15	12/02/19 23:30	ee ee -
Phenol-d5	60		22 120				11/23/13 13.13	12/02/19 23:30	4
p-Terphenvl-d14	82		60 - 148				11/29/19 15:15	12/02/19 23:30	1
									•
Method: 8270D - Semivolatile Org	janic Compou	nds (GC/MS	i) - RE	MO	17-14		Brenerad	Analysia	DI Faa
	Kesuit		KL	MDL 0.49	Unit		Prepared		Dirrac
	- ND		10	0.48	ug/L		12/06/19/15:14	12/12/19-10:30	7
1,4-Didnicrobenzene	NU		10	0:40	ug/L		12/08/19 15:14	12/12/19 10:30	1
Bis(2-ethylnexyt) phthalate	ND	н	5.0	2.2	ug/L		12/06/19-15:14	12/12/19 16:36	1
Phenol	ND	Ħ	5.0	0.39	ug/L		12/06/19 15:14	12/12/19 16:36	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	57		41 - 120				12/06/19 15:14	12/12/19 16:36	1
2-Fluorobiphenyl	92		48 - 120				12/06/19 15:14	12/12/19 16:36	1
2-Fluorophenol	66		35 - 120				12/06/19 15:14	12/12/19 16:36	1
Nitrobenzene-d5	94		46 - 120				12/06/19 15:14	12/12/19 16:36	1
Phenol-d5	50		22 - 120				12/06/19 15:14	12/12/19 16:36	1
p-Terphenyl-d14	69		60 - 148				12/06/19 15:14	12/12/19 16:36	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/03/19 18:34	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/03/19 18:34	1
Barium	0.088		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 18:34	1
Cadmium	ND		0.0010	0.00050	ma/L		11/30/19 12:45	12/03/19 18:34	122521
Chromium	0 032		0.0040	0.0010	ma/l		11/30/19 12:45	12/03/19 18:34	1
VIII VIII MIII	0.032		0.0010	0.0010					
Conner	NI		0.010	0.0016	ma/i		11/30/10 12:45	12/03/19 18:34	1

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Eurofins TestAmerica, Buffalo

12/13/2019

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Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample	ID: GW-01D
Date Collected: 1	1/25/19 14:50

Lab Sample ID: 480-163358-4 Matrix: Water

Date Collected: 11/25/19 14:50 Date Received: 11/26/19 18:05

Method: 6010C - Metals (ICP) (Contin	ued)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 18:34	1
Magnesium	35.1		0.20	0.043	mg/L		11/30/19 12:45	12/03/19 18:34	1
Manganese	0.021	8	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 18:34	1
Nickel	0.0014	J	0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 18:34	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 18:34	1
Sodium	109	as hitse ten	1.0	0.32	mg/L		11/30/19 12:45	12/03/19 18:34	1
Zinc	0.016	B	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 18:34	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 16:39	1

drok anapo

Eurofins TestAmerica, Buffalo

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-04S Date Collected: 11/25/19 15:34

Lab Sample ID: 480-163358-5

Date Received: 11/26/19 18:05

Matrix:	Water
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Method: 8260C - Volatile Organ	nic Compounds	by GC/MS	DI.	MOL	11-14		Browensed	Anchurad	Dil Ess
	Result	quaimer	KL	MUL	Unit		Frepared	Analyzed	Dirrac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/29/19 14:05	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 14:05	1
Acetone	5.6	J	10	3.0	ug/L			11/29/19 14:05	1
Benzene	ND		1.0	0.41	ug/L			11/29/19 14:05	1
Vinyi chloride	ND		1.0	0.90	ug/L			11/29/19 14:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Anatyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104		77 - 120			-		11/29/19 14:05	1
Toluene-d8 (Suπ)	106		80 - 120					11/29/19 14:05	1
4-Bromofluorobenzene (Surr)	93		73 - 120					11/29/19 14:05	1
Dibromofluoromethane (Surr)	100		75 - 123					11/29/19 14:05	1

Client: AECOM

Project/Site: Pfohl Brothers Landfill									
Client Sample ID: GW-04D		an riter variante reneran de dallitado		olikener fen annen an an annan		Lab Samp	le ID: 480-16	3358-6	
Date Collected: 11/25/19 17:15			Ø					Matr	ix: Water
Date Received: 11/26/19 18:05		5 / 885-1875-147-87-05 - 887-78 75-787-987-97-97-97-14-14-14-14-14							
Method: 8260C - Volatile Organic	: Compounds	by GC/MS							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/29/19 14:28	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 14:28	1
Acetone	ND		10	3.0	ug/L			11/29/19 14:28	1
Benzene	ND		1.0	0.41	ug/L			11/29/19 14:28	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/29/19 14:28	≋ 1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104	Ų	77 - 120					11/29/19 14:28	1
Toluene-d8 (Surr)	106		80 - 120					11/29/19 14:28	1
4-Bromofluorobenzene (Surr)	94		73 - 120					11/29/19 14:28	1
Dibromofluoromethane (Surr)	99		75 - 123					11/29/19 14:28	1
- Method: 8270D - Semivolatile Ord	anic Compou	nds (GC/MS	2 3)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/29/19 15:15	12/02/19 23:59	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/29/19 15:15	12/02/19 23:59	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/29/19 15:15	12/02/19 23:59	1
Phenol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/02/19 23:59	1
Surrogate	%Recoverv	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2.4.6-Tribromonhenol	66		41 - 120				11/29/19 15:15	12/02/19 23:59	1
2-Fluombinhenvi	103		48 - 120				11/29/19 15:15	12/02/19 23:59	1
2-Fluorophenol	67		35 - 120				11/29/19 15:15	12/02/19 23:59	1
Nitmbenzene_d5	82		46 120				11/20/10 15:15	12/02/10 23:50	
Bhenol-d5	51		22 120				11/29/19 15:15	12/02/19 23.39	
n-Tembenyl-d14	77		60 1AR				11/20/10 15-15	12/02/19 23:59	
			00 - 140				11/20/10 10.10	12021020.00	
Method: 8270D - Semivolatile Org	janic Compou	nds (GC/MS) - RE	MOL	11-14		Descard	<u>10</u>	D# 5
Analyte	Kesun	Quaimer		MUL	Unit	<u> </u>	Prepared		Dir Fac
T,3-Dichlorobenzene	NU	-H	10	0.48	ug/L		12/06/19 15:14	12/12/19 17:04	1
1,4-Dichlerobenzene	ND	H	10	0.46	ug/L		12/06/19-15:14	-12/12/19 17:04	1
Bis(2-ethylhexyl) phthalate	ND	H	5.0	2.2	ug/L	1	12/06/19 15:14	12/12/19 17:04	1000 100
Phenol	ND	н	5.0	0.39	ug/L		12/06/19 15:14	12/12/19 17:04	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	67		41 - 120				12/06/19 15:14	12/12/19 17:04	1
2-Fluorobiphenyl	105		48 - 120				12/06/19 15:14	12/12/19 17:04	1
2-Fluorophenol	75		35 - 120				12/06/19 15:14	12/12/19 17:04	1
Nitrobenzene-d5	103		46 - 120				12/06/19 15:14	12/12/19 17:04	··· 1
Phenol-d5	56		22 <u>- 1</u> 20				12/06/19 15:14	12/12/19 17:04	1
p-Terphenyl-d14	83		60 - 148				12/06/19 15:14	12/12/19 17:04	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/03/19 18:38	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/03/19 18:38	1
Barium	0.097		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 18:38	1
Cadmium	0.00062	J	0.0010	0.00050	mg/L		11/30/19 12:45	12/03/19 18:38	1.000
Chromium	0.0032	J	0.0040	0.0010	mg/L		11/30/19 12:45	12/03/19 18:38	1
Copper	ND	S.	0.010	0.0016	mg/L		11/30/19 12:45	12/03/19 18:38	1
A 1 State of the second sec									

Eurofins TestAmerica, Buffalo

12/13/2019

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-04D

Date Collected: 11/25/19 17:15 Date Received: 11/26/19 18:05

Lab Sample ID: 480-163358-6 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 18:38	1
Magnesium	73.6		0.20	0.043	mg/L		11/30/19 12:45	12/03/19 18:38	1
Manganese	0.020	B	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 18:38	1
Nickel	0.0014	J	0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 18:38	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 18:38	1
Sodium	89.7		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 18:38	1
Zinc	0.017	B	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 18:38	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 16:43	1



Eurofins TestAmerica, Buffalo

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Client: AECOM	
Project/Site: Pfohl Brothers Landfill	

Client Sample ID: GW-04S Date Collected: 11/25/19 17:20

Date Received: 11/26/19 18:05

Phenol-d5

p-Terphenyl-d14

Lab Sample ID: 480-163358-7 Matrix: Water

11/29/19 15:15 12/03/19 00:28

11/29/19 15:15 12/03/19 00:28

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

wiethod: 82/UD - Semivolatile	e Organic Compou	inas (GC/Ni	5)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,3-Dichiorobenzene	ND		10	0.48	ug/L		11/29/19 15:15	12/03/19 00:28	1	C ST CONT
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/29/19 15:15	12/03/19 00:28	1	6
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/29/19 15:15	12/03/19 00:28	1	Sec. FI
Phenol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/03/19 00:28	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fac	
2,4,6-Tribromophenol	68	-	41 - 120				11/29/19 15:15	12/03/19 00:28	1	
2-Fluorobiphenyl	100		48 - 120				11/29/19 15:15	12/03/19 00:28	1	
2-Fluorophenol	68		35 - 120				11/29/19 15:15	12/03/19 00:28	1	
Nitrobenzene-d5	88		46 - 120				11/29/19 15:15	12/03/19 00:28	SH 3 1 -	

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

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Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND	Н	10	0.48	ug/L		12/06/19 15:14	12/12/19 17:33	-1
1,4-Dichlorobenzene	ND	н	10	0.46	ug/L	_	12/06/19 15:14	12/12/19 17:33	1
Bis(2-ethylhexyl)-phthalate	ND	H	5.0	2.2	ug/L		12/06/19 15:14	12/12/19 17:33	1
Phenol	ND	H	5.0	0.39	ug/L		12/06/19 15:14	12/12/19 17:33	1

22 - 120

60 - 148

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	DII Fac
2,4,6-Tribromophenol	67		41 - 120	12/06/19 15:14	12/12/19 17:33	1
2-Fluorobiphenyl	104		48 - 120	12/06/19 15:14	12/12/19 17:33	1
2-Fluorophenol	77		35 - 120	12/06/19 15:14	12/12/19 17:33	1
Nitrobenzene-d5	104		46 - 120	12/06/19 15:14	12/12/19 17:33	1
Phenol-d5	57		22 - 120	12/06/19 15:14	12/12/19 17:33	1
p-Terphenyl-d14	86		60 - 148	12/06/19 15:14	12/12/19 17:33	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/03/19 18:42	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/03/19 18:42	1
Barium	0.11		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 18:42	1
Cadmium	0.0013		0.0010	0.00050	mg/L		11/30/19 12:45	12/03/19 18:42	1
Chromium	0.0074		0.0040	0.0010	mg/L		11/30/19 12:45	12/03/19 18:42	1
Copper	0.0054	J	0.010	0.0016	mg/L		11/30/19 12:45	12/03/19 18:42	1
iron	2.0		0.050	0.019	mg/L		11/30/19 12:45	12/03/19 18:42	1
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 18:42	1
Magnesium	25.8	-	0.20	0.043	mg/L		11/30/19 12:45	12/03/19 18:42	1
Manganese	0.11	8	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 18:42	1 182
Nickel	0.0058	J	0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 18:42	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 18:42	1
Sodium	28.0		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 18:42	2000 1
Zinc	0.014	B	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 18:42	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 16:44	1



Client: AECOM

Job ID: 480-163358-1

State Collectic: 11/26/19 18:05 Matrix: Water Atta Reserved: 11/26/19 18:05 Matrix: Water ND Value D Prepared Analyzed DII Fac 11/26/1100000000000000000000000000000000	Allent Sample ID: GW-345					÷		Lab Samp	le ID: 480-16	3358-8
Start Received: 11/26/19 18:05 Math.dis Result Camping No. 10 0.23 Upt. Prepared Analyzed DIF Res 11.3. Trifformethans ND 10 0.23 Upt. 11/22/19 11:31 1 12.2. Chichrosofthans ND 10 0.3 Upt. 11/22/19 11:31 1 Acatons ND 10 0.41 Upt. 11/22/19 11:31 1 Sarrogate SRCorecy Qualifier Limits Prepared Analyzed DIF Res Sarrogate SRCorecy Qualifier Limits Prepared Analyzed DIF Res Sarrogate SRCorecy Qualifier Limits Prepared Analyzed DIF Res Sarrogate SRCorecy Qualifier Limits Res MDL Unit D Prepared Analyzed DIF Res Sarrogate SRCorecy Qualifier Res MDL Unit D Prepared Analyzed DIF Res	ate Collected: 11/26/19 09:09								Matri	x: Water
Mathod: 8280C - Volatile Organic Compounds by GC/MS RL MDL Unit D Prepared Analysed DII Fac 1,3-2 indiromations ND 2.0 0.81 ug/L 11/28/19 11.31 1 1,3-2 indiromations ND 2.0 0.81 ug/L 11/28/19 11.31 1 1,3-2 indiromations ND 1.0 0.41 ug/L 11/28/19 11.31 1 1,3-2 indiromations ND 1.0 0.80 ug/L 11/28/19 11.31 1 Starmsgate SRecovery Qualifier Lindia Prepared Analyzed DI Fac 1,2-Olchockestame.dt (Surr) 60 40 0.44 ug/L 11/28/19 11.31 1 1,2-Olchockestame.dt (Surr) 60 77 - 120 7 11/28/19 11.31 1 1,2-Olchockestame.dt (Surr) 60 77 - 120 7 11/28/19 11.31 1 1,3-Olchockestame.gt (Surr) 60 7.2.120 11/28/19 11.31 1 11/28/19 11.31 1 1,3-Olchockestame.gt (Surr)	ate Received: 11/26/19 18:05									
Analyse Readt Bauliter PL MDL Unit D Prepared Analysed DI Fac 12,Derblanowshen, Total ND 2.0 0.81 ugL 1122/01131 1 12,Derblanowshen, Total ND 1.0 0.41 ugL 1122/01131 1 12,Derblanowshen, Total ND 1.0 0.41 ugL 1122/01131 1 Surragets SRecovery Qualifier 1.0 0.41 ugL 1122/01131 1 Viny distorie ND 1.0 0.41 ugL 1122/01131 1 Viny distorie SRecovery Qualifier Intervinties Prepared Analysed DI Fac 12/201010050materane (Surr) 0.00 77.120 1122/0116151 122/0116151 1122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151 122/0116151	Method: 8260C - Volatile Organic	Compounds	by GC/MS							
ND 10 10 0.23 ugt. 11/24/16113/1 1 11/2-Dictionophone, Total ND 2.0 0.28 ugt. 11/24/16113/1 1 Acetone ND 1.0 0.30 ugt. 11/24/16113/1 1 Acetone ND 1.0 0.41 ugt. 11/24/16113/1 1 Marchae ND 1.0 0.41 ugt. 11/24/16113/1 1 Surregate MRecovery Qualifier Linits 0.00 0.00 11/22/16113/1 1 Surregate MDL 0.01 0.41 ugt. 11/22/16113/1 1 Surregate Surregate Market MDL 0.01 0.04 ugt. 11/22/16113/1 1 Addresset ND 1.0 0.44 ugt. 11/22/16113/1 1 Addresset ND 1.0 0.44 ugt. 11/22/16113/1 1 Addresset ND 1.0 0.44 ugt. 11/22/1	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichlocoscheme, Total ND 2.0 0.81 ug/L 11/28/191131 1 Berozene ND 1.0 0.41 ug/L 11/28/191131 1 Berozene ND 1.0 0.50 ug/L 11/28/191131 1 Starogate ND 1.0 0.50 ug/L 11/28/191131 1 Starogate XiRecovery Quelifier Linits Prepared Analyzed DIF Fee Starogate Starogate 10 0.50 ug/L 11/28/191131 1 1 Starogate Starogate Kine Covery Quelifier Linits Prepared Analyzed DIF Fee Starogate Starogate Reset Costfier Reset MD 10 0.44 ug/L 11/28/19 1515 10/20/19 0557 1 Starogate ND 10 0.44 ug/L 11/28/19 1515 2003/19 0057 1 1 Starogate ND 5.0 0.2 ug/L 11/28/19 1515 2003/19 0057 1 Starogate ND 5.0 0.3 ug/L 11/28/19 1515 2003/19 0057 1	1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/29/19 11:31	1
Acadome ND 10 0.3 0.9 11/22/19/11/31 1 Viny (zhords ND 1.0 0.40 10/22/19/11/31 1 Viny (zhords ND 1.0 0.90 ugl. 11/22/19/11/31 1 Surrogets Stacoway Qualifier Limits Progened Analyzet DI Fac Submondburnehing (Surr) 60 77.780 17/22/19/11/31 1 1 Submondburnehing (Surr) 68 73.720 17/22/19/11/31 1 1 Hethod: 8270D - Semivolatile Organic Compounds (GC/MS) ND 0.48 ugl. 11/22/19/11/31 1 Adjointowareame (Surr) 130 75.723 17/22/19/11/31 1 1 Submondourcembersene (Surr) 100 0.48 ugl. 11/22/19/11/31 1 Adjointowareame (Surr) 100 0.48 ugl. 11/22/19/11/31 1 Adjointowareame (Surr) 100 0.40 ugl. 11/22/19/11/31 1 Adjointowareame (Surr) 1	1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 11:31	1
Bacasan ND 1.0 0.41 ugL 11/28/19 11:31 1 Vinyl chloride ND 1.0 0.80 ugL 11/28/19 11:31 1 Vinyl chloride ND 1.0 0.80 ugL 11/28/19 11:31 1 Strongshe StRocovey Qualifier Linits Pregand Ansiyzed DI Face L2.Dichloroschame -44 (Surr) 94 60 - 120 11/28/19 11:31 1 1 Dichamodol (Surr) 94 60 - 120 11/28/19 11:31 1 1 1/28/19 11:31 1 Dichamodol (Surr) 94 73 - 120 11/28/19 11:31 1 1 1/28/19 11:31 1 Dichamodol (Surr) 90 73 - 120 11/28/19 11:31 1 1 1/28/19 11:31 1 Dichamodol (Surr) 82/00 100 0.40 100 10 0.40 11/28/19 11:31 1 1 1/28/19 11:31 1 1 1/28/19 11:31 1 1 1/28/19 11:31 1 1 1/28/19	Acetone	ND		10	3.0	ug/L			11/29/19 11:31	1
Viny choids ND 1.0 0.50 upt. 11/22/19 11:31 1 Surrogate XRecovery Qualifier Linits Pagend Analyzed Dif Fac 12-Okinkonschlanne-44 (Sturt) 100 77.120 11/22/19 11:31 1 Dismondi Commonitoreneme (Surt) 94 80.120 11/22/19 11:31 1 Dismondi Commonitoreneme (Surt) 94 80.120 11/22/19 11:31 1 Method: 8270D - Semivolatile Organic Compounds (GC/MS) Number RL MDL Unit D Prepared Analyzed DI Fac 3/Ocivirobenzame ND 10 0.46 upt. 11/22/19 11:51 12/03/19 00:57 1 1/A Ocivirobenzame ND 5.0 2.2 upt. 11/22/19 11:51 12/03/19 00:57 1 Burgate SRecovery Qualifier Limits Papared Analyzed DI Fac Advertifysion 50 41.120 11/22/19 15:51 12/03/19 00:57 1 Burdgate SRecovery Qualiffar Limits Papared <td>Benzene</td> <td>ND</td> <td></td> <td>1.0</td> <td>0.41</td> <td>ua/L</td> <td></td> <td></td> <td>11/29/19 11:31</td> <td>1</td>	Benzene	ND		1.0	0.41	ua/L			11/29/19 11:31	1
Surrogate Scecovery Quelifier Linits Prepared Analysed DI Face (,2.Dichnoschame-64 (Surr) 100 77.120 11/22/19 11.31 1 (,2.Dichnoschame-64 (Surr) 96 72.120 11/22/19 11.31 1 (,2.Dichnoschame, Surr) 96 72.120 11/22/19 11.31 1 (,2.Dichnoschame, Surr) 96 72.123 11/22/19 11.31 1 (,2.Dichnoschame, Surr) 103 75.123 11/22/19 11.51 1 (,2.Dichnoschame, Surr) 100 0.48 upl. 11/22/19 15.15 1203/19 00.57 1 (,3.Dichnoschame, ND 10 0.46 upl. 11/22/19 15.15 1203/19 00.57 1 (,3.Dichnoschame, ND 5.0 0.39 upl. 11/22/19 15.15 1203/19 00.57 1 (,3.Dichnoschame, V) ND 5.0 0.39 upl. 11/22/19 15.15 1203/19 00.57 1 (,3.Dichnoschame, V) (,3.Dichnoschame, V) (,3.Dichnoschame, V) (,3.Dichnoschame, V) (,3.Dichnoschame, V) (,3.Dichnos	Vinyl chloride	ND		1.0	0.90	ug/L			11/29/19 11:31	1
12.Dickhowsthene-44 (Surr) 100 77 - 120 11/22/19 [11:3] 1 Folkene-48 (Surr) 94 80 - 120 11/22/19 [11:3] 1 Folkene-48 (Surr) 99 73 - 120 11/22/19 [11:3] 1 Abermofilocrobanzane (Surr) 103 75 - 123 11/22/19 [11:3] 1 Abermofilocrobanzane (Surr) 103 75 - 123 11/22/19 [11:3] 1 Abermofilocrobanzane (Surr) 103 0.44 upl. 1 11/22/19 [11:3] 1 Abermofilocrobanzane (Surr) Result Quilifler 10 0.44 upl. 1 12/22/19 [00:57 1 Jabermofilocrobanzane (Surr) ND 5.0 0.39 upl. 11/22/19 [15:15 12/03/19 00:57 1 Aberophenol ND 5.0 0.39 upl. 11/22/19 [15:15 12/03/19 00:57 1 Aberophenol 103 44 : 120 11/22/19 [15:15 12/03/19 00:57 1 Aberophenol 67 35 : 120 11/22/19 [15:15 12/03/19 00:57 1 Aberobebonzene-68 60 44	Surrogate	%Recovery	Quailfier	Limits				Prepared	Analyzed	Dil Fac
Outener-off Clamp 94 80 - 120 17/28/19 11:31 1 +Bromofiluonobanzame (Surg) 98 73 - 120 11/28/19 11:31 1 Misomofiluonobanzame (Surg) 103 75 - 123 11/28/19 11:31 1 Method: 8270D - Semivolatile Organic Compounds (GC/MS) NDL Unit D Prepared Analyzed DIF Fec 3/Oldinobanzame ND 10 0.48 upl. 11/28/19 15:15 1203/19 00:57 1 1/4:Ochborobanzame ND 5.0 2.2 upl. 11/28/19 15:15 1203/19 00:57 1 1/ac2-mb/hoxyl phthaiata ND 5.0 2.2 upl. 11/28/19 15:15 1203/19 00:57 1 1/ac2-mb/hoxyl phthaiata ND 5.0 2.2 upl. 11/28/19 15:15 1203/19 00:57 1 1/ac2-mb/hoxyl phthaiata ND 5.0 2.2 upl. 11/28/19 15:15 1203/19 00:57 1 1/ac2-mb/hoxyl phthaiata ND 5.0 2.2 upl. 11/28/19 15:15 1203/19 00:57 1	,2-Dichloroethane-d4 (Surr)	100		77 - 120					11/29/19 11:31	1
LBronofloorobenzane (Surr) 99 73 720 11/22/19 11/22/19 11/22/19 11.31 1 Albrumollooromethane (Surr) 103 75 123 11/22/19 11.31 1 Albrumollooromethane (Surr) Result Qualifier RL MDL Unit D Prepared Analyzed DI Fac .3Olehorobenzane ND 10 0.46 upL 11/22/19 15:15 1203/19 00.57 1 .4Olehorobenzane ND 5.0 0.39 upL 11/22/19 15:15 1203/19 00.57 1 .4A-Olehorobenzane ND 5.0 0.39 upL 11/22/19 15:15 1203/19 00.57 1 Numogain 46 720 11/22/19 15:15 1203/19 00.57 1 Visuarobyhenol 50 0 44 720 11/22/19 15:15 1203/19 00.57 1 Visuarobyhenol 67 35.120 11/22/19 15:15	Toluene-d8 (Surr)	94		80 - 120					11/29/19 11:31	1
Dibmonofluoromethane (Surr) 103 75.123 11/22/19 11:31 1 Method: 8270D - Semivolatile Organic Compounds (GC/MS) Instyle Result Qualifier RL MDL Unit D Prepared Analyzed DI Fee 3/Dicklorobenzane ND 10 0.48 ugiL 11/22/19 15:15 12/03/19 00:57 1 1/4.Dicklorobenzane ND 5.0 2.2 ugiL 11/22/19 15:15 12/03/19 00:57 1 1/4.Dicklorobenzane ND 5.0 0.39 ugiL 11/22/19 15:15 12/03/19 00:57 1 Numogate S/Recovery Qualifier Limits Prepared Analyzed DI Fee 1/4.5-Titomophenol 50 41.120 11/22/19 15:15 12/03/19 00:57 1 -Fluorobphonyl 103 44.120 11/22/19 15:15 12/03/19 00:57 1 -Fluorobphonyl 103 42.120 11/22/19 15:15 12/03/19 00:57 1 -Fluorobphonyl 67 35.120 11/22/19 15:15 12/03/19 00:57 1 <tr< td=""><td>I-Bromofluorobenzene (Surr)</td><td>98</td><td></td><td>73 - 120</td><td></td><td></td><td></td><td></td><td>11/29/19 11:31</td><td>1</td></tr<>	I-Bromofluorobenzene (Surr)	98		73 - 120					11/29/19 11:31	1
Method: 8270D - Semivolatile Organic Compounds (GC/MS) ND 10 0.48 upl. Unit D Prepared Analyzed DI Face (J-Dichorobenzane) ND 10 0.48 upl. 11/29/19 15:15 12/03/19 00:57 1 (J-Dichorobenzane) ND 5.0 2.2 upl. 11/29/19 15:15 12/03/19 00:57 1 (J-Dichorobenzane) ND 5.0 0.39 upl. 11/29/19 15:15 12/03/19 00:57 1 (J-A)Chinorobenzane ND 5.0 0.39 upl. 11/29/19 15:15 12/03/19 00:57 1 (J-A)Chinorobenzane 50 41.720 17/28/19 15:15 12/03/19 00:57 1 (J-A)Chinorobenzane 50 41.720 17/28/19 15:15 12/03/19 00:57 1 (J-A)Chinorobenzane 60 46.720 17/28/19 15:15 12/03/19 00:57 1 (J-A)Chinorobenzane-d5 60 46.720 17/28/19 15:15 12/03/19 00:57 1 (J-A)Chinorobenzane-d5 60 46.720 17/28/19 15:15 12/03/19 00:57 1 <tr< td=""><td>Dibromofluoromethane (Surr)</td><td>103</td><td></td><td>75 - 123</td><td></td><td></td><td></td><td></td><td>11/29/19 11:31</td><td></td></tr<>	Dibromofluoromethane (Surr)	103		75 - 123					11/29/19 11:31	
Name Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac 3-Dichrobenzane ND 10 0.48 ug1, 11/28/19 15:15 12/03/19 00:57 1 3-Dichrobenzane ND 5.0 2.2 ug1, 11/28/19 15:15 12/03/19 00:57 1 3-Dichrobenzane ND 5.0 2.2 ug1, 11/28/19 15:15 12/03/19 00:57 1 3-Dichrobenzane ND 5.0 0.33 ug1, 11/28/19 15:15 12/03/19 00:57 1 Surrogate SRecovery Qualifier Limits Prepared Analyzed Dil Fac A-Fluromphanol 50 41.720 11/28/19 15:15 12/03/19 00:57 1 -Fluromphanol 67 3.2 12/02/19 05:15 12/03/19 00:57 1 -Fluromphanol 67 2.2 12/2 11/28/19 15:15 12/03/19 00:57 1 -Fluromphanol 67 2.2 12/2 11/28/19 15:15 12/03/19 00:57 1 -Fluromphanol	Method: 8270D - Semivolatile Oro	anic Compou	nde (GC/MS	a						
ND 10 0.48 upL 11/28/19 15:15 12/03/19 00:57 1 1,4-Dicharobenzene ND 10 0.46 upL 11/28/19 15:15 12/03/19 00:57 1 1,4-Dicharobenzene ND 5.0 2.2 upL 11/28/19 15:15 12/03/19 00:57 1 Strongete XRecovery Qualifier Limits Prepared Analyzed DI Fac 2,4.6-Tritormophenol 50 41.720 11/28/19 15:15 12/03/19 00:57 1 Fluorobphenol 67 35.720 11/28/19 15:15 12/03/19 00:57 1 Yntochorenzet 80 46.720 11/28/19 15:15 12/03/19 00:57	Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ND 10 0.4 ugL 1128/19 15:15 1203/19 00:57 1 Jsl2(2-strylhoxyl) phthelate ND 5.0 2.2 ugL 11/28/19 15:15 1203/19 00:57 1 Pencl ND 5.0 0.39 ugL 11/28/19 15:15 1203/19 00:57 1 Surrogate %Recovery Qualifier Linkts Prepared Analyzed DIF Fac 1-fluorophanol 60 41 - 120 11/28/19 15:15 1203/19 00:57 1 -Fluorophanol 67 35.120 11/28/19 15:15 1203/19 00:57 1 -Fluorophanol 67 25.2 / 20 11/28/19 15:15 1203/19 00:57 1 -Fluorophanol 67 25.2 / 20 11/28/19 15:15 1203/19 00:57 1 -Fluorophanol 67 25.2 / 20 11/28/19 15:15 1203/19 00:57 1 -Fluorophanol 67 22.120 11/28/19 15:15 1203/19 00:57 1 -Fluorophanol 61 40 1202/19 15:16 1203/19 00:57 1 -Fluorophanol<	,3-Dichlorobenzene	ND		10	0.48	ug/L		11/29/19 15:15	12/03/19 00:57	1
Big2-ethylhexyl) phthelate ND 5.0 2.2 ugL 11/28/19 16:15 12/03/19 00:57 1 Surrogate ND 5.0 0.39 ugL 11/28/19 16:15 12/03/19 00:57 1 Surrogate XRecovary Qualiffer Limits Prepared Analyzed DIF Fe 4.6 Tritormophenol 60 41.120 11/28/19 16:15 12/03/19 00:57 1 VERuorobiphenyl 103 48.120 11/28/19 16:15 12/03/19 00:57 1 VERuorobiphenyl 103 48.120 11/28/19 16:15 12/03/19 00:57 1 VERuorobiphenyl 60 64 120 11/28/19 16:15 12/03/19 00:57 1 Verbonic45 60 64 120 11/28/19 16:15 12/03/19 00:57 1 Asthold 18 2010 61 60.148 11/28/19 16:15 12/03/19 00:57 1 Method: 827 12/03/19 00:57 1 1 11/28/19 16:15 12/03/19 00:57 1 Astrithorbance 61 60.	,4-Dichlorobenzene	ND		10	0.46	ug/L		11/29/19 15:15	12/03/19 00:57	1
Phenel ND 5.0 0.39 ugL 11/28/19 12/23/19 00.57 1 Surrogate XRecovery Qualifier Limits Prepared Analyzed DIF Fee 4.4.5-Tifuromophenol 50 41.120 11/28/19 15.5 12/03/19 00.57 1 Fluoroblehonyl 103 48.120 11/28/19 15.5 12/03/19 00.57 1 Fluoroblehond 67 35.120 11/28/19 15.5 12/03/19 00.57 1 Hitobenzene-d5 60 46.120 11/28/19 15.5 12/03/19 00.57 1 Terphonyl-014 61 0.148 11/28/19 15.5 12/03/19 00.57 1 Terphonyl-014 61 0.148 11/28/19 15.1 12/03/19 00.57 1 Alchordscerzane ND <h< td=""> 0.0.48 ugL 11/28/19 16.01 1 Alchordscerzane ND<h< td=""> 10 0.44 ugL 12/08/19 15</h<></h<>	3is(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/29/19 15:15	12/03/19 00:57	1
Surrogate XRecovery X4-7/fibromophenol S0 Limits Propered Analyzed X1/22/19 15:15 Dil Fie X4-7/fibromophenol 50 41 - 120 11/22/19 15:15 1203/19 00:57 1 X-Fluoroblenol 67 35.120 11/22/19 15:15 1203/19 00:57 1 X-Fluoroblenol 67 35.120 11/22/19 15:15 1203/19 00:57 1 Yebrochenol 67 35.120 11/22/19 15:15 1203/19 00:57 1 Yebrochenol 67 35.120 11/22/19 15:15 1203/19 00:57 1 Yebrochenol 61 62.120 11/22/19 15:15 1203/19 00:57 1 Yebrochenol 81 60.148 100.148 11/22/19 15:15 1203/19 00:57 1 Alethod: 8270D - Semivolatile Organic Compounds (GC/MS) - RE Instantion 12/02/19 15:15 12/02/19 00:57 1 Alethod: 8270D - Semivolatile Organic Compounds (GC/MS) - RE Instantion 12/02/19 15:14 12/12/19 18:01 1 Alethod: 8200D - Alega 92 92	henol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/03/19 00:57	1
Ad-Tribromophenol 50 41 - 120 11/28/19 15:15 12/02/19 00:57 1 -Fluoroblehenyl 103 48 - 120 11/28/19 15:15 12/02/19 00:57 1 -Fluoroblehenol 67 35 . 120 11/28/19 15:15 12/02/19 00:57 1 -Fluoroblehenol 67 35 . 120 11/28/19 15:15 12/03/19 00:57 1 -Fluoroblehonol 67 35 . 120 11/28/19 15:15 12/03/19 00:57 1 -Fluoroblehonol 61 22 . 120 11/28/19 15:15 12/03/19 00:57 1 -Fluoroblehonol 81 60 - 148 11/28/19 15:15 12/03/19 00:57 1 -Torphonyl-d14 81 60 - 148 11/28/19 15:15 12/03/19 00:57 1 Alethod: 8270D - Semivolatile Organic Compounds (GC/MS) - RE nenyte Analyzed DII Fac Alethorsberzene ND H 10 0.448 ug/L 12/06/19 15:14 12/12/19 18:01 1 4.12/129/19 18:01 ND H 50 0.32 ug/L 12/06/19 15:14 12/12/19	iurrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Fluorobiphenyl 103 48.120 11/28/19 15:15 12/03/19 00:57 1 -Fluorophenol 67 35.120 11/28/19 15:15 12/03/19 00:57 1 -Fluorophenol 67 35.120 11/28/19 15:15 12/03/19 00:57 1 Intecherzene-d5 80 46.120 11/28/19 15:15 12/03/19 00:57 1 T-rephenyl-d14 81 60.149 11/28/19 15:15 12/03/19 00:57 1 Interhod: 8270D - Semivolatile Organic Compounds (GC/MS) - RE natyzed MDL Unit D Prepared Analyzed DII Fac 3-Dicklerxkerzene ND H 10 0.48 ug/L 12/06/19 15:14 12/12/19 18:01 1 -Alchidrobenzene ND H 50 2.2 ug/L 12/06/19 15:14 12/12/19 18:01 1 -thenol ND H 50 0.3 ug/L 12/06/19 15:14 12/12/19 18:01 1 -thenol ND H 50 41.120 12/06/19 15:14 12/12/19 18:01 1 -thenol <	,4,6-Tribromophenol	50		41 - 120				11/29/19 15:15	12/03/19 00:57	1
Fluorophenol 67 35.120 11/29/19 15:15 12/03/19 00:57 1 itrobenzene-d5 80 46.120 11/29/19 15:15 12/03/19 00:57 1 henol-d5 51 22.120 11/28/19 15:15 12/03/19 00:57 1 Tophenyl-d14 81 60 148 11/28/19 15:15 12/03/19 00:57 1 Nethod: 8270D - Semivolatile Organic Compounds (GC/MS) - RE MDL Unit D Prepared Analyzed DII Fac 3Dibbloroberzene ND H 10 0.45 ug/L 12/06/19 15:14 12/12/19 18:01 1 4_Dibbroxberzene ND H 50 2.2 ug/L 12/06/19 15:14 12/12/19 18:01 1 urrogate ND H 50 2.2 ug/L 12/06/19 15:14 12/12/19 18:01 1 urrogate XRecovery Qualifier Limits 12/20/19 15:14 12/12/19 18:01 1 Fluorobiphenvl 62 35 120 12/06/19 15:14 12/12/19 18:01 <td< td=""><td>-Fluorobiphenyl</td><td>103</td><td></td><td>48 - 120</td><td></td><td></td><td></td><td>11/29/19 15:15</td><td>12/03/19 00:57</td><td>1</td></td<>	-Fluorobiphenyl	103		48 - 120				11/29/19 15:15	12/03/19 00:57	1
Bit Denzene-d5 B0 46.120 11/29/19 15:15 12/03/19 00:57 1 henol-d5 61 22.120 11/28/19 15:15 12/03/19 00:57 1 Terphenyl-d14 81 60.148 11/28/19 15:15 12/03/19 00:57 1 Terphenyl-d14 81 60.148 11/28/19 15:15 12/03/19 00:57 1 Terphenyl-d14 Result Qualifier RL MDL Unit D Prepared Analyzed DI Fac 3Dichoroberzene ND H 10 0.46 ug/L 12/06/19 15:14 12/12/19 18:01 1 ADichoroberzene ND H 10 0.46 ug/L 12/06/19 15:14 12/12/19 18:01 1 Adichoroberzene ND H 50 0.36 ug/L 12/06/19 15:14 12/12/19 18:01 1 urorgate XRecovery Qualifier Limits Prepared Analyzed DII Fac f/uorobjnenol 62 35.120 12/06/19 15:14 12/12/19 18:01 1	-Fluorophenol	67		35 - 120				11/29/19 15:15	12/03/19 00:57	1
henol-d5 51 22.120 11/29/19 15:15 12/03/19 00:57 1 -Torphenyl-d14 81 60.148 11/29/19 15:15 12/03/19 00:57 1 Interhod: 8270D - Semivolatile Organic Compounds (GC/MS) - RE Result Qualifier RL MDL Unit D Prepared Analyzed DII Fac 3Dickionoberzene ND H 10 0.48 ug/L 12/06/19 15:14 12/12/19 18:01 1 4.Dichloroberzene ND H 10 0.46 ug/L 12/06/19 15:14 12/12/19 18:01 1 4.Dichloroberzene ND H 50 0.29 ug/L 12/06/19 15:14 12/12/19 18:01 1 4.Eorbityperylphilolate ND H 50 0.39 ug/L 12/06/19 15:14 12/12/19 18:01 1 urogate XRecovery Qualiffer Limits Prepared Analyzed DII Fac Fluoroblohon 59 41 - 120 12/06/19 15:14 12/12/19 18:01 1 Fluoroblohenyl 82	litrobenzene-d5	80		46 120				11/29/19 15:15	12/03/19 00:57	1
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wrogate %Recovery Qualifier Limits Prepared Analyzed Dil Fac 4,6-Tribromophenol 59 41 - 120 12/06/19 15:14 12/12/19 18:01 1 Filuorobiphenyl 82 48 - 120 12/06/19 15:14 12/12/19 18:01 1 Filuorobiphenol 62 35 - 120 12/06/19 15:14 12/12/19 18:01 1 Filuorobiphenol 62 35 - 120 12/06/19 15:14 12/12/19 18:01 1 itrobenzene-d5 83 46 - 120 12/06/19 15:14 12/12/19 18:01 1 Terphenyl-d14 71 60 - 148 12/06/19 15:14 12/12/19 18:01 1 Iethod: 6010C - Metals (ICP) nalyzed Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac ntimony ND 0.020 0.0068 mg/L 11/30/19 12:45 12/03/19 18:46 1 arium 0.12 0.0020 0.00070 mg/L 11/30/19 12:45 12/03/19 18:46 1 adml	henol-d5 -Terphenyl-d14 lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene 4-Dichlorobenzene is(2-ethylhexyl) phthalate	51 81 Result ND- ND	nds (GC/MS Qualifier H H	40 - 720 22 - 120 60 - 148 5) - RE 10 10 5.0	MDL 0.48 0.46 2.2	Unit ug/L ug/L ug/L	D	11/29/19 15:15 11/29/19 15:15 Prepared 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 Analyzed 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01	1 1 Dil Fac 1 1
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Filozobiphenyl 82 48 - 120 12/06/19 15:14 12/12/19 18:01 1 -Filozophenol 62 35 - 120 12/06/19 15:14 12/12/19 18:01 1 ilitzobenzene-d5 83 46 - 120 12/06/19 15:14 12/12/19 18:01 1 Othenol-d5 45 22 - 120 12/06/19 15:14 12/12/19 18:01 1 -Terphenyl-d14 71 60 - 148 12/06/19 15:14 12/12/19 18:01 1 Method: 6010C - Metals (ICP) malyte Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac ntimony ND 0.020 0.0068 mg/L 11/30/19 12:45 12/03/19 18:46 1 arsenic ND 0.010 0.0055 mg/L 11/30/19 12:45 12/03/19 18:46 1 aratum 0.12 0.0020 0.00070 mg/L 11/30/19 12:45 12/03/19 18:46 1 stadmlum ND 0.0010 0.00050 mg/L 11/30/19 12:45 12/03/19 18:46 1 stopper 0.0019 0.0100 0.0016 mg/L </td <td>Phenol-d5 - Terphenyl-d14 Method: 8270D - Semivolatile Org nalyte ,3-Dichlorobenzene ,4-Dichlorobenzene Sis(2-ethylhexyl) phthalate Phenol Surrogate</td> <td>51 81 Result ND- ND- ND- ND- ND- ND- ND- ND-</td> <td>nds (GC/MS Qualifier H H H Qualifier</td> <td>40 - 720 22 - 120 60 - 148 5) - RE RL 10 40 5.0 5.0 5.0</td> <td>MDL 0.48 0.46 2.2 0.39</td> <td>Unit ug/L ug/L ug/L</td> <td> D</td> <td>11/29/19 15:15 11/29/19 15:15 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14</td> <td>12/03/19 00:57 12/03/19 00:57 Analyzed 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 Analyzed</td> <td>1 Dil Fac 1 1 1 1 Dil Fac</td>	Phenol-d5 - Terphenyl-d14 Method: 8270D - Semivolatile Org nalyte ,3-Dichlorobenzene ,4-Dichlorobenzene Sis(2-ethylhexyl) phthalate Phenol Surrogate	51 81 Result ND- ND- ND- ND- ND- ND- ND- ND-	nds (GC/MS Qualifier H H H Qualifier	40 - 720 22 - 120 60 - 148 5) - RE RL 10 40 5.0 5.0 5.0	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	11/29/19 15:15 11/29/19 15:15 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 Analyzed 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 Analyzed	1 Dil Fac 1 1 1 1 Dil Fac
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Terphenyl-d14 71 60 - 148 12/06/19 15:14 12/12/19 18:01 1 Method: 6010C - Metals (ICP) nalyte Result Qualifier RL MDL Unit D Prepared Analyzed DII Fac ntimony ND 0.020 0.0068 mg/L 11/30/19 12:45 12/03/19 18:46 1 rsenic ND 0.010 0.0056 mg/L 11/30/19 12:45 12/03/19 18:46 1 atarium 0.12 0.0020 0.00070 mg/L 11/30/19 12:45 12/03/19 18:46 1 admium ND 0.0010 0.00050 mg/L 11/30/19 12:45 12/03/19 18:46 1 copper 0.0034 J 0.0040 0.0010 mg/L 11/30/19 12:45 12/03/19 18:46 1 copper 0.0019 J 0.010 0.0016 mg/L 11/30/19 12:45 12/03/19 18:46 1 on 0.025 J 0.050 0.019 mg/L 11/30/19 12:45 12/03/19 18:46 1	Phenol-d5 -Terphenyl-d14 Method: 8270D - Semivolatile Org malyte ,3-Dichlorobenzene ,4-Dichlorobenzene Surrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol litrobenzene-d5	51 81 anic Compou Result ND ND ND ND S9 82 62 83	nds (GC/MS Qualifier H H H Qualifier	46 - 120 22 - 120 60 - 148 2) - RE RL 10 40 5.0 5.0 Limits 41 - 120 48 - 120 46 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	11/29/19 15:15 11/29/19 15:15 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Method: 6010C - Metals (ICP) Result Qualifier RL MDL Unit D Prepared Analyzed DII Fac ntimony ND 0.020 0.0068 mg/L 11/30/19 12:45 12/03/19 18:46 1 rsenic ND 0.010 0.0056 mg/L 11/30/19 12:45 12/03/19 18:46 1 arium 0.12 0.0020 0.00070 mg/L 11/30/19 12:45 12/03/19 18:46 1 admlum ND 0.0010 0.00050 mg/L 11/30/19 12:45 12/03/19 18:46 1 hromium 0.0034 J 0.0040 0.0010 mg/L 11/30/19 12:45 12/03/19 18:46 1 opper 0.0019 J 0.0010 mg/L 11/30/19 12:45 12/03/19 18:46 1 on 0.025 J 0.010 0.0016 mg/L 11/30/19 12:45 12/03/19 18:46 1	Phenol-d5 -Terphenyl-d14 flethod: 8270D - Semivolatile Org unalyte ,3-Dichloroberzene ,4-Dichloroberzene lis(2-ethylhexyl) phthalate 'henol 'urrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol 'itrobenzene-d5 henol-d5	51 81 Result ND ND ND ND ND S9 82 62 83 45	nds (GC/MS Qualifier H H H Qualifier	46 - 120 22 - 120 60 - 148 2) - RE RL 10 40 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	11/29/19 15:15 11/29/19 15:15 11/29/19 15:15 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01	1 1 1 1 1 1 1 1 1 1 1 1 1 1
Result Qualifier RL MDL Unit D Prepared Analyzed Dil Fac Intimony ND 0.020 0.0068 mg/L 11/30/19 12:45 12/03/19 18:46 1 Intimony ND 0.010 0.0056 mg/L 11/30/19 12:45 12/03/19 18:46 1 Intraction 0.12 0.0020 0.00070 mg/L 11/30/19 12:45 12/03/19 18:46 1 Result ND 0.010 0.00070 mg/L 11/30/19 12:45 12/03/19 18:46 1 Barium 0.12 0.0020 0.00070 mg/L 11/30/19 12:45 12/03/19 18:46 1 Result ND 0.0010 0.00050 mg/L 11/30/19 12:45 12/03/19 18:46 1 Result 0.0034 J 0.0010 mg/L 11/30/19 12:45 12/03/19 18:46 1 Result 0.0019 J 0.010 0.0016 mg/L 11/30/19 12:45 12/03/19 18:46 1 Resultium 0.025	Phenol-d5 -Terphenyl-d14 Method: 8270D - Semivolatile Org nalyte ,3-Dichloroberzene i.4-Dichloroberzene Sis(2-ethylhexyl) phthalate Phenol Surrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol litrobenzene-d5 Phenol-d5 -Terphenyl-d14	51 81 Result ND ND ND ND ND ND ND ND ND ND ND ND ND	nds (GC/MS Qualifier H H H Qualifier	40 - 120 22 - 120 60 - 148 5) - RE 10 10 10 5.0 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	11/29/19 15:15 11/29/19 15:15 11/29/19 15:15 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
ND 0.020 0.0068 mg/L 11/30/19 12:45 12/03/19 18:46 1 vrsenic ND 0.010 0.0056 mg/L 11/30/19 12:45 12/03/19 18:46 1 Sarium 0.12 0.0020 0.00070 mg/L 11/30/19 12:45 12/03/19 18:46 1 Cadmlum ND 0.0010 0.00050 mg/L 11/30/19 12:45 12/03/19 18:46 1 Chromium 0.0034 J 0.0040 0.0010 mg/L 11/30/19 12:45 12/03/19 18:46 1 Copper 0.0034 J 0.0040 0.0010 mg/L 11/30/19 12:45 12/03/19 18:46 1 Copper 0.0019 J 0.010 0.0016 mg/L 11/30/19 12:45 12/03/19 18:46 1 copper 0.025 J 0.050 0.019 mg/L 11/30/19 12:45 12/03/19 18:46	Phenol-d5 Terphenyl-d14 Method: 8270D - Semivolatile Org Analyte I,3-Dichlorobenzene I,4-Dichlorobenzene Bis(2-ethylhexyl)-phthalate Phenol Surrogate 2,4,6-Tribromophenol -Fluorobiphenyl Philorophenol Nitrobenzene-d5 Phenol-d5 -Terphenyl-d14 Nethod: 6010C - Metals (ICP)	51 81 anic Compou Result ND ND ND ND ND S Recovery 59 82 62 83 45 71	nds (GC/MS Qualifier H H H Qualifier	40 - 120 22 - 120 60 - 148 2) - RE 10 40 5.0 5.0 <i>Limits</i> 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	11/29/19 15:15 11/29/19 15:15 11/29/19 15:15 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
ND 0.010 0.0056 mg/L 11/30/19 12:45 12/03/19 18:46 1 Barium 0.12 0.0020 0.00070 mg/L 11/30/19 12:45 12/03/19 18:46 1 sadmlum ND 0.0010 0.00050 mg/L 11/30/19 12:45 12/03/19 18:46 1 sadmlum ND 0.0010 0.00050 mg/L 11/30/19 12:45 12/03/19 18:46 1 copper 0.0034 J 0.0040 0.0010 mg/L 11/30/19 12:45 12/03/19 18:46 1 copper 0.0019 J 0.010 0.0016 mg/L 11/30/19 12:45 12/03/19 18:46 1 con 0.025 J 0.050 0.019 mg/L 11/30/19 12:45 12/03/19 18:46 1	Phenol-d5 - Terphenyl-d14 Method: 8270D - Semivolatile Org Analyte ,3-Dichlorobenzene ,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate Phenol Surrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol litrobenzene-d5 Phenol-d5 -Terphenyl-d14 Method: 6010C - Metals (ICP) malyte	51 81 Ianic Compou Result ND ND ND ND ND ND ND ND ND ND ND ND ND	nds (GC/MS Qualifier H H Qualifier	40 - 120 22 - 120 60 - 148 2) - RE RL 10 40 5.0 5.0 <i>Limits</i> 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL	MDL	Unit ug/L ug/L ug/L	D	11/29/19 15:15 11/29/19 15:15 11/29/19 15:15 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01 12/12/19 18:01	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Jarium 0.12 0.0020 0.00070 mg/L 11/30/19 12:45 12/03/19 18:46 1 admlum ND 0.0010 0.00050 mg/L 11/30/19 12:45 12/03/19 18:46 1 ihromium 0.0034 J 0.0040 0.0010 mg/L 11/30/19 12:45 12/03/19 18:46 1 copper 0.0019 J 0.010 0.0016 mg/L 11/30/19 12:45 12/03/19 18:46 1 con 0.025 J 0.050 0.019 mg/L 11/30/19 12:45 12/03/19 18:46 1	Phenol-d5 -Terphenyl-d14 Method: 8270D - Semivolatile Org unalyte ,3-Dichlorobenzene ,4-Dichlorobenzene Bis(2-ethylhexyl) phthalate Phenol Burrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol litrobenzene-d5 Phenol-d5 -Terphenyl-d14 Method: 6010C - Metals (ICP) malyte ntimony	51 81 Ianic Compou Result ND ND ND ND ND ND ND ND ND ND ND ND ND	nds (GC/MS Qualifier H H Qualifier	40 - 120 22 - 120 60 - 148 2) - RE 10 40 5.0 5.0 <i>Limits</i> 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020	MDL 0.48 0.46 2.2 0.30 MDL 0.0068	Unit ug/L ug/L ug/L ug/L	D	11/29/19 15:15 11/29/19 15:15 11/29/19 15:15 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 00:57 12/12/19 18:01 12/12/19 18:01	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
ND 0.0010 0.00050 mg/L 11/30/19 12:45 12/03/19 18:46 1 hromium 0.0034 J 0.0040 0.0010 mg/L 11/30/19 12:45 12/03/19 18:46 1 opper 0.0019 J 0.010 0.0016 mg/L 11/30/19 12:45 12/03/19 18:46 1 on 0.025 J 0.050 0.019 mg/L 11/30/19 12:45 12/03/19 18:46 1	Phenol-d5 -Terphenyl-d14 Rethod: 8270D - Semivolatile Org malyte ,3-Dichlorobenzene ,4-Dichlorobenzene tis(2-ethylhexyl) phthalate Phenol surrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorobiphenol tirboenzene-d5 henol-d5 -Terphenyl-d14 Rethod: 6010C - Metals (ICP) malyte ntimony rsenic	51 81 Ianic Compou Result ND ND ND ND ND ND ND ND ND ND ND ND ND	nds (GC/MS Qualifier H H Qualifier Qualifier	40 - 120 22 - 120 60 - 148 2) - RE RL 10 40 5.0 5.0 <i>Limits</i> 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010	MDL 0.48 0.46 2.2 0.30 MDL 0.0068 0.0056	Unit ug/L ug/L ug/L ug/L mg/L mg/L	D	11/29/19 15:15 11/29/19 15:15 11/29/19 15:15 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 18:01 12/12/19 18:01	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
hromium 0.0034 J 0.0040 0.0010 mg/L 11/30/19 12:45 12/03/19 18:46 1 opper 0.0019 J 0.010 0.0016 mg/L 11/30/19 12:45 12/03/19 18:46 1 on 0.025 J 0.050 0.019 mg/L 11/30/19 12:45 12/03/19 18:46 1	Phenol-d5 -Terphenyl-d14 Rethod: 8270D - Semivolatile Org malyte ,3-Dichloroberzene ,4-Dichloroberzene tis(2-ethylhexyl) phthalate Phenol urrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol tirboenzene-d5 thenol-d5 -Terphenyl-d14 Rethod: 6010C - Metals (ICP) malyte ntimony rsenic arium	51 81 anic Compou Result ND ND ND ND ND ND ND ND ND ND ND ND ND	nds (GC/MS Qualifier H H Qualifier	40 - 120 22 - 120 60 - 148 2) - RE RL 10 40 5.0 5.0 <i>Limits</i> 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020	MDL 0.48 0.46 2.2 0.30 MDL 0.0068 0.0056 0.0056	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L	D	11/29/19 15:15 11/29/19 15:15 11/29/19 15:15 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 18:01 12/12/19 18:46 12/03/19 18:46 12/03/19 18:46	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
opper 0.0019 J 0.010 0.0016 mg/L 11/30/19 12:45 12/03/19 18:46 1 on 0.025 0.050 0.019 mg/L 11/30/19 12:45 12/03/19 18:46 1	Phenol-d5 -Terphenyl-d14 Rethod: 8270D - Semivolatile Org malyte ,3-Dichloroberzene ,4-Dichloroberzene tis(2-ethylhexyl) phthalate Phenol urrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol tirobenzene-d5 henol-d5 -Terphenyl-d14 Rethod: 6010C - Metals (ICP) malyte ntimony rsenic arium admium	51 81 anic Compou Result ND ND ND ND ND 82 62 83 45 71 Result ND ND 0.12	nds (GC/MS Qualifier H H Qualifier	40 - 720 22 - 120 60 - 148 2) - RE RL 10 40 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0010	MDL 0.48 0.46 2.2 0.30 MDL 0.0068 0.0056 0.0056	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L mg/L	D	11/29/19 15:15 11/29/19 15:15 11/29/19 15:15 12/06/19 15:14 12/06/19 15:14	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 18:01 12/12/19 18:01 12/03/19 18:46 12/03/19 18:46 12/03/19 18:46	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
opper 0.0019 0.0019 0.0010 0.0010 11/30/19 12:45 12/03/19 18:46 1 on 0.025 J 0.050 0.019 mg/L 11/30/19 12:45 12/03/19 18:46 1	Phenol-d5 - Terphenyl-d14 Method: 8270D - Semivolatile Org unalyte ,3-Dichlorobenzene ,4-Dichlorobenzene tils(2-ethylhexyl) phthalate Phenol Surrogate ,4,6-Tribromophenol -Filorophenol itrobenzene-d5 thenol-d5 -Terphenyl-d14 Method: 6010C - Metals (ICP) malyte ntimony rsenic tarium tadmium	51 81 anic Compou Result ND ND ND ND ND ND ND 82 62 83 45 71 Result ND ND 0.12 ND	nds (GC/MS Qualifier H H Qualifier	40 - 120 22 - 120 60 - 148 10 40 50 RL 10 40 50 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0010 0.0040	MDL 0.48 0.46 2.2 0.30 0.30 0.30 0.005 0.0056 0.0050 0.0050	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L mg/L	D	11/29/19 15:15 11/29/19 15:15 11/29/19 15:15 12/06/19 15:14 12/06/19 12:45 11/30/19 12:45 11/30/19 12:45	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 18:01 12/12/19 18:01 12/03/19 18:46 12/03/19 18:46 12/03/19 18:46 12/03/19 18:46	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
	Phenol-d5 - Terphenyl-d14 Method: 8270D - Semivolatile Org valyte ,3-Dichloroberzene ,4-Dichloroberzene lis(2-ethylhexyl) phthalate 'henol :urrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorobiphenyl -Fluorophenol !itrobenzene-d5 'henol-d5 -Terphenyl-d14 lethod: 6010C - Metals (ICP) nalyte ntimony rsenic arium admium hromium	51 81 anic Compou Result ND ND ND ND ND 82 62 83 45 71 Result ND ND 0.12 ND	nds (GC/MS Qualifier H H Qualifier Qualifier	40 - 120 22 - 120 60 - 148 10 40 50 RL 10 40 50 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0010 0.0040 0.020	MDL 0.48 0.46 2.2 0.30 0.30 0.30 0.056 0.0056 0.0056 0.00050 0.0010	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L mg/L mg/L	D	11/29/19 15:15 11/29/19 15:15 11/29/19 15:15 12/06/19 15:14 12/06/19 12:45 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45	12/03/19 00:57 12/03/19 00:57 12/03/19 00:57 12/12/19 18:01 12/12/19 18:46 12/03/19 18:46 12/03/19 18:46 12/03/19 18:46 12/03/19 18:46	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1

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12/13/2019

Job ID: 480-163358-1

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-34S Date Collected: 11/26/19 09:09

Lab Sample ID: 480-163358-8 ter

Date Received: 11/26/19 18:05

Matrix:	Wa

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Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared		Dil Fac
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 18:46	1
Magnesium	39.6	1.2	0.20	0.043	mg/L		11/30/19 12:45	12/03/19 18:46	1
Manganese	0.035	B	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 18:46	1
Nickel	0.0038	J	0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 18:46	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 18:46	1
Sodium	17.1		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 18:46	1
Zinc	ND		0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 18:46	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 16:45	1

det Habo

Eurofins TestAmerica, Buffalo

Client: AECOM

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a di mangan dan dan dalah salam na sala						Lab Samp	le ID: 480-16	3358-9
							Matri	x: Wate
ompounds	by GC/MS							
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ND		1.0	0.23	ug/L			11/29/19 11:55	1
ND		2.0	0.81	ug/L			11/29/19 11:55	
ND		10	3.0	ug/L			11/29/19 11:55	1
ND		1.0	0.41	ug/L			11/29/19 11:55	1
ND		1.0	0.90	ug/L			11/29/19 11:55	P 1
%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
102		77 - 120					11/29/19 11:55	1
95		80 - 120					11/29/19 11:55	1
94		73 - 120					11/29/19 11:55	1
102		75 - 123					11/29/19 11:55	1
								•
nic Compou	inds (GC/MS)			_		52000 -	
Result	Qualifier	RL	MDL	Unit	<u> </u>	Prepared	Analyzed	Dil Fac
ND		10	0.48	ug/L		11/29/19 15:15	12/03/19 01:25	1
ND		10	0.46	ug/L		11/29/19 15:15	12/03/19 01:25	1
ND		5.0	2.2	ug/L		11/29/19 15:15	12/03/19 01:25	1
ND		5.0	0.39	ug/L		11/29/19 15:15	12/03/19 01:25	1
%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
53		41 - 120				11/29/19 15:15	12/03/19 01:25	1
97		48 - 120				11/29/19 15:15	12/03/19 01:25	1
64		35 - 120				11/29/19 15:15	12/03/19 01:25	1
76		46 - 120				11/29/19 15:15	12/03/19 01:25	1
49		22 - 120				11/29/19 15:15	12/03/19 01:25	1
70		60 - 148				11/29/19 15:15	12/03/19 01:25	1
nic Compou	inds (GC/MS)) - RE			_	5	^с е.	D!! E
Result	Quaimer			Unit	<u> </u>	Prepared	Analyzed	DR Fac
ND-	-11	10	0.48	ug/L		12/06/19 15:14	12/12/19 18:29	1
ND	H.	10	0.46	ug/L		12/06/19 15:14	12/12/19 18:29	1
ND	-H	5.0	2.2	ug/L		12/06/19 15:14	12/12/19_18:29	
ND-		0.0	0.39	ug/L	1.5	12/06/19 15:14	12/12/19 18:29	
%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
73		41 - 120				12/06/19 15:14	12/12/19 18:29	1
95		48 - 120				12/06/19 15:14	12/12/19 18:29	1
68		35 - 120				12/06/19 15:14	12/12/19 18:29	1
98		46 - 120				12/06/19 15:14	12/12/19 18:29	1
50		22 - 120				12/06/19 15:14	12/12/19 18:29	1
80		60 - 148				12/06/19 15:14	12/12/19 18:29	1
Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
ND		0.020	0.0068	mg/L		11/30/19 12:45	12/03/19 19:00	1
ND		0.010	0.0056	mg/L		11/30/19 12:45	12/03/19 19:00	1
0.10		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 19:00	1
0.0012		0.0010	0.00050	mg/L		11/30/19 12:45	12/03/19 19:00	122202
0.0054		0.0040	0.0010	mg/L		11/30/19 12:45	12/03/19 19:00	1
0.0038	L	0.010	0.0016	– ma/∟		11/30/19 12:45	12/03/19 19:00	1
0.16		0.050	0.019	mg/L		11/30/19 12:45	12/03/19 19:00	1
						Eurofir	s TestAmerica	Buffalo
					S	Eurofir	ns TestAmerica,	Buffalo
	I	Page 21 of 6	61		S	Eurofir	ns TestAmerica, 12/1	Buffalo 3/2019
	Dmpounds Result ND ND ND ND ND ND %Recovery 64 102 94 102 95 94 102 95 94 102 95 94 102 95 94 102 97 64 70 80 80 80 80 80 80 80 80 80 80 80 80 80	Dempounds by GC/MS Result Qualifier ND ND ND ND ND ND ND ND %Recovery Qualifier ND ND ND ND ND ND ND ND ND ND	Series Qualifier RL ND 1.0 ND 2.0 ND 10 ND 10 ND 10 ND 10 ND 10 ND 10 ND 1.0 ND 1.0 ND 1.0 %Recovery Qualifier Limits 102 75 - 123 tic Compounds (GC/MS) Result Qualifier ND 10 ND 10 ND 5.0 ND 41 - 120 97 48 - 120 64 35 - 120 76 46 - 120 49 22 - 120<	Servet Qualifier RL MDL ND 1.0 0.23 ND 2.0 0.81 ND 1.0 0.30 ND 1.0 0.41 ND 1.0 0.41 ND 1.0 0.41 ND 1.0 0.41 ND 1.0 0.90 %Recovery Qualifier Limits 102 77 - 120 95 95 80 - 120 94 94 73 - 120 10 102 75 - 123 10 102 75 - 123 10 ND 10 0.48 ND 10 0.48 ND 5.0 2.2 ND 5.0 0.39 %Recovery Qualifier Limits 53 41 - 120 49 97 48 - 120 49 49 22 - 120 70 70 60 - 148 MDL	Served Sec/MS Result Qualifier RL MDL Unit ND 1.0 0.23 ug/L ND 1.0 0.23 ug/L ND 1.0 0.23 ug/L ND 1.0 0.41 ug/L ND 1.0 0.41 ug/L ND 1.0 0.41 ug/L ND 1.0 0.90 ug/L %Recovery Qualifier Limits 100 0.90 95 80.120 94 73.120 100 0.46 102 75.123 10 0.46 ug/L ND 10 0.45 ug/L ND ND 5.0 2.2 ug/L ND 0.39 ug/L %Recovery Qualifier Limits 10 0.46 ug/L ND 5.0 0.39 ug/L 46 120 64 35.120 97 46.120 0.39 ug/L	Simpounds by GC/MS Result Qualifier RL MDL Unit D ND 1.0 0.23 ug/L D ND 1.0 0.41 ug/L D ND 1.0 0.41 ug/L D ND 1.0 0.41 ug/L D ND 1.0 0.80 ug/L D ND 1.0 0.80 ug/L D %Recovery Qualifier Limits D 0.80 ug/L D 102 75 - 123	Second Second	Lab Sample ID: 480-16 Matri Simpounds by GC/MS Result Qualifier RL MDL Unit D Prepared Analyzed ND 2.0 0.81 ugl. 11/22/1911:55 11/22/1911:55 ND 1.0 0.41 ugl. 11/22/1911:55 11/22/1911:55 ND 1.0 0.90 ugl. 11/22/1911:55 11/22/1911:55 SKRecovery Qualifier Limits Prepared Analyzed 102 77.120 Prepared Analyzed 11/22/1911:55 102 75.123 11/22/1911:55 12/02/191:55 12/02/191:55 102 75.123 11/22/191:515 12/03/190:25 11/22/191:515 12/03/190:25 nbc Compounds (GC/MS) Result Qualifier MDL Unit D Prepared Analyzed ND 5.0 0.39 ugl. 11/22/1915:51 12/03/190:25 11/22/191:515 12/03/190:25 SKecovery Qualifier Limits Prepared Analyzed 11/22/191:515 12/03/190:25 11/22/191:515 12/03/190:25



12/13/2019

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-03S Date Collected: 11/26/19 10:59

Date Received: 11/26/19 18:05

Lab Sample ID: 480-163358-9 Matrix: Water

12.1	58	86	
12	7	-	
15	L		

Method: 6010C - Metals (ICP) (Contin	iued)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 19:00	1
Magnesium	92.7		0.20	0.043	mg/L		11/30/19 12:45	12/03/19 19:00	1
Manganese	0.028	8	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 19:00	1
Nickel	0.032		0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 19:00	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 19:00	1
Sodium	90.0		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 19:00	1
Zinc	0.016	B	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 19:00	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 16:53	1

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Client: AECOM

								ID 466 465	000 10
Client Sample ID: GW-03D							Lab Sample	e ID: 480-163	358-10
Date Collected: 11/26/19 12:14								Matri	x: Water
Date Received: 11/26/19 18:05									
Method: 8260C - Volatile Organic	Compounds	by GC/MS							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND	·····	1.0	0.23	ug/L			11/29/19 12:19	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 12:19	1
Acetone	ND		10	3.0	ug/L			11/29/19 12:19	1
Benzene	ND		1.0	0.41	ug/L			11/29/19 12:19	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/29/19 12:19	1
Surrogate	%Recoverv	Qualifier	Limits				Prepared	Analvzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	97		77 - 120					11/29/19 12:19	1
Toluene-d8 (Surr)	96		80 - 120					11/29/19 12:19	1
4-Bromofluorobenzene (Surr)	96		73 - 120					11/29/19 12:19	1
Dibromofluoromethane (Surr)	103		75 - 123					11/29/19 12:19	1
-									
Method: 8270D - Semivolatile Org	janic Compou	inds (GC/MS	5) BI	MP		~	Brocord	Analyzed	
						D	11/20/10 15:15	40/02/40 20:22	
	2.4	J	10	0.48	ug/L		11/20/10 15:10	12/02/18 22:33	1
	3.6	J	10	0.46	ug/L		11/28/19 10:15	12/02/19 22:33	1
Bis(2-etnyinexyi) phthalate	ND		5.0	2.2	ug/L		11/29/19 15:15	12/02/19 22:33	1 II 33
Phenol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/02/19 22:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	72		41 - 120				11/29/19 15:15	12/02/19 22:33	1
2-Fluorobiphenyl	99		48 - 120				11/29/19 15:15	12/02/19 22:33	1
2-Fluorophenol	65		35 - 120				11/29/19 15:15	12/02/19 22:33	1
Nitrobenzene-d5	78		46 - 120				11/29/19 15:15	12/02/19 22:33	1
Phenol-d5	49		22 - 120				11/29/19 15:15	12/02/19 22:33	1.
p-Terphenyl-d14	91		60 - 148				11/29/19 15:15	12/02/19 22:33	1
Mathada 2070D Complexitatile Ore									
Nietnod: 82/00 - Semivolatile Org	anic Compou Result	nas (GC/MS) - KE RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1.3-Dichlerobenzena	2.6	JH	10	0.48	ua/L		12/06/19 15:14	12/12/19 15:38	1
1 4-Dichlorobenzene	37	1.14	10	0:46	ua/L		12/06/19 15:14	12/12/19 15:38	1
Bis(2-ethylbexyl) phthalate	ND	н	50	22	-a-		12/08/19 15:14	12/12/19 15:38	
Phenol	ND	н	5.0	0.39	ug/L	1.100	12/08/19 15:14	12/12/19 15:38	
Duran an Ar	*/D++++++++	0			-			A	D/1 5
2.4.6 Tribmmeshanal		Quamer					Prepared		
2,7,5-1 noromophenoi 2. Eluamhinhand	03		41-120				12/00/19 10:14	12/12/19 10:30	1
z-ruoropipnenyi 2 Ekomphenel	93		40 - 720 25 - 400				12/00/19 15:14	12/12/19 15:38	1
	/1		35 - 120				12/00/19 15:14	12/12/19 15:38	1
NITODENZENE-OS	94		46 - 120				12/06/19 15:14	72/12/19 15:38	1
	53		22 - 120				12/06/19 15:14	12/12/19 15:38	1
p-19/pn9ny1-014	82		ou - 748				12/06/19 15:14	12/12/19 15:38	1
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/03/19 19:04	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/03/19 19:04	1
Barium	0.075		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 19:04	1
Cadmium	ND		0.0010	0.00050	mg/L		11/30/19 12:45	12/03/19 19:04	···· • • •
Chromium	ND		0.0040	0.0010	mg/L		11/30/19 12:45	12/03/19 19:04	1
Copper	0.0016	J	0.010	0.0016	mg/L		11/30/19 12:45	12/03/19 19:04	1
				2 S. 1898					17.0

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RL

0.00020

0.010

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-03D

Date Collected: 11/26/19 12:14 Date Received: 11/26/19 18:05

Method: 7470A - Mercury (CVAA)

Zinc

Analyte

Mercury

Sodium

Lab Sample ID: 480-163358-10 Matrix: Water

Analyzed

12/03/19 19:04

12/03/19 19:04

12/03/19 19:04

12/03/19 19:04

12/03/19 19:04

12/03/19 19:04

12/03/19 19:04

Analyzed

12/10/19 16:54

11/30/19 12:45

11/30/19 12:45

Prepared

12/10/19 12:02

Method: 6010C - Metals (ICP) (Continued)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	
Magnesium	14.4	12	0.20	0.043	mg/L		11/30/19 12:45	
Manganese	0.22	B	0.0030	0.00040	mg/L		11/30/19 12:45	
Nickel	0.0035	J	0.010	0.0013	mg/L		11/30/19 12:45	
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	

157 ND 0.0092 JB

ND

Result Qualifier

	a	1	1
10	ð	No	-
S	A		

D

0.32 mg/L

0.0015 mg/L

MDL Unit

0.00012 mg/L

0.010

DII Fac

1

1

1

1

1

1

1

1

DII Fac

6

1

1

1

1

Client: AECOM	
Project/Site: Pfohl Brothers Landfill	
Client Sample ID: GW-07D	
Date Collected: 11/26/19 13:05	

Lab Sample ID: 480-163358-11 Matrix: Water

Date Received: 11/26/19 18:05
Method: 8270D - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,3-Dichiorobenzene	ND		10	0.48	ug/L		11/29/19 15:15	12/03/19 01:54	1	24-150-24
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/29/19 15:15	12/03/19 01:54	1	6
Bis(2-ethylhexyl) phthalate	4.0	J	5.0	2.2	ug/L		11/29/19 15:15	12/03/19 01:54	1	
Phenol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/03/19 01:54	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac	
2,4,6-Tribromophenol			41 - 120				11/29/19 15:15	12/03/19 01:54	1	
2-Fluorobiphenyl	104		48 - 120				11/29/19 15:15	12/03/19 01:54	1	

z riddiodiprioriyi	101	40-120	11/20/10 10.10	120001001.04
2-Fluorophenol	69	35 - 120	11/29/19 15:15	12/03/19 01:54
Nitrobenzene-d5	83	46 - 120	11/29/19 15:15	12/03/19 01:54
Phenol-d5	52	22 - 120	11/29/19 15:15	12/03/19 01:54
p-Terphenyl-d14	75	60 - 148	11/29/19 15:15	12/03/19 01:54

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1.3-Dichlorobenzene	ND	H	10	0.48	ug/L		12/06/19 15:14	12/12/19-18:57	1
1,4-Dichlorobenzene	ND	н		0.46	ug/L		12/06/19 15:14	12/12/10-18:57	
Bis(2-othylhexyl)-phthalate	9.1	н	5.0	2.2	ug/L		12/06/19 15:14	12/12/19 18:57	1
Phenol	ND	H	5.0	0.39	ug/L	1.00	12/06/19 15:14	12/12/19_18:57	1

Surrogate	%Recovery	Qualifier	Limits	Preparec	l Analyzed	Dil Fac
2,4,6-Tribromophenol	86	2.4	41 - 120	12/06/19 15	:14 12/12/19 18:57	1
2-Fluorobiphenyl	93		48 - 120	12/06/19 15	:14 12/12/19 18:57	1
2-Fluorophenol	79		35 - 120	12/06/19 15	:14 12/12/19 18:57	1
Nitrobenzene-d5	93		46 - 120	12/06/19 15	:14 12/12/19 18:57	1
Phenol-d5	62		22 - 120	12/06/19 15	:14 12/12/19 18:57	1
p-Terphenyl-d14	77		60 - 148	12/06/19 15	:14 12/12/19 18:57	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL.	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/03/19 19:22	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/03/19 19:22	1
Barlum	0.11		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 19:22	1
Cadmium	0.0022		0.0010	0.00050	mg/L		11/30/19 12:45	12/03/19 19:22	1
Chromium	0.57		0.0040	0.0010	mg/L		11/30/19 12:45	12/03/19 19:22	1
Copper	0.054		0.010	0.0016	mg/L		11/30/19 12:45	12/03/19 19:22	1
Iron	15.0		0.050	0.019	mg/L		11/30/19 12:45	12/03/19 19:22	1
Lead	0.22		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 19:22	1
Magnesium	36.0		0.20	0.043	mg/L		11/30/19 12:45	12/03/19 19:22	1
Manganese	0.15	8	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 19:22	1
Nickel	0.25		0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 19:22	÷ 1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 19:22	1
Sodium	76.6		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 19:22	r sees 1
Zinc	0.12	B	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 19:22	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 17:02	1

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Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-07S

Date Collected: 11/26/19 13:18

Lab	Sample	ID:	48	0-16	335	58-12	2
				Mat	rix:	Wate	r

Date Received: 11/26/19 18:05

Method: 8270D - Semivolatile C	rganic Compou	nds (GC/M	S)							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/29/19 15:15	12/03/19 02:22	1	
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/29/19 15:15	12/03/19 02:22	1	161
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/29/19 15:15	12/03/19 02:22	1	ALT.
Phenol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/03/19 02:22	1	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dii Fac	
2,4,6-Tribromophenol	61		41 - 120				11/29/19 15:15	12/03/19 02:22	1	

2-Fluorobiphenyl	103	48 - 120	11/29/19 15:15	12/03/19 02:22
2-Fluorophenol	67	35 - 120	11/29/19 15:15	12/03/19 02:22
Nitrobenzene-d5	81	46 - 120	11/29/19 15:15	12/03/19 02:22
Phenol-d5	51	22 - 120	11/29/19 15:15	12/03/19 02:22
p-Terphenyl-d14	76	60 - 148	11/29/19 15:15	12/03/19 02:22

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

Analyte	Result C	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlerobenzena	ND I	+	10	0.48	ug/L		12/06/19 15:14	12/12/19 19:26	1
1,4-Dichlorobenzene	ND_+	4	10	0.46	ug/L		12/06/19 15:14	12/12/19 19:26	
Bis(2-ethylhexyl) phthalate	ND H		5.0	2.2	ug/L		12/06/19 15:14	12/12/19 19:26	
Phenol	ND F	1	5.0	0.39	ug/L		12/06/19 15:14	12/12/19 19:26	

Surrogate	%Recovery	Qualifier	Limits		Prepared	Analyzed	DII Fac
2,4,6-Tribromophenol	67		41 - 120	.	12/06/19 15:14	12/12/19 19:26	1
2-Fluorobiphenyl	103		48 - 12 0		12/06/19 15:14	12/12/19 19:26	1
2-Fluorophenol	79		35 - 120		12/06/19 15:14	12/12/19 19:26	1
Nitrobenzene-d5	104		46 - 120		12/06/19 15:14	12/12/19 19:26	ee ee 1
Phenol-d5	57		22 - 120		12/06/19 15:14	12/12/19 19:26	1
p-Terphenyl-d14	89		60 - 148		12/06/19 15:14	12/12/19 19:26	1

Method: 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL,	Unit	D	Prepared	Analyzed	DII Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/03/19 19:26	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/03/19 19:26	1
Barlum	0.40		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 19:26	1
Cadmium	ND		0.0010	0.00050	mg/L		11/30/19 12:45	12/03/19 19:26	1
Chromium	0.0013	J	0.0040	0.0010	mg/L		11/30/19 12:45	12/03/19 19:26	1
Copper	0.0020	J	0.010	0.0016	mg/L		11/30/19 12:45	12/03/19 19:26	1
Iron	0.15		0.050	0.019	mg/L		11/30/19 12:45	12/03/19 19:26	1
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 19:26	1
Magnesium	41.7		0.20	0.043	mg/L		11/30/19 12:45	12/03/19 19:26	1
Manganese	0.031	5	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 19:26	· ²⁶⁵⁶ 1
Nickel	0.027		0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 19:26	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 19:26	1
Sodium	60.4		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 19:26	1
Zinc	NO 0.0032	JB	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 19:26	1
				0.0	ς١ –				
Method: 7470A - Mercury (CVAA	· · ·								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 17:04	1



Client: AECOM

lient Sample ID: GW-08SR							Lab Sample	e ID: 480-163	358-14
ate Collected: 11/26/19 00:00							-	Matri	x: Water
ate Received: 11/26/19 18:05									
Method: 8260C - Volatile Organic	Compounds	by GC/MS							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/29/19 13:08	1
,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 13:08	1
Acetone	ND		10	3.0	ug/L			11/29/19 13:08	1
Benzene	ND		1.0	0.41	ug/L			11/29/19 13:08	1
/inyl chloride	ND		1.0	0.90	ug/L			11/29/19 13:08	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
,2-Dichloroethane-d4 (Surr)	107		77 - 120					11/29/19 13:08	1
oluene-d8 (Surr)	91		80 - 120					11/29/19 13:08	1
-Bromofluorobenzene (Surr)	90		73 ₋ 120	÷.				11/29/19 13:08	1
)ibromofluoromethane (Surr)	109		75 - 123					11/29/19 13:08	1
lethod: 8270D - Semivolatile Org	janic Compou	nds (GC/M	S)						
nalyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
,3-Dichlorobenzene	ND		10	0.48	ug/L		11/29/19 15:15	12/03/19 03:19	1
,4-Dichlorobenzene	ND		10	0.46	ug/L		11/29/19 15:15	12/03/19 03:19	1
ils(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/29/19 15:15	12/03/19 03:19	1
henol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/03/19 03:19	1
urrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
,4,6-Tribromophenol	94		41 - 120				11/29/19 15:15	12/03/19 03:19	1
-Fluorobiphenyl	112		48 - 120				11/29/19 15:15	12/03/19 03:19	1
Fluorophenol	78		35 - 120				11/29/19 15:15	12/03/19 03:19	1
itrobenzene-d5	89		46 - 120				11/29/19 15:15	12/03/19 03:19	1
henol-d5	60		22 - 120				11/29/19 15:15	12/03/19 03:19	1
-Terphenyl-d14	94		60 - 148				11/29/19 15:15	12/03/19 03:19	1
lathad 9370D Comiscilatila Ora	ania Composi	nde (CC/M	c) DE						
lethod: 8270D - Semivolatile Org nalyte	janic Compou Result	nds (GC/M Quailfler	S) - RE RL	MDL	Unit	D	'Prepared	Analyzed	Dil Fac
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene	anic Compou Result ND	nds (GC/M Qualifier H	S) - RE RL 10	MDL 0.48	Unit ug/L	D	'Prepared 12/06/19_15:14	Analyzed 12/12/19 20:24	DII Fac
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene 4-Dichlorobenzene	anic Compou Result ND ND	nds (GC/M Qualifier H	S) - RE 	MDL 0.48 0.46	Unit ug/L	D	'Prepared 12/06/19 15:14 12/06/19-15:14	Analyzed 12/12/19 20:24 12/12/19 20:24	DII Fac
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene 4-Dichlorobenzene is(2-ethythexyt) ohthalate	anic Compou Result ND ND	nds (GC/M Qualifier H H	S) - RE RL 10 10 5.0	MDL 0.48 0.46 2.2	Unit ug/L ug/L ug/L	D	[•] Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24	DII Fac 1 1 1
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene 4-Dichlorobenzene is(2-ethylhexyt) phthalate henol	anic Compou Result ND ND ND ND	nds (GC/M Qualifier H H H	S) - RE 10 10 5.0 5.0	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	¹ Prepared 12/06/19 15:14 12/06/19-15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24	DII Fac 1 1 1 1
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene 4-Dichlorobenzene is(2-ethylhexyl) phthalate henol urrogate	anic Compou Result ND ND ND ND ND ND	nds (GC/M Qualifier H H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	Prepared 12/05/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 Prepared	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 Analyzed	Dil Fac 1 1 1 1 Dil Fac
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene 4-Dichlorobenzene is(2-ethylhexyt) phthalate henol urrogate 4,6-Tribromophenol	anic Compou Result ND ND ND ND ND ND SRecovery 82	nds (GC/M Qualifier H H H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 Prepared 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 Analyzed 12/12/19 20:24	Dil Fac 1 1 1 1 1 1 Dil Fac 1
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene 4-Dichlorobenzene is(2-ethylhexyt) phthalate henol urrogate 4,6-Tribromophenol -Fluorobiphenyl	anic Compou Result ND ND ND ND ND ND ND 2 82 91	nds (GC/M Qualifier H H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 Analyzed 12/12/19 20:24 12/12/19 20:24	Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene 4-Dichlorobenzene is(2-ethylhexyl) phthalate henol urrogate 4,6-Tribromophenol -Fluorobiphenyl -Fluorobiphenyl	anic Compou Result ND ND ND ND ND ND ND 2 82 91 72	nds (GC/M Qualifier H H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	Prepared 12/06/19 15:14 12/06/19 15:14 12/08/19 15:14 12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24	Dil Fac 1 1 1 1 1 1 Dil Fac 1 1
flethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene (4-Dichlorobenzene is(2-ethylhexyl) phthalate henol <i>urrogate</i> 4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol itrobenzene-d5	anic Compou Result ND ND ND ND ND ND ND 2 82 91 72 91	nds (GC/M Qualifier H H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	<u> </u>	Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24	Dil Fac 1 1 1 1 1 1 <i>Dil Fac</i> 1 1 1 1
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene (4-Dichlorobenzene is(2-ethylhexyl) phthalate henol urrogate 4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol itrobenzene-d5 henol-d5	anic Compou Result ND ND ND ND ND ND ND ND ND ND ND ND ND	nds (GC/M Qualifier H H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	<u> </u>	Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24	Dil Fac 1 1 1 1 1 1 <i>Dil Fac</i> 1 1 1 1
flethod: 8270D - Semivolatile Org nalyte ,3-Dichlorobenzene ,4-Dichlorobenzene lis(2-ethylhexyl) phthalate henol urrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol litrobenzene-d5 henol-d5 -Terphenyl-d14	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64	nds (GC/M Qualifier H H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	D	Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24	Dil Fac 1 1 1 1 1 1 <i>Dil Fac</i> 1 1 1 1 1 1
Aethod: 8270D - Semivolatile Org Analyte ,3-Dichlorobenzene ,4-Dichlorobenzene ks(2-ethylhexyl) phthalate Phenol kurrogate ,4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol kirobenzene-d5 thenol-d5 -Terphenyl-d14 kethod: 6010C - Matele (ICP)	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64	nds (GC/M Qualifier H H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148	MDL 0.48 0.46 2.2 0. 39	Unit ug/L ug/L ug/L	<u>D</u>	Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24	Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
flethod: 8270D - Semivolatile Org naiyte 3-Dichlorobenzene (4-Dichlorobenzene is(2-ethylhexyl) phthalate henol urrogate 4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol itrobenzene-d5 henol-d5 -Terphenyl-d14 lethod: 6010C - Metals (ICP) naivte	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64 84	nds (GC/M Qualifier H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148	MDL 0.48 0.46 2.2 0.39	Unit ug/L ug/L ug/L	<u> </u>	Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24 12/12/19 20:24	Dil Fac
flethod: 8270D - Semivolatile Org naiyte ,3-Dichlorobenzene ,4-Dichlorobenzene is(2-ethylhexyl) phthalate henol urrogate 4,6-Tribromophenol -Fiuorobiphenyl -Fiuorobiphenyl -Fiuorophenol itrobenzene-d5 henol-d5 -Terphenyl-d14 lethod: 6010C - Metals (ICP) naiyte ntimony	anic Compou Result ND ND ND %Recovery 82 91 72 91 72 91 53 64 Result	nds (GC/M Qualifier H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020	MDL 0.48 0.46 2.2 0.39 MDL	Unit ug/L ug/L ug/L Ug/L	D	Prepared 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24	Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene (4-Dichlorobenzene is(2-ethylhexyl) phthalate henol urrogate 4,6-Tribromophenol -Fiuorobiphenyl -Fiuorophenol itrobenzene-d5 henol-d5 -Terphenyl-d14 lethod: 6010C - Metals (ICP) nalyte ntimony reenic	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64 Result ND	nds (GC/M Qualifier H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0 010	MDL 0.48 0.46 2.2 0.39 MDL 0.0068 0.0056	Unit ug/L ug/L ug/L ug/L mg/L mg/L	D	Prepared 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24	Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene (4-Dichlorobenzene (2-ethylhexyl) phthalate henol urrogate 4,6-Tribromophenol Fluorobiphenyl Fluorobiphenyl Fluorophenol itrobenzene-d5 henol-d5 .Terphenyl-d14 lethod: 6010C - Metals (ICP) nalyte htimony rsenic	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64 Result ND ND	nds (GC/M Qualifier H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020	MDL 0.48 0.46 2.2 0.39 MDL 0.0068 0.0056	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L	D	Prepared 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 20:24 12/1	Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene 4-Dichlorobenzene is(2-ethylhexyl) phthalate henol urrogate 4, 6-Tribromophenol Fluorobiphenyl Fluorophenol itrobenzene-d5 henol-d5 Terphenyl-d14 lethod: 6010C - Metals (ICP) nalyte ntimony rsenic arlum	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64 Result ND ND ND	nds (GC/M Qualifier H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0110	MDL 0.48 0.46 2.2 0.39 MDL 0.0968 0.0056 0.0056	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L	D	Prepared 12/06/19 15:14 12/06/19 15:14 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45	Analyzed 12/12/19 20:24 12/12/19 20:24 12/1	Dil Fac
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene (4-Dichlorobenzene Is(2-ethylhexyl) phthalate henol urrogate 4,6-Tribromophenol -Fluorobiphenyl -Fluorobiphenyl -Fluorobiphenyl -Fluorophenol itrobenzene-d5 henol-d5 -Terphenyl-d14 lethod: 6010C - Metals (ICP) nalyte ntimony rsenic arium admium	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64 Result ND ND 0.13 ND	nds (GC/M Qualifier H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0010 0.0010	MDL 0.48 0.46 2.2 0.39 MDL 0.039 0.039 0.0056 0.0056 0.00070 0.00050	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L mg/L	D	Prepared 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 20:24 12/12/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45	Dil Fac
lethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene 4-Dichlorobenzene is(2-ethylhexyl) phthalate henol urrogate 4, 6-Tribromophenol Fluorobiphenyl Fluorobiphenyl Fluorophenol itrobenzene-d5 henol-d5 .Terphenyl-d14 lethod: 6010C - Metals (ICP) nalyte ntimony rsenic arium admium hromium	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64 Result ND ND 0.13 ND 0.0013	nds (GC/M Qualifier H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0010 0.0040 0.0040	MDL 0.48 0.46 2.2 0.39 0.39 0.039 0.039 0.0056 0.0056 0.00050 0.00050 0.0010	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L mg/L	D	Prepared 12/06/19 15:14 12/06/19 15:14 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45	Analyzed 12/12/19 20:24 12/12/19 20:24 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45	Dil Fac
flethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene is(2-ethylhexyl) phthalate henol urrogate 4,6-Tribromophenol -Fluorobiphenyl -Fluorophenol itrobenzene-d5 henol-d5 -Terphenyl-d14 lethod: 6010C - Metals (ICP) nalyte ntimony rsenic arlum admium hromium opper	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64 Result ND ND 0.13 ND 0.0013 0.0020	nds (GC/M Qualifier H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0010 0.0040 0.010	MDL 0.48 0.46 2.2 0.39 0.39 0.039 0.005 0.00050 0.00050 0.0010 0.0016	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L mg/L mg/L	<u> </u>	Prepared 12/06/19 15:14 12/06/19 15:14 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45	Analyzed 12/12/19 20:24 12/12/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45	Dil Fac
Vethod: 8270D - Semivolatile Org Analyte ,3-Dichlorobenzene A-Dichlorobenzene Ms(2-ethylhexyl) phthalate Phenol Nurrogate A, 6-Tribromophenol -Fluorobiphenyl -Fluorobiphenyl -Fluorophenol litrobenzene-d5 Phenol-d5 -Terphenyl-d14 flethod: 6010C - Metals (ICP) nalyte ntimony rsenic larium admium ihromium iopper on	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64 Result ND 0.13 ND 0.0013 0.0020 8.0	nds (GC/M Qualifier H H Qualifier Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0010 0.0040 0.010 0.050	MDL 0.48 0.46 2.2 0.39 0.39 0.039 0.0056 0.00050 0.00050 0.0010 0.0016 0.0016	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L mg/L mg/L mg/L mg/L	D	Prepared 12/06/19 15:14 12/06/19 15:14 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45	Analyzed 12/12/19 20:24 12/12/19 20:24 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45	Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1
Method: 8270D - Semivolatile Org Analyte .3-Dichlorobenzene .4-Dichlorobenzene Sig2-ethylhexyl) phthalate >henol Surrogate .4.6-Tribromophenol Fluorobiphenyl Fluorobiphenyl Fluorophenol litrobenzene-d5 >henol-d5 -Terphenyl-d14 flethod: 6010C - Metals (ICP) 	anic Compou Result ND ND ND %Recovery 82 91 72 91 53 64 Result ND ND 0.13 ND 0.0013 0.0020 8.0	nds (GC/M Qualifier H H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.010 0.0040 0.010 0.050	MDL 0.48 0.46 2.2 0.39 0.39 0.0068 0.0056 0.0056 0.00070 0.00050 0.0010 0.0016 0.019	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L mg/L mg/L mg/L	D	Prepared 12/06/19 15:14 12/06/19 15:14 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45	Analyzed 12/12/19 20:24 12/12/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45	Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1
flethod: 8270D - Semivolatile Org nalyte 3-Dichlorobenzene (4-Dichlorobenzene is(2-ethylhexyl) phthalate henoi urrogate 4,6-Tribromophenoi -Fluorobiphenyl -Fluorophenol itrobenzene-d5 henol-d5 -Terphenyl-d14 lethod: 6010C - Metals (ICP) nalyte ntimony rsenic arlum admium hromium opper on	anic Compou Result ND ND ND ND %Recovery 82 91 72 91 53 64 Result ND 0.13 ND 0.0013 0.0020 8.0	nds (GC/M Qualifier H H H Qualifier	S) - RE RL 10 10 5.0 5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0010 0.0020 0.0010 0.0040 0.010 0.050	MDL 0.48 0.46 2.2 0.39 0.039 0.039 0.0056 0.00070 0.00050 0.00050 0.0010 0.0016 0.0019	Unit ug/L ug/L ug/L ug/L mg/L mg/L mg/L mg/L mg/L mg/L	D	Prepared 12/06/19 15:14 12/06/19 12:45 11/30/19 12:45 11/3	Analyzed 12/12/19 20:24 12/12/19 20:24 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45 12/03/19 19:45	Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1



Job ID: 480-163358-1

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-08SR Date Collected: 11/26/19 00:00 Date Received: 11/26/19 18:05

Lab Sample ID: 480-163358-14 Matrix: Water

Anabra	Decuit	Ovellfler	DI	MDI	linit	n	Propagad	Anabrad	
	Result	quanner			<u> </u>	<u> </u>		Allalyzed	Dirac
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 19:45	1
Magnesium	52.4		0.20	0.043	mg/L		11/30/19 12:45	12/03/19 19:45	1
Manganese	0.70	B	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 19:45	1
Nickel	ND		0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 19:45	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 19:45	1
Sodium	151		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 19:45	1
Zinc	ND		0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 19:45	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 17:06	1



6

Client: AECOM

lient Sample ID: GW_09D						and the set of the set of	Lah Samul	D. 480-163	358-12
							Lan Sampi	8 1D. 400-103	JJ0-13
ate Collected: 11/26/19 14:54								watri	x: water
ale Received. 11/20/15 10.05									
Method: 8260C - Volatile Organic	Compounds	by GC/MS							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/29/19 12:44	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 12:44	1
Acetone	ND		10	3.0	ug/L			11/29/19 12:44	1
Benzene	ND		1.0	0.41	ug/L			11/29/19 12:44	1
/inyl chloride	ND		1.0	0.90	ug/L			11/29/19 12:44	1
urrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
,2-Dichloroethane-d4 (Surr)	100		77 - 120					11/29/19 12:44	1
cluene-d8 (Surr)	93		80 - 120					11/29/19 12:44	1
-Bromofluorobenzene (Surr)	94		73 - 120					11/29/19 12:44	1
)ibromofluoromethane (Surr)	100		75 - 123					11/29/19 12:44	°° − ∼1
letnod: 8270D - Semivolatile Org	ganic Compou	nds (GC/MS)	51	MDI	linit	Р	Prepared	Analyzed	Dil Fac
2 Dichlorobenzene				0.48			11/20/10 15-15	12/03/19 02:50	1
			10	0.40 n Ae	ug/L		11/20/10 15:15	12/03/10 02:50	4
			50	0.40	ug/L		11/20/10 15-15	12/03/19 02:50	4
henol			5.0 5.0	0.20	ug/L ug/l		11/20/10 15:15	12/03/10 02:50	
nenoi			5.0	0.39	ugri		11/28/18 13.13	12/03/19 02.30	
urrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	DII Fac
4,6-Tribromophenol	65		41 - 120				11/29/19 15:15	12/03/19 02:50	1
-Fluorobiphenyl	102		48 - 120				11/29/19 15:15	12/03/19 02:50	1
Fluorophenol	66		35 - 120				11/29/19 15:15	12/03/19 02:50	1
itrobenzene-d5	77		46 - 120				11/29/19 15:15	12/03/19 02:50	1
henol-d5	50		22 - 120				11/29/19 15:15	12/03/19 02:50	1
-Terphenyl-d14	88		60 - 148				11/29/19 15:15	12/03/19 02:50	1
lethod: 8270D - Semivolatile Ord	nanic Compou	nds (GC/MS)	- RF						
nalyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
3-Dichlorobenzena	ND	н	10	0.48	ug/L		12/06/19 15:14	12/12/19 19:55	1
4-Dichlorobenzene	ND	н	10	0,46	ug/L		12/06/19 15:14	12/12/19 19:55	1
is(2-ethylhexyl) phthalate	ND	н	5.0	2.2	ug/L		12/06/19.15:14	12/12/19-19:55	1
henol	ND	Ħ	5.0	0.39	ug/L		12/06/19 15:14	12/12/19 19:55	1
urroaate	%Recovery	Qualifier	Limits				Prepared	Anaivzed	Dii Fac
4.6-Tribromophenol	79		41 - 120				12/06/19 15:14	12/12/19 19:55	1
-Fluorobiohenvl	93		48 _ 120				12/06/19 15:14	12/12/19 19:55	- 1
-Fluorophenol	75		35 . 120				12/06/19 15:14	12/12/19 19:55	1
itrobenzene-d5	95		46 . 120				12/06/19 15:14	12/12/19 19:55	1
henol-d5	55		22 - 120				12/06/19 15:14	12/12/19 19:55	1
-Terphenyl-d14	83		60 - 148				12/06/19 15:14	12/12/19 19:55	1
lethod: 6010C - Metals (ICP)		• ···			11.9	_		A	D
nalyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/03/19 19:30	1
rsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/03/19 19:30	
arium	0.089		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 19:30	1
admium	ND		0.0010	0.00050	mg/L		11/30/19 12:45	12/03/19 19:30	1
hromium	0.013		0.0040	0.0010	mg/L		11/30/19 12:45	12/03/19 19:30	1
opper	0.0038	J	0.010	0.0016	mg/L		11/30/19 12:45	12/03/19 19:30	1
on	0.20		0.050	0.019	mg/L		11/30/19 12:45	12/03/19 19:30	1

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12/13/2019
Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-08D

Date Collected: 11/26/19 14:54 Date Received: 11/26/19 18:05

Lab Sample ID: 480-163358-13

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dli Fac
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 19:30	1
Magnesium	15.7		0.20	0.043	mg/L		11/30/19 12:45	12/03/19 19:30	1
Manganese	0.030	B	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 19:30	1
Nickel	0.0045	J	0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 19:30	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 19:30	1
Sodium	305		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 19:30	1
Zinc	0.045	B	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 19:30	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 17:05	1

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Eurofins TestAmerica, Buffalo

GW-8D

11/29/19 15:15 12/11/19 20:57

Job ID: 480-163358-1

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: FD-112619

Lab Sample ID: 480-163358-15 Matrix: Water

Date Collected: 11/26/19 00:00 Date Received: 11/26/19 18:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/29/19 13:32	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 13:32	1
Acetone	ND		10	3.0	ug/L			11/29/19 13:32	1
Benzene	ND		1.0	0.41	ug/L			11/29/19 13:32	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/29/19 13:32	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	106		77 - 120					11/29/19 13:32	1
Toluene-d8 (Surr)	96		80 - 120					11/29/19 13:32	1
4-Bromofluorobenzene (Surr)	96		73 - 120					11/29/19 13:32	1
Dibromofluoromethane (Suπ)	108		75 - 123					11/29/19 13:32	1

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/29/19 15:15	12/11/19 20:57	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/29/19 15:15	12/11/19 20:57	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/29/19 15:15	12/11/19 20:57	1
Phenol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/11/19 20:57	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	70		41 - 120				11/29/19 15:15	12/11/19 20:57	1
2-Fluorobiphenyl	101		48 - 120				11/29/19 15:15	12/11/19 20:57	1
2-Fluorophenol	76		35 - 120				11/29/19 15:15	12/11/19 20:57	1
Nitrobenzene-d5	102		46 - 120				11/29/19 15:15	12/11/19 20:57	1
Phenol-d5	57		22 - 120				11/29/19 15:15	12/11/19 20:57	1

60 - 148

Method: 8270D - Semivolatile Organic Compounds (GC/MS) - RE

92

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND	H	. 10	0.48	ug/L		12/08/19 15:14	12/12/19 20:53	1-
1,4-Dichlorobanzene	ND	н	10	0:46	ug/L		12/06/19 15:14	12/12/19 20:53	1-
Bis(2-ethylhexyl)-phthalate	ND	H	6.0	2.2	ug/L		12/06/19 15:14	12/12/19 20:59	1
Phenol	ND	н –	5.0	0.39	ua/L		12/06/19 15:14	12/12/19 20:53	

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	75		41 - 120	12/06/19 15:14	12/12/19 20:53	1
2-Fluorobiphenyl	100		48 - 120	12/06/19 15:14	12/12/19 20:53	1
2-Fluorophenol	78		35 - 120	12/06/19 15:14	12/12/19 20:53	1
Nitrobenzene-d5	101		46 - 120	12/06/19 15:14	12/12/19 20:53	1
Phenol-d5	58		22 - 120	12/06/19 15:14	12/12/19 20:53	1
p-Terphenyl-d14	87		60 - 148	12/06/19 15:14	12/12/19 20:53	1

Method: 6010C - Metals (ICP)

p-Terphenyl-d14

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/03/19 19:49	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/03/19 19:49	1
Barium	0.090		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 19:49	1
Cadmium	ND		0.0010	0.00050	mg/L		11/30/19 12:45	12/03/19 19:49	ଁ ^ଅ ି 1
Chromium	0.011		0.0040	0.0010	mg/L		11/30/19 12:45	12/03/19 19:49	1
Copper	0.0033	J	0.010	0.0016	mg/L		11/30/19 12:45	12/03/19 19:49	1
Iron	0.22		0.050	0.019	mg/L		11/30/19 12:45	12/03/19 19:49	1

Eurofins TestAmerica, Buffalo

Job ID: 480-163358-1

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: FD-112619 Date Collected: 11/26/19 00:00

Lab Sample ID: 480-163358-15 Matrix: Water

Date Collected: 11/26/19 00:00 Date Received: 11/26/19 18:05

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 19:49	1
Magnesium	15.4		0.20	0.043	mg/L		11/30/19 12:45	12/03/19 19:49	1
Manganese	0.030	B	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 19:49	1
Nickel	0.0047	J	0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 19:49	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 19:49	1
Sodium	297		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 19:49	1
Zinc	0.040	B	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 19:49	1
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 17:07	1

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. 400-103308-1

Client: AECOM Project/Site: Pfohl Brothers Landfill								Job ID: 480-1	63358-1
Client Sample ID: GW-28S	n. v – a na anna ann ann ainte bhd 8. Anna abannan ann ar an		unions des molecules à annolouis une vérmeté alumnitation $\theta = 0$			2:	Lab Sample	e ID: 480-163	358-16
Date Collected: 11/26/19 16:48 Date Received: 11/26/19 18:05								watri	x: wate
Method: 8260C - Volatile Organic	c Compounds	by GC/MS							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		1.0	0.23	ug/L			11/29/19 13:56	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 13:56	1
Acetone	ND		10	3.0	ug/L			11/29/19 13:56	1
Benzene	ND		1.0	0.41	ug/L			11/29/19 13:56	1
Vinyl chloride	ND		≅ 1.0	0.90	ug/L			11/29/19 13:56	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	104	0.05	77 - 120					11/29/19 13:56	1
Toluene-d8 (Surr)	95		80 - 120					11/29/19 13:56	1
4-Bromofluorobenzene (Surr)	97		73 - 120					11/29/19 13:56	1
Dibromofluoromethane (Surr)	100		75 <u>-</u> 123					11/29/19 13:56	100
Method: 8270D - Semivolatile Or	ganic Compou	inds (GC/MS)						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
1,3-Dichlorobenzene	ND		10	0.48	ug/L		11/29/19 15:15	12/11/19 21:25	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		11/29/19 15:15	12/11/19 21:25	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		11/29/19 15:15	12/11/19 21:25	1
Phenol	ND		5.0	0.39	ug/L		11/29/19 15:15	12/11/19 21:25	1
Surrogete	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
2,4,6-Tribromophenol	71		41 - 120				11/29/19 15:15	12/11/19 21:25	1
2-Fluorobiphenyl	96		48 <u>-</u> 120				11/29/19 15:15	12/11/19 21:25	1
2-Fluorophenol	68		35 - 120				11/29/19 15:15	12/11/19 21:25	1
Nitrobenzene-d5	96		46 - 120				11/29/19 15:15	12/11/19 21:25	1
Phenol-d5	51		22 - 120				11/29/19 15:15	12/11/19 21:25	1
p-Terphenyl-d14	76		60 - 148				11/29/19 15:15	12/11/19 21:25	1
Method: 8270D - Semivolatile Org	ganic Compou	nds (GC/MS) - RE						
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,9-Dichlorobenzene	ND ND	H		0.48	ug/L		12/06/19-15:14	12/12/19-21:21	
1,4-Dichlorobenzene	ND	H	10	0.46	ug/L_		12/06/19-15:14	12/12/19 21:21	1
Bis(2-ethylhexyl) phthalate	ND	н	5.0	2.2	ug/L		12/06/19 15:14	12/12/19 21:21	1
Dhanal		There is a second secon					10 Contact of the contact of the	and a second second second	1
Friend	ND	H	5.0	0.30	ug/L		12/06/19 15:14	12/12/19 21:21	
Surrogate	ND %Recovery	H Qualifier	5.0 Limits	0.39	ug/L		12/06/19 15:14 Prepared	12/12/19 21:21 Analyzed	Dii Fac
Surrogate 2,4,6-Tribromophenol	ND %Recovery 82	H Qualifier	5.0 Limits 41 - 120	0.39	ug/L		12/06/19 15:14 Prepared 12/06/19 15:14	12/12/19 21:21 Analyzed 12/12/19 21:21	Dii Fac 1
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl	ND 	H Qualifier	5.0 Limits 41 - 120 48 - 120	0.39	ug/L		12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14	12/12/19 21:21 Analyzed 12/12/19 21:21 12/12/19 21:21	Dil Fac 1 1
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol	ND <u>%Recovery</u> 82 96 74	H Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120	0.39	ug/L.		12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21	Dii Fac 1 1 1
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5	ND <u>%Recovery</u> 82 96 74 100	H Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120	0.39	ug/L		12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21	Dii Fac 1 1 1 1
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5	ND %Recovery 82 96 74 100 55	H Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120	0.30	ug/L		12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21	Dii Fac 1 1 1 1 1
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14	ND %Recovery 82 96 74 100 55 80	H Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148	0.38	ug/L		12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21	Dii Fac 1 1 1 1 1 1
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP)	ND %Recovery 82 96 74 100 55 80	H Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148	0.30	Ug/L		12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14	Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21	Dii Fac 1 1 1 1 1 1
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte	ND %Recovery 82 96 74 100 55 80 Result	H Qualifier Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL	0.30	ug/L Unit	D	12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 Prepared	Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 Analyzed	Dil Fac 1 1 1 1 1 1 1 Dil Fac
Surrogate 2,4,6-Tribromophenol 2-Fluorophenol 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte Antimony	ND %Recovery 82 96 74 100 55 80 Result ND	H Qualifier Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020	0.38 MDL 0.0068	Ug/L Unit mg/L	D	12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 Prepared 11/30/19 12:45	12/12/19 21:21 Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 Maalyzed 12/03/19 19:52	Dil Fac
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte Antimony Arsenic	ND %Recovery 82 96 74 100 55 80 Result ND ND	H Qualifier Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010	0.38 MDL 0.0068 0.0056	Ug/L Mg/L mg/L	D	12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 Prepared 11/30/19 12:45	12/12/19 21:21 Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 19:52 12/03/19 19:52	Dil Fac 1 1 1 1 1 1 1 1 1 Dil Fac 1
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte Antimony Arsenic Barium	ND %Recovery 82 96 74 100 55 80 55 80 Result ND ND 0.094	H Qualifier Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020	0.38 MDL 0.0068 0.0056 0.0050	Unit mg/L mg/L mg/L	D	12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 12:45 11/30/19 12:45 11/30/19 12:45	12/12/19 21:21 Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 Analyzed 12/03/19 19:52 12/03/19 19:52	Dil Fac 1 1 1 1 1 1 1 1 1 1 1
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte Antimony Arsenic Barlum Cadmium	ND %Recovery 82 96 74 100 55 80 55 80 Result ND ND 0.094 ND	H Qualifier Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0010	0.38 MDL 0.0068 0.0056 0.00070 0.00050	Unit mg/L mg/L mg/L mg/L	D	12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45	12/12/19 21:21 Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/03/19 19:52 12/03/19 19:52 12/03/19 19:52	Dil Fac 1 1 1 1 1 1 1 1 1 1 1
Surrogate 2,4,6-Tribromophenol 2-Fluorophenol 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte Antimony Arsenic Barlum Cadmium Chromium	ND %Recovery 82 96 74 100 55 80 Result ND ND 0.094 ND ND	H Qualifier Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0010 0.0040	MDL 0.0068 0.0056 0.00070 0.00050 0.0010	Unit mg/L mg/L mg/L mg/L	D	12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45	12/12/19 21:21 Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/03/19 19:52 12/03/19 19:52 12/03/19 19:52 12/03/19 19:52	Dil Fac 1 1 1 1 1 1 1 1 1 1 1
Surrogate 2,4,6-Tribromophenol 2-Fluorobiphenyl 2-Fluorophenol Nitrobenzene-d5 Phenol-d5 p-Terphenyl-d14 Method: 6010C - Metals (ICP) Analyte Antimony Arsenic Barlum Cadmium Chromium Copper	ND %Recovery 82 96 74 100 55 80 55 80 Result ND 0.094 ND ND 0.094	H Qualifier Qualifier	5.0 Limits 41 - 120 48 - 120 35 - 120 46 - 120 22 - 120 60 - 148 RL 0.020 0.010 0.0020 0.0010 0.0040 0.0010	MDL 0.0068 0.0056 0.00070 0.00050 0.0010 0.0016	Unit mg/L mg/L mg/L mg/L mg/L mg/L	D	12/06/19 15:14 Prepared 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 12/06/19 15:14 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45 11/30/19 12:45	12/12/19 21:21 Analyzed 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/12/19 21:21 12/03/19 19:52 12/03/19 19:52 12/03/19 19:52 12/03/19 19:52 12/03/19 19:52 12/03/19 19:52	Dil Fac 1 1 1 1 1 1 1 1 1 1 1 1 1



12/13/2019

Client: AECOM Project/Site: Pfohl Brothers Landfill

Client Sample ID: GW-28S Date Collected: 11/26/19 16:48 Date Received: 11/26/19 18:05

Lab Sample ID: 480-163358-16 Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 19:52	1
Magnesium	25.9		0.20	0.043	mg/L		11/30/19 12:45	12/03/19 19:52	1
Manganese	1.3	.6	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 19:52	1
Nickel	0.0021	J	0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 19:52	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 19:52	1
Sodium	12.5		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 19:52	1
Zinc	0.0045	JB	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 19:52	1
	100			Ole)1				
Method: 7470A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	DII Fac
Mercury	ND		0.00020	0.00012	mg/L		12/10/19 12:02	12/10/19 17:09	1

at for a composition

58-16 : Water

Job ID: 480-163358-1

Client Sample ID: TB-112519+112619 Lab Date Collected: 11/26/19 00:00 Date Received: 11/26/19 18:05

Lab Sample ID: 480-163358-17 Matrix: Water

Method: 8260C - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichioroethane	ND		1.0	0.23	ug/L	5 - 33		11/29/19 14:20	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			11/29/19 14:20	1
Acetone	ND		10	3.0	ug/L			11/29/19 14:20	1
Benzene	ND		1.0	0.41	ug/L			11/29/19 14:20	1
Vinyl chloride	ND		1.0	0.90	ug/L			11/29/19 14:20	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)			77 - 120			р. — — — — — — — — — — — — — — — — — — —		11/29/19 14:20	1
Toluene-d8 (Surr)	96		80 - 120					11/29/19 14:20	1
4-Bromofluorobenzene (Surr)	96		73 - 120					11/29/19 14:20	1
Dibromofluoromethane (Surr)	101		75 - 123					11/29/19 14:20	1

APPENDIX B

SUPPORT DOCUMENTATION

J:\Projects\11172700.00000\WORD\DVR Reports\Pfohl Brothers GW Nov 2019.docx

Jfins TestAmerica, Buffalo Hazelwood Drive

Chain of Custody Record

📩 eurofins

Amherst NY 14228-2298 Phone. 716-691-2600 Fax: 716-691-7991				
Client Information	Sampler with y	Lau PM. Schove, John R	Carner Tracking Notu)	COC No: 480-1378/2-43273 2
Cient Contact MS: Ann Marie Kropovitch	21010 - 523-116	E-Mail John schove@lestamencanc com		Page 2 dif Z
Comparty AECOM		Analysis R	equested	Job #
Adoness. 257 West Genesee Street Suile 400	Due Date Requested [.]			Preservation Codes:
C _{Hy} Buffaio	TAT Requested (days)			A - HGL M - Hexare B - NaOH N - Nrare C - Zh Aretare U - AsnaO2
State Zip NY, 14202-2657	NEW REAL	(SW) SM		D - Nrice Acre P - Na2CHS E - NaHSO4 C - Na2SU3
Frionis	P0 = 111665	9# (GC		F - MeUH H - NaZS-03 G - Amoteice S - H2SO4 H - Asconnic A rd T - TSP Dodecativonate
Emai ann marie kropovitch@aecom com	W0 # 60411174.11175616.00000	N NO)	638	1 - Ice U - Acerone J - Di Water V - MCAA
Prone Nome Pront Brothers Landfill GW Monitoring	Fraject # 48002609	le (Ye sompc		L = EDA Z - other spacify
Site	SSOWs	y) OSI o eitisti negio :		Other
Sample identification	Sample Date Time G=grab)	Markan States Markan States Darant States Period Filtered B270D - Semivo B270D - Semivo B270D - Semivo B260C - Volatile	Totámuki (£107	Special Instructions/Note:
	Preserva	tton Code XXD N A		
(5W-075	11/26/19 1318 G	Water 1 2	3	
Gw-08D	11/26/19/454 G	Water 1 1 2 3		
GW-03D-MS	11 26 9 1214 G	Water 2 3		MATICIA SPIKE
64-03P-MSD	11/26/14 1214 6	Water 1 1 2 3		S MATCIN SPIRE DURICARE
612-085R	11/26/19 G	Water 1 2 3		- 9
FD-112619	w/26/17 - 6	Water 1 (23 3 6	1901 6	
GW-285	11/26/19 1648 G	Water 1 2 3		
78-112519+112619	11/26/19 - C	Water		TR.PBLANK
		Water		
	1	Water		
Presible Hazard Identification	son B	Sample Disposal (A fee may I	be assessed if samples are reta	ined longer than 1 month) chive For Months
Deliverable Requested: I, II, III, IV, Other (specify)		Special Instructions/QC Require	ments	
Empty Kit Relinquished by:	Date	Time:	Alathor of Shipmeni 27	בהר אבר
Rengered & Mung	Date Tare 19 1905	Company Company Buckwed by MM WOW	/ Uitrolp Daterner 11/2	2019 1805 TA
		Company Received by	Date/lime	Concany
Ruiniques hes. by	Date Turie	Company Recourses to	Date/ func	Company
Custody Seals Intact: Custody Seal No		Cridlet Templerature(s) C and OB	hei Rémarks	
				410-501-10 JOA

Job ID: 480-163358-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-163358-1

Comments

No additional comments.

Receipt

The samples were received on 11/26/2019 6:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperatures of the 2 coolers at receipt time were 2.7° C and 3.2° C.

GC/MS VOA

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

GC/MS Semi VOA

Method 8270D: Surrogate recovery for the Method Blank (MB) for preparation batch 480-507402 was outside control limits affecting the following samples: GW-01S (480-163358-3), GW-01D (480-163358-4), GW-04D (480-163358-6), GW-04S (480-163358-7), GW-34S (480-163358-8), GW-03S (480-163358-9), GW-03D (480-163358-10), GW-07D (480-163358-11), GW-07S (480-163358-12), GW-08D (480-163358-13), GW-08SR (480-163358-14), FD-112619 (480-163358-15) and GW-28S (480-163358-16). Re-extraction and/or re-analysis was performed outside of holding time with acceptable results. Therefor, both sets of data have been reported.

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

Metals

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

Organic Prep

Method 3510C: The following samples were re-prepared outside of preparation holding time due to low surrogate recovery in MB: GW-01S (480-163358-3), GW-01D (480-163358-4), GW-04D (480-163358-6), GW-04S (480-163358-7), GW-34S (480-163358-8), GW-03S (480-163358-9), GW-03D (480-163358-10), GW-03D (480-163358-10[MS]), GW-03D (480-163358-10], GW-07D (480-163358-11), GW-07S (480-163358-12), GW-08D (480-163358-13), GW-08SR (480-163358-14), FD-112619 (480-163358-15) and GW-28S (480-163358-16).

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

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

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-507315/1-A Matrix: Water

Analysis Batch: 507968

Analysis Batch: 507968								Prep Batch:	507315
-	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		11/30/19 12:45	12/03/19 18:23	1
Arsenic	ND		0.010	0.0056	mg/L		11/30/19 12:45	12/03/19 18:23	1
Barium	ND		0.0020	0.00070	mg/L		11/30/19 12:45	12/03/19 18:23	1
Cadmium	ND		0.0010	0.00050	mg/L		11/30/19 12:45	12/03/19 18:23	1
Chromium	ND		0.0040	0.0010	mg/L		11/30/19 12:45	12/03/19 18:23	1
Copper	ND		0.010	0.0016	mg/L		11/30/19 12:45	12/03/19 18:23	1
Iron	ND		0.050	0.019	mg/L		11/30/19 12:45	12/03/19 18:23	1
Lead	ND		0.0050	0.0030	mg/L		11/30/19 12:45	12/03/19 18:23	1
Magnesium	ND		0.20	0.043	mg/L		11/30/19 12:45	12/03/19 18:23	1
Manganese	0.000600	J)	0.0030	0.00040	mg/L		11/30/19 12:45	12/03/19 18:23	°. °≪ 1
Nickel	ND		0.010	0.0013	mg/L		11/30/19 12:45	12/03/19 18:23	1
Silver	ND		0.0030	0.0017	mg/L		11/30/19 12:45	12/03/19 18:23	1
Sodium	ND		1.0	0.32	mg/L		11/30/19 12:45	12/03/19 18:23	* 1000
Zinc	0.00265	1	0.010	0.0015	mg/L		11/30/19 12:45	12/03/19 18:23	1

Lab Sample ID: LCS 480-507315/2-A

Matrix: Water ala Datah 507060

Analysis Batch: 507968							Prep Ba	atch: 507315
-	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Antimony	0.200	0.213		mg/L		106	80 - 120	
Arsenic	0.200	0.192		mg/L		96	80 - 120	
Barium	0.200	0.206		mg/L		103	80 - 120	
Cadmium	0.200	0.193		mg/L		96	80 - 120	
Chromium	0.200	0.196		mg/L		98	80 - 120	
Copper	0.200	0,199		mg/L		100	80 - 120	
Iron	10.0	10.12		mg/L		101	80 - 120	
Lead	0.200	0.193		mg/L		97	80 - 120	
Magnesium	10.0	9.43		mg/L		94	80 - 120	
Manganese	0.200	0.191		mg/L		95	80 - 120	
Nickel	0.200	0.179		mg/L		90	80 - 120	
Silver	0.0500	0.0497		mg/L		99	80 - 120	
Sodium	10.0	9.19		mg/L		92	80 - 120	
Zinc	0.200	0.204		mg/L		102	80 - 120	

Lab Sample ID: 480-163358-10 MS

Matrix: Water Analysis Batch: 507968

Analysis Batch: 507968									Ргер	Batch: 507315
- Mar.	Sample	Sample	Spike	MS	MS				%Rec.	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Antimony	ND		0.200	0.215		mg/L		107	75 - 125	
Arsenic	ND		0.200	0.196		mg/L		98	75 - 125	
Barium	0.075		0.200	0.271		mg/L		98	75 - 125	
Cadmium	ND		0.200	0.193		mg/L		97	75 - 125	
Chromium	ND		0.200	0.192		mg/L		96	75 - 125	
Copper	0.0016	J	0.200	0.202		mg/L		101	75 - 125	
Iron	0.98		10.0	10.93		mg/L		99	75 - 125	
Lead	ND		0.200	0.195		mg/L		98	75 - 125	
Magnesium	14.4		10.0	22.94		ma/L		86	75 - 125	

Eurofins TestAmerica, Buffalo

Client Sample ID: GW-03D

Prep Type: Total/NA

Prep Type: Total/NA

Client Sample ID: Method Blank

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Eurofins TestAmerica, Buffalo					· curofins
10 Frazelwood Unive Amherst NY 14228-2298 Phone 716-691-2600 Fax: 716-691-7991	Chain of Cust	ody Record			
Client Information	Semple Kit 7	Lau PM Schove, John R		Carner Tracking Nors,	COC No. 480-137812,13273,1
Client Contact Ms. Ann Marie Kropovitch	Pricine	E-Mart John schove@te	stamericainc.com		Page 1 of 2
Company AECOM			Analysis Rec	juested	Job #
Addreis 257 West Genesee Street Suite 400	Due Date Requested:				Preservation Codes:
C _t y Buffaic	TAT Requested (days):				B: NaOH N- None C- Zh Aceiare (J- AshaO?
Sate. Zp NY, 14202,2657	A-Marver 1-C		(SW)		D - Neise Acid P - Na2045
Phone	Po# 111666	(0	as (ec		1rate
E mai ann marie kropovich@eecom con	WG# 60411174.11175616.00000	00) 8 01 N	unodu		
Project Name Prohl Brothers Landfill GW Monitoring	Project # 48002609	95 DL	noC oir	480-163358	Chain of Custody
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	Sample	Matrix x WISM m A0747	ovimeč - Semivc		18dmu/V
Sample identification	Sample Date Time G=grab)	Orwarter B-sold t Orwarteror, trigitat	8510D		Total Instructions/Note:
	Preservat	ion Code	N A		
64-07D	11/25/19 1:20 G	Water	3		3
64-075	11/25/17 1030 C	Water	3		3
Ew-ois	11/25/19 1340 G	Water	23		6
Guald	11/25/14 1450 0	Water	23		6
60 - c45	11/25/14 1534 G	Water	3		2
Guadia	11/25/19/1715 6	Water {	23		9
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612 - 3 45	11/26/19 0909 G	Water	2		9
64-035	ii/26/191059 6	Water	23		9
64-030	11/26/19 1214 C	Water	23		9
G~ -070	111/2/119 1345 C	Water	2		3
Possible Hazard Identification	Prison B	Samp	le Disposal (A fee may by Return To Client	assessed if samples are re	etained longer than 1 month) Archive For Months
Deliverable Requested: I. II. IN. Other (specify)		Specie	Il Instructions/OC Requirem	lents.	
Empty Kit Relinquished by	Date	Time:	e	Method of Shipinght.	Ner of COS
Hendylogen and I phing ?	Date/Tupe /19 1205	Compay Real	CE VED VIN WO	W NOBORTHING 1	21/197720 Company
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Reintquishort by	Date/Tune	Campany Re	ceived Ly	DateTime	Сотрану
Custody Seals Intact Custody Seal No		<u>ਹ</u>	uler Teimuerature(4) "C and Othe	FIG 1,2 SWEMAH	井してに
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 Special Instructions/Note 2 - uther specify \mathcal{T} (Ju ELANK MORADIA Acres 1 r Sample Disposal (A fee may be assessed if samples are retained longer than 1 month) 480-137612-13273.3 ź 3 Preservation Code 1591 1511E2111 mil 🔆 eurofins 120 BROP-OFF Page Join A - HCi B - HaOH - Zn Acetale Nor - Ning April - NaHSCH ALTHUR FOI ŵ 0-0 00 Total Numbe 000 480-163455 Chain of Custody _ 11 ale/Intag atten Hacking Nots Consposal By Lets gloni, Analysis Requested corter Torrighmetry C and Other Remains Special Instructions/QC Requirements AM bleve schove@lestamericainc.com Return To Client m 3 ŝ 3 m Volatile Organic Compounds (GC/MS) 3560C m 3 aceved by COLUMN D CCEN OG D 2 2 2 N N 5 ŝ Semivolatile Compounds by GCMS 85100 z John R Chain of Custody Record ~ ,00108 AOTAT ۵ Perform MS/MSD (Yes or No) Lat-PM Schove, J E-Meil John, Scho Field Filtered Sample (Yes or No) where? MATCO WATER GEGrab) at-tume Arte MACK JATON (Wewater, Scool inter . Alle Preservation Code: Matrix Water Water (reastero UP-DB-PY Aupdus R. AWATHY/ E. ESWOUR Rathological (C=comp, Ĵ Sample C Type 0 0 U 0 J C Ò 710-923-1176 STANDARD 5 1013 70 # 60411174,11175616.0006 1126 1343 542 0933 12719 1232 Sample 144 0 ime 1 Date Unknown AT Requested (days) Due Date Requested 27/19 22/9/1 11/27/1 27/19 P1/27/19 11/27/19 11/27/19 127/10 Sample Date Project # 48002009 Hate Tune 111666 aMOST 2 1 Steller Poison B Shin trident stiverable Requested: I. It. III, IV, Other (specify) Custody Seal No 716-691-7991 GW-335 5 w - 295 212-215 5w-325 Plohi Brothers Landfill GW-Monitoring 5 W-305 Suite 400 355 -112719 али тале корочіст@аесел.сот Flammable 260 Popsible Hazard Identification Ś Amherst, NY 14228-2298 Phone 716-691-2600 Fax: nply Kit Relinquished by volvess 257 West Genesee Street # Contact Ann Marie Kropovitch ١ Custody Seals Intact
A Yes A No ł Sample Identification Client Information 3 10 Hazelwood Drive SS Nun-Hazard State, Zip NY, 14202-2657 2 Martin Land 44 persent ŀ LECOM Buffato NS.

12/12/2019

日本と道

Eurofins TestAmerica, Buffalo

Job ID: 480-163455-1

Laboratory: Eurofins TestAmerica, Buffalo

Narrative

Job Narrative 480-163455-1

Comments

No additional comments.

Receipt

The samples were received on 11/27/2019 4:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1° C.

GC/MS VOA

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-507443 recovered outside acceptance criteria, low biased, for Vinyl chloride. A reporting limit (RL) standard was analyzed, and the target analyte was detected. Since the associated samples were non-detect for this analyte, the data have been reported. The following samples are impacted: GW-26D (480-163455-1), GW-35S (480-163455-2), GW-29S (480-163455-3), GW-30S (480-163455-4), GW-31S (480-163455-5), GW-32S (480-163455-6), GW-33S (480-163455-7) and TB-112719 (480-163455-8).

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

GC/MS Semi VOA

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

Metals

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

Organic Prep

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

ATTACHMENT C

IC/EC CERTIFICATION



Enclosure 2 NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION Site Management Periodic Review Report Notice Institutional and Engineering Controls Certification Form



Site Details Site No. 915043	Box 1	1
Site Name Pfohl Brothers Landfill		
Site Address: Aero Drive and Transit Road Zip Code: 14225 City/Town: Cheektowaga County: Erie Site Acreage: 94.000		
Reporting Period: February 12, 2019 to February 12, 2020		
	YES	NO
1. Is the information above correct?	\mathbf{x}	
If NO, include handwritten above or on a separate sheet.		
 Has some or all of the site property been sold, subdivided, merged, or undergo tax map amendment during this Reporting Period? 	ne a	X
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?		X
4. Have any federal, state, and/or local permits (e.g., building, discharge) been iss for or at the property during this Reporting Period?	sued	×
If you answered YES to questions 2 thru 4, include documentation or evid that documentation has been previously submitted with this certification	lence form.	
5. Is the site currently undergoing development?		×
	Box :	2
	YES	NO
 Is the current site use consistent with the use(s) listed below? Closed Landfill 	×	
7. Are all ICs/ECs in place and functioning as designed?	×	
IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date be DO NOT COMPLETE THE REST OF THIS FORM. Otherwise contin	elow and nue.	
A Corrective Measures Work Plan must be submitted along with this form to add	ress these is	ssues.
Signature of Owner, Remedial Party or Designated Paprocentative		

SITE NO 915043		Box 3
	atitutional Controlo	
Parcel	<u>Owner</u>	Institutional Control
81.04-1-26	William A. Proni	Ground Water Use Restriction Soil Management Plan Landuse Restriction Building Use Restriction Surface Water Use Restriction
In accordance with the on 4/25/03 and included Controls are in place: A. Entire Site: i) Groun	Declaration of Covenants and l d as Appendix P in the Remedi dwater use prohibition, ii) Surfa	Restrictions filed with the Erie County Clerk's Office al Action Construction Report, Vol. II, the following ace water use prohibition.
B. Capped Area: i) Fer C. Cleared Portion with allowed. Construction re	ncing, ii) No Excavation, iii) Plai nin the Perimeter Barrier System estrictions.	nting trees/shrubs prohibited. n: i) Only Commercial/Industrial Development is
81.04-1-27	Paul Pfohl	Ground Water Use Restriction Landuse Restriction
		Building Use Restriction
In accordance with the on 4/25/03 and include Controls are in place: A. Entire Site: i) Groun B. Capped Area: i) Fer C. Cleared Portion with allowed. Construction r 81.04-1-28.1	Declaration of Covenants and d as Appendix P in the Remedi dwater use prohibition, ii) Surfa ncing, ii) No Excavation, iii) Pla hin the Perimeter Barrier Syste estrictions. Paul Pfohl	Restrictions filed with the Erie County Clerk's Office al Action Construction Report, Vol. II, the following ace water use prohibition. nting trees/shrubs prohibited. m: i) Only Commercial/Industrial Development is Ground Water Use Restriction
		Landuse Restriction Building Use Restriction
In accordance with the on 4/25/03 and include Controls are in place:	Declaration of Covenants and d as Appendix P in the Remed	Restrictions filed with the Erie County Clerk's Office ial Action Construction Report, Vol. II, the following
A. Entire Site: i) Grour B. Capped Area: i) Fer C. Cleared Portion wit allowed. Construction r	ndwater use prohibition, ii) Surfa ncing, ii) No Excavation, iii) Pla hin the Perimeter Barrier Syste restrictions.	ace water use prohibition. nting trees/shrubs prohibited. m: i) Only Commercial/Industrial Development is
81.04-2-10.1	- AULT IOIN	Ground Water Use Restriction Landuse Restriction Building Use Restriction

In accordance with the Declaration of Covenants and Restrictions filed with on 4/25/03 and included as Appendix P in the Remedial Action Construction Controls are in place: A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibit B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs pro C. Cleared Portion within the Perimeter Barrier System: i) Only Commercia allowed. Construction restrictions. 81.04-2-11 Paul Pfohl	the Erie County Clerk's Office Report, Vol. II, the following ion. hibited. I/Industrial Development is
	Ground Water Use Restriction Landuse Restriction Building Use Restriction
In accordance with the Declaration of Covenants and Restrictions filed with on 4/25/03 and included as Appendix P in the Remedial Action Construction Controls are in place: A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibit B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs pro C. Cleared Portion within the Perimeter Barrier System: i) Only Commercia allowed. Construction restrictions. 81.04-2-9.1 Paul Pfohl	the Erie County Clerk's Office Report, Vol. II, the following ion. hibited. I/Industrial Development is
	Ground Water Use Restriction Landuse Restriction Building Use Restriction
In accordance with the Declaration of Covenants and Restrictions filed with on 4/25/03 and included as Appendix P in the Remedial Action Construction Controls are in place: A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibit B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs pro C. Cleared Portion within the Perimeter Barrier System: i) Only Commercia allowed. Construction restrictions.	ine Ene County Clerk's Onice n Report, Vol. II, the following ion. hibited. l/Industrial Development is
82.03-4-10 Elizabeth L. MCBride	Ground Water Use Restriction Landuse Restriction Building Use Restriction
 In accordance with the Declaration of Covenants and Restrictions filed with on 4/25/03 and included as Appendix P in the Remedial Action Construction Controls are in place: A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibiti B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs pro C. Cleared Portion within the Perimeter Barrier System: i) Only Commercia allowed. Construction restrictions. 	the Erie County Clerk's Office n Report, Vol. II, the following tion. ohibited. al/Industrial Development is
82.03-4-11 Paul Pfohl	Ground Water Use Restriction Landuse Restriction Building Use Restriction

In accordance with the Declaration of Covenants and Restrictions filed with on 4/25/03 and included as Appendix P in the Remedial Action Construction Controls are in place: A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibit B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs pro C. Cleared Portion within the Perimeter Barrier System: i) Only Commercia allowed. Construction restrictions.	the Erie County Clerk's Office n Report, Vol. II, the following tion. bhibited. al/Industrial Development is
82.03-4-5 Paul Pfohl	Ground Water Use Restriction Landuse Restriction Building Use Restriction
In accordance with the Declaration of Covenants and Restrictions filed with	the Erie County Clerk's Office
on 4/25/03 and included as Appendix P in the Remedial Action Construction	n Report, Vol. II, the following
Controls are in place:	tion.
A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibit	bhibited.
B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs pro	al/Industrial Development is
C. Cleared Portion within the Perimeter Barrier System: i) Only Commercia	Ground Water Use Restriction
allowed. Construction restrictions.	Landuse Restriction
82.03-4-6 Paul Pfohl	Building Use Restriction
In accordance with the Declaration of Covenants and Restrictions filed with	the Erie County Clerk's Office
on 4/25/03 and included as Appendix P in the Remedial Action Constructio	n Report, Vol. II, the following
Controls are in place:	tion.
A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibi	bhibited.
B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs pro	al/Industrial Development is
C. Cleared Portion within the Perimeter Barrier System: i) Only Commercia	Ground Water Use Restriction
allowed. Construction restrictions.	Landuse Restriction
82.03-4-8 Paul Pfohl	Building Use Restriction
In accordance with the Declaration of Covenants and Restrictions filed with	the Erie County Clerk's Office
on 4/25/03 and included as Appendix P in the Remedial Action Constructio	n Report, Vol. II, the following
Controls are in place:	tion.
A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibi	bhibited.
B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs pro	al/Industrial Development is
C. Cleared Portion within the Perimeter Barrier System: i) Only Commercia	Ground Water Use Restriction
allowed. Construction restrictions.	Landuse Restriction
82.03-4-9.11 Aero Land, Inc. c/o Jerome Hirsh	Building Use Restriction

on 4/25/03 and include	ed as Appendix P in the Remedial Action (Construction Report, Vol. II, the following
A. Entire Site: i) Grour B. Capped Area: i) Fe C. Cleared Portion wit allowed, Construction i	ndwater use prohibition, ii) Surface water ncing, ii) No Excavation, iii) Planting trees thin the Perimeter Barrier System: i) Only restrictions	use prohibition. s/shrubs prohibited. Commercial/Industrial Development is
82.03-4-9.12	Stuart Jenkins	
		Ground Water Use Restriction Landuse Restriction Building Use Restriction
In accordance with the on 4/25/03 and include Controls are in place:	Declaration of Covenants and Restriction ad as Appendix P in the Remedial Action of	ns filed with the Erie County Clerk's Office Construction Report, Vol. II, the following
A. Entire Site: i) Grour	ndwater use prohibition, ii) Surface water	use prohibition.
B. Capped Area: i) Fe C. Cleared Portion wit allowed. Construction	ncing, ii) No Excavation, iii) Planting trees hin the Perimeter Barrier System: i) Only restrictions.	/shrubs prohibited. Commercial/Industrial Development is
82.03-4-9.2	Aero Land, Inc. c/o Jerome Hirsh	
		Ground Water Use Restriction Landuse Restriction Building Use Restriction
In accordance with the on 4/25/03 and include Controls are in place: A. Entire Site: i) Grour	Declaration of Covenants and Restriction ad as Appendix P in the Remedial Action of ndwater use prohibition, ii) Surface water	ns filed with the Erie County Clerk's Office Construction Report, Vol. II, the following use prohibition.
In accordance with the on 4/25/03 and include Controls are in place: A. Entire Site: i) Grour B. Capped Area: i) Fe C. Cleared Portion wit allowed. Construction	Declaration of Covenants and Restriction ed as Appendix P in the Remedial Action of ndwater use prohibition, ii) Surface water ncing, ii) No Excavation, iii) Planting trees thin the Perimeter Barrier System: i) Only restrictions.	ns filed with the Erie County Clerk's Office Construction Report, Vol. II, the following use prohibition. S/shrubs prohibited. Commercial/Industrial Development is
In accordance with the on 4/25/03 and include Controls are in place: A. Entire Site: i) Grour B. Capped Area: i) Fe C. Cleared Portion wit allowed. Construction of	Declaration of Covenants and Restriction ad as Appendix P in the Remedial Action of ndwater use prohibition, ii) Surface water ncing, ii) No Excavation, iii) Planting trees hin the Perimeter Barrier System: i) Only restrictions.	ns filed with the Erie County Clerk's Office Construction Report, Vol. II, the following use prohibition. Shrubs prohibited. Commercial/Industrial Development is Box 4
In accordance with the on 4/25/03 and include Controls are in place: A. Entire Site: i) Grour B. Capped Area: i) Fe C. Cleared Portion wit allowed. Construction of Description of E	Declaration of Covenants and Restriction ad as Appendix P in the Remedial Action of ndwater use prohibition, ii) Surface water ncing, ii) No Excavation, iii) Planting trees thin the Perimeter Barrier System: i) Only restrictions.	ns filed with the Erie County Clerk's Office Construction Report, Vol. II, the following use prohibition. s/shrubs prohibited. Commercial/Industrial Development is Box 4
In accordance with the on 4/25/03 and include Controls are in place: A. Entire Site: i) Grour B. Capped Area: i) Fe C. Cleared Portion wit allowed. Construction of Description of E	Declaration of Covenants and Restriction ed as Appendix P in the Remedial Action of ndwater use prohibition, ii) Surface water ncing, ii) No Excavation, iii) Planting trees hin the Perimeter Barrier System: i) Only restrictions.	ns filed with the Erie County Clerk's Office Construction Report, Vol. II, the following use prohibition. s/shrubs prohibited. Commercial/Industrial Development is Box 4
In accordance with the on 4/25/03 and include Controls are in place: A. Entire Site: i) Grour B. Capped Area: i) Fe C. Cleared Portion wit allowed. Construction of Description of E <u>Parcel</u> 81.04-1-26	Declaration of Covenants and Restriction ad as Appendix P in the Remedial Action of indwater use prohibition, ii) Surface water noting, ii) No Excavation, iii) Planting trees thin the Perimeter Barrier System: i) Only restrictions. Engineering Controls Engineering Controls Vapor Mitigation Fencing/Access Contron Cover System Leachate Collection	ns filed with the Erie County Clerk's Office Construction Report, Vol. II, the following use prohibition. /shrubs prohibited. Commercial/Industrial Development is Box 4
In accordance with the on 4/25/03 and include Controls are in place: A. Entire Site: i) Grour B. Capped Area: i) Fe C. Cleared Portion wit allowed. Construction of Description of E Parcel 81.04-1-26	Declaration of Covenants and Restriction ad as Appendix P in the Remedial Action of indwater use prohibition, ii) Surface water ncing, ii) No Excavation, iii) Planting trees thin the Perimeter Barrier System: i) Only restrictions. Singineering Controls Engineering Controls Vapor Mitigation Fencing/Access Contr Cover System Leachate Collection	ns filed with the Erie County Clerk's Office Construction Report, Vol. II, the following use prohibition. s/shrubs prohibited. Commercial/Industrial Development is Box 4
In accordance with the on 4/25/03 and include Controls are in place: A. Entire Site: i) Grour B. Capped Area: i) Fe C. Cleared Portion wit allowed. Construction of Description of E <u>Parcel</u> 81.04-1-26	Declaration of Covenants and Restriction and as Appendix P in the Remedial Action of indwater use prohibition, ii) Surface water ncing, ii) No Excavation, iii) Planting trees thin the Perimeter Barrier System: i) Only restrictions.	ns filed with the Erie County Clerk's Office Construction Report, Vol. II, the following use prohibition. Syshrubs prohibited. Commercial/Industrial Development is Box 4
In accordance with the on 4/25/03 and include Controls are in place: A. Entire Site: i) Grour B. Capped Area: i) Fe C. Cleared Portion wit allowed. Construction of Description of E <u>Parcel</u> 81.04-1-26 81.04-1-27 For Declaration of Cov Report, Vol. II 81.04-1-28.1	Declaration of Covenants and Restriction and as Appendix P in the Remedial Action of indwater use prohibition, ii) Surface water incing, ii) No Excavation, iii) Planting trees whin the Perimeter Barrier System: i) Only restrictions.	ns filed with the Erie County Clerk's Office Construction Report, Vol. II, the following use prohibition. Shrubs prohibited. Commercial/Industrial Development is Box 4

Parcel	Engineering Control
For Declaration of Covenants and Restri	ctions, see Appendix P in the Remedial Action Construction
Report, Vol. II	
81.04-2-10.1	Vener Miliartian
	Cover System
	Leachate Collection
	Fencing/Access Control
For Declaration of Covenants and Restri	ctions, see Appendix P in the Remedial Action Construction
Report, Vol. II	
81.04-2-11	Vapor Mitigation
	Cover System
	Leachate Collection
	Fencing/Access Control
For Declaration of Covenants and Restri	ctions, see Appendix P in the Remedial Action Construction
Report, Vol. II	
81.04-2-9.1	Vapor Mitigation
	Cover System
	Leachate Collection
	Fencing/Access Control
For Declaration of Covenants and Restri Report, Vol. II	ctions, see Appendix P in the Remedial Action Construction
82.03-4-10	5.7 BA101 (1
	Vapor Mitigation
	Leachate Collection
	Fencing/Access Control
82.03-4-11	
	Vapor Mitigation
	Cover System
	Leachate Collection
For Declaration of Covenants and Restri	ctions see Appendix P in the Remedial Action Construction
Report, Vol. II	
82.03-4-5	
	Vapor Mitigation
	Leachate Collection
	Fencing/Access Control
For Declaration of Covenants and Restri	ctions, see Appendix P in the Remedial Action Construction
Report, Vol. II	
82.03-4-6	, Name of Million Alasta
	Vapor Mitigation
	Leachate Collection
	Fencing/Access Control
For Declaration of Covenants and Restri	ctions, see Appendix P in the Remedial Action Construction
Report, Vol. II 82.03-4-8	
	Vapor Mitigation
	Cover System
	Leachate Collection
For Declaration of Covenants and Postri	ictions see Appendix P in the Remedial Action Construction
Report, Vol. II	
82.03-4-9.11	
	Vapor Mitigation
	Cover System

<u>Parcel</u>	Engineering Control
	Leachate Collection
	Fencing/Access Control
For Declaration of Covenants	and Restrictions, see Appendix P in the Remedial Action Construction
Report, Vol. II	
82.03-4-9.12	
	Vapor Mitigation
	Cover System
	Leachate Collection
	Fencing/Access Control
For Declaration of Covenants	and Restrictions, see Appendix P in the Remedial Action Construction
Report, Vol. II	
82.03-4-9.2	
	Vapor Mitigation
	Cover System
	Leachate Collection
	Fencing/Access Control
For Declaration of Covenants	and Restrictions, see Appendix P in the Remedial Action Construction
Report, Vol. II	

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		Box 5
Periodic Review Report (PRR) Certification Statements		
1. I certify by checking "YES" below that:		
 a) the Periodic Review report and all attachments were prepared under the dire reviewed by, the party making the certification; 	ection of,	and
b) to the best of my knowledge and belief, the work and conclusions described are in accordance with the requirements of the site remedial program, and gene	in this ce erally acc	ertification epted
engineering practices; and the information presented is accurate and compete.	YES	NO
	×	
2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), fo or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below th following statements are true:	r each In at all of tl	stitutional he
(a) the Institutional Control and/or Engineering Control(s) employed at this site since the date that the Control was put in-place, or was last approved by the De	is uncha partmen	nged t;
(b) nothing has occurred that would impair the ability of such Control, to protect the environment;	t public h	ealth and
(c) access to the site will continue to be provided to the Department, to evaluat remedy, including access to evaluate the continued maintenance of this Contro	e the l;	
(d) nothing has occurred that would constitute a violation or failure to comply w Site Management Plan for this Control; and	ith the	
(e) if a financial assurance mechanism is required by the oversight document for mechanism remains valid and sufficient for its intended purpose established in	or the site the docu	e, the ment.
	YES	NO
	X	
IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue		
A Corrective Measures Work Plan must be submitted along with this form to address	these iss	sues.
Signature of Owner, Remedial Party or Designated Representative Date		

IC CERTIFICATIONS SITE NO 915043	
	Box 6
O & M MANAGER SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210 Penal Law.	a false).45 of the
ITown of CheektowagaIPatrick T. Bowen, P.E.atprint name275 Alexander Ave., Cheektowaga, NY 14211print nameprint business address	
am certifying as <u>Site O & M Manager</u> (Owner or Re	medial Party)
for the Site named in the Site Details Section of this form. Patrick T. Bowen 3/9/20 Signature of Owner, Remodial Party, or Designated Representative Date Rendering Certification Site O & M Provider/Manager	

IC/EC CERTIFICATIONS Box 7 Professional Engineer Signature
I certify that all information in Boxes 4 and 5 are true. Tunderstand that a faise statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.
Town of Cheektowaga
IPatrick I. Bowen, P.Eat2/5 Alexander Ave., Cheektowaga, NY 14211,
print name print business address
am certifying as a Professional Engineer for the Town of Cheektowaga
(Owner or Remedial Party) (Site O & M Provider/Manager Patink T. Bowen Signature of Professional Engineer, for the Owner or Remedial Party, Rendering Certification Site O & M Provider/Manager