URS

June 21, 2024

Megan Kuczka
Environmental Program Specialist – 1
Division of Environmental Remediation
New York State Department of Environmental Conservation
700 Delaware Ave.
Buffalo, NY 14209

Via Email to: megan.kuczka@dec.ny.gov

Re: 2023 Periodic Review Report - Revised
Pfohl Brothers Landfill, Town of Cheektowaga, New York
Site No. 915043

Dear Ms. Kuczka:

Enclosed is the Revised 2023 Periodic Review Report (PRR) for the Pfohl Brothers Landfill in Cheektowaga, New York for the reporting period January 12, 2023 to January 1, 2024. URS Corporation c/o AECOM has prepared this report on behalf of the Town of Cheektowaga and revised it per comments received via email from you on March 22, 2024. The Annual Report for the January-December 2023 period is submitted as an attachment to this report. Additionally, the Data Applicability Report for Spring 2023 is also attached to this report.

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

Sincerely,

URS CORPORATION

Robert J. Murphy, P.G.
Project Manager

Enclosures

cc: Patrick Bowen, P.E. – Town of Cheektowaga

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2023 PERIODIC REVIEW REPORT
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NY

Submitted to:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
700 DELAWARE AVENUE
BUFFALO, NEW YORK 14209

Prepared by:

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Prepared for:

TOWN OF CHEEKTOWAGA
ENGINEERING DEPARTMENT
275 ALEXANDER AVE
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REVISED JUNE 2024

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1.0 INTRODUCTION

This Periodic Review Report (PRR) is being submitted for the Pfohl Brothers Landfill Site (Site) to document the implementation of, and compliance with, the site-specific site management requirements stated in the Operation and Maintenance (O&M) Plan, which was issued as draft in 2002 and approved as final in 2006, with an errata sheet currently under revision. The PRR was prepared using the guidance presented in of Section 6.3(b) of New York State Department of Environmental Conservation (NYSDEC) Division of Environmental Remediation (DER)-10 *Technical Guidance for Site Investigation and Remediation*.

1.1 Background

The Pfohl Brothers Landfill Site (NYSDEC Site No. 915043) is a landfill located on the north and south sides of Aero Drive in the Town of Cheektowaga (Town), New York State, Erie County. The site is located in a commercial area just west of Transit Road. The landfill operated between 1932 and 1971, 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 to evaluate the environmental quality of the site and surrounding area. 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 2001. 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 started in 2001 and was completed in 2002. The consolidated landfill was reduced to approximately 94 acres (liner cap area only), the approximate area of the landfill (liner cap and soil cover) inside the boundary fences is 102.51 acres. Deed restrictions have been filed by the Potentially Responsible Parties (PRPs). The O&M Plan was approved in March 2006 and is being implemented by the Town.

1.2 Effectiveness of Remedial Program

During 2023, the capping and remedial action 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 groundwater monitoring and 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. There were no changes of land, groundwater or surface water use, and no excavations occurred onsite during the Certifying Period.

1.4 Recommendations

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

2.0 SITE OVERVIEW

2.1 Site Description

The boundaries of the site are shown on Figure 2-1. The area within the site boundary is approximately 145 acres. The site is located immediately southwest of the Interstate 90 Ramp at 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 comprised of 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 series of collection trenches that drain into six wet wells (WW-01 to WW-06). The extent of the landfill cap system and the groundwater/leachate collection system is also depicted on Figure 2-1. Leachate and groundwater collected in the wet wells is pumped via submersible pumps to a 15-inch sanitary sewer line on the south side of Aero Drive. This sanitary sewer, installed as part of the remedial action, 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 Pollutant Discharge Permit No. 22-07-CH016).

2.2 Chronology

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

O&M started 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 on the results of the first three years of surface water, sediment and groundwater monitoring, 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 VOCs, SVOCs, and metal parameters) and 2007 (discontinuing dioxin and radionuclide analyses).

3.0 REMEDY PERFORMANCE, EFFECTIVENESS AND PROTECTIVENESS

The principal elements of the O&M are:

- Groundwater monitoring
- Discharge monitoring
- Hydraulic monitoring
- Wetlands monitoring
- General physical and mechanical maintenance.

The Town submits O&M reports to NYSDEC once per year reporting on the performance, effectiveness, and protectiveness of each of these elements. The report covering the calendar year of 2023 is attached to this PRR as Attachment A. A data applicability report for the Spring 2023 groundwater sample analytical results is also attached as Attachment B. A summary of the findings of performance, effectiveness, and protectiveness for 2023 is presented in the sections below.

3.1 Groundwater Monitoring

As the O&M contractor for the Town, URS Corporation (URS) has performed 39 rounds of groundwater sampling to date. The most recent sampling was conducted in May 2023. Results of this sampling continue to show no relevant impacts to groundwater from the landfill.

No VOCs were detected above the applicable water quality standards at any sampled location.

SVOCs were non-detect and/or below the water quality standards, with the exception of detections at two monitoring wells during the 2023 event. Two SVOCs, 1,4-dichlorobenzene and bis(2-ethylhexyl)phthalate, were detected at concentrations above their respective water quality standards. 1,4-Dichlorobenzene was present in well GW-03D at an estimated concentration of 4.1 micrograms per liter (µg/L), and 3.4 µg/L in its duplicate, slightly above the water quality standard of 3 µg/L. Bis(2-ethylhexyl)phthalate was present in well GW-03D at a concentration of 15 µg/L, and 20 µg/L in its duplicate, above the water quality standard of 5 µg/L. Bis(2-ethylhexyl)phthalate was also present in well GW-07D at a concentration of 560 µg/L, above the water quality standard of 5 µg/L. However, this anomalously high result is likely due to the replacement of the polyethylene lined stainless steel leader on the sampling bailer during the previous sampling event, since bis(2-ethylhexyl)phthalate is a manufactured chemical that is commonly added to plastics to make them flexible. Prior to the next sampling event, the polyethylene lined stainless steel leader at GW-07D will need to be further rinsed and wiped clean to prevent further unintended cross-contamination and potential exceedances for bis(2-ethylhexyl)phthalate.

The metals iron, magnesium, manganese, and sodium exceeded the water quality standards in most site wells, but which are naturally occurring elements and not expected to be sourced from the landfill. Other metals detected above the water quality standards in 2023 were chromium, lead, and nickel in well GW-07D; these detections may be related to sediment in the sample and will be evaluated further in 2024.

No significant changes in metals concentrations were observed when compared to previous years analytical results. Results were within the historical range of concentrations observed for these metals. The attached annual report presents the 2023 data in tables and graphs.

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 Discharge Monitoring

Groundwater discharge monitoring was performed on a quarterly basis during 2023. The permit requires quarterly sampling and analysis of select metals (i.e., barium, cadmium, chromium,

copper, lead, nickel, and zinc) and total suspended solids. The pH and 24-hour flow are also recorded in the field during each event.

The parameter values in the effluent were below the discharge criteria for all quarterly sampling events conducted in 2023. The results of the sampling are reported in the attached annual report.

On May 21, 2024, URS was informed by Eurofins Laboratory-Buffalo that there was a lapse in their New York State Department of Health (NYSDOH) National Environmental Laboratory Accreditation Program (NELAP) Certification for the analysis of metals by Method 200.7. This lapse occurred while the quarterly effluent samples for the September and December 2023 were analyzed and reported. Inasmuch as the lapse was administrative in nature and the results were in line with historical results, there is no reason to suspect the accuracy of the results. Notification of the laboratory oversight was made to the BSA and NYSDEC.

3.4 Hydraulic Monitoring

Hydraulic monitoring was performed on a quarterly basis during 2023. Hydraulic monitoring is performed by measuring the water elevation in each of the six wet wells and in ten manholes associated with the perimeter collection system and comparing each of these elevations with the groundwater elevations in 19 paired monitoring wells adjacent to each wet well or manhole. Hydraulic control is demonstrated by groundwater levels outside the collection system that are higher than the levels measured in the corresponding wet well or manhole for each measurement date (i.e., a downward vertical hydraulic gradient).

The vertical hydraulic gradient was downwards relative to the groundwater collection system for every quarterly measurement taken during 2023. These data demonstrate that the collection system is operating as designed.

3.5 Wetlands Monitoring

The monitoring of wetlands mitigation measures has not been performed as originally planned in the O&M Plan. 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 had 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 wetlands. As such, monitoring of the planted wetland mitigation species is no longer performed.

3.6 General Physical and Mechanical Maintenance

The Town performs general physical and mechanical maintenance of the Site, 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 2023 is provided in the attached annual report.

During the annual groundwater sampling event, URS inspects the work areas for evidence of ground burrowing activity. No animal burrows were observed at the landfill in 2023. No materials were imported to the site during the Certifying Period.

The Town shuts 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 BSA during heavy storm events in order to reduce the hydraulic load on the BSA treatment system during such events (i.e., the system is shutdown when the instantaneous flow rate at the Town's Main Pump Station exceeds 30 million gallons per day [mgd]). Shutdown events are recorded and included with the monthly flow data in Appendix B of the attached annual report, as previously requested by NYSDEC. The time the pumps are shut down is noted as "inhibit", followed by an "enable" when they are turned back on. Shutdown events of this nature occurred on 42 occasions in 2023. The Town monitors flow and the weather to ensure total flow have dropped and will remain below the 30 mgd action level before reactivating the Site wells. Depending on the magnitude of the runoff/storm event, this sometimes takes several days. Additionally, there was one temporary power outage on July 19, 2023. The system operated normally at all other times.

Some drainage issues (ponded water and rills) were identified during a site walk for the U.S. Environmental Protection Agency (EPA) five-year review in October 2020. The Town plans to address the drainage issues on the cap and scarify the access road to address vegetation and overgrowth in 2024. The Town may also choose to re-stone the access road. A plan will be developed for this work during the winter months. The drainage issues and the access road will be addressed when weather and site conditions permit. The drainage and access road work will most

likely be done by an outside contractor under the Town's annual public works contract. The work will need to be included in the scope of work for the public works contract when the Town puts the contract out to bid. In addition, the Town will likely need to request additional funding and receive approval within their 2024 Pfohl Brother's site budget to cover this work.

4.0 IC/EC PLAN COMPLIANCE

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

4.1 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 (Attachment C) and were included in the Declaration of Covenants and Restrictions for each parcel. The restrictions address building use, groundwater use, surface water use, and land use by location as summarized below:

A. Entire Site

i) Extraction of Groundwater. Until and unless the Department determines that groundwater meets applicable quality criteria, no groundwater wells or other structures shall be installed on the Premises for the purpose of extracting groundwater for any potential use, other than for the purpose of implementing, monitoring, and maintaining the remedial action. This prohibition includes any dewatering required for the construction or maintenance of a building or other structure at the Premises. Any dewatering required for the installation of a public utility by the associated authorities or for the repair, reconstruction, or expansion of public roads or highways located within the area covered by the prohibition shall be subject to advance written approval by the Department and, if approved, shall be excluded from this prohibition; and

ii) Collection and Use of Surface Water. No surface water cisterns or other surface water collection devices or structures shall be constructed or installed at the Premises, including surface water retention ponds or catchments, unless such surface water retention ponds or catchments are lined with an impermeable

membrane and otherwise designed and constructed to minimize infiltration, and only then subject to the written approval of the Department.

B. Capped Areas

In addition to the restrictions listed in Paragraph A, that part of the Premises located within the areas designated as "Capped Area" shall also be subject to the following restrictions.

i) Access and Use. There shall be no access to or use of the Capped Areas, absent prior written consent of the Department. There shall be erected and maintained a security fence enclosing the Capped Area and the placement of appropriate signs, determined from time to time by the Department, as being necessary;

ii) Development. There shall be no development of the Capped Area that requires or causes disturbance of the cap system, including, but not limited to, the placement or construction of any building, underground utility, or structure;

iii) Excavation. There shall be no excavation, removal, disturbance, or digging of any soil, except as may be approved by the Department in writing; and

iii) Tree Planting. The planting of trees and shrubs, which may potentially breach the cap, is prohibited.

C. Cleared Portion of Site Inside Groundwater Collection Area

In addition to the restrictions listed in Paragraph A, that part of the Premises located within the area designated as the "Cleared Portion of Site Inside Groundwater Collection Area" shall also be subject to the following restrictions.

i) Development. That part of the Premises located in the Cleared Portion of Site Inside Groundwater Collection Area may be used for industrial and commercial use only, provided the prior written consent for any such use is given by the Department. Specifically prohibited are:

a. the use of any structure for residential dwellings, schools and childcare facilities;

b. basements and underground usable space; and

c. foundations requiring passive or active systems for waterproofing.

Furthermore, any development of any part of the Premises located in the Groundwater Collection Area shall be subject to the following restrictions:

a. all structures must have active or passive controls designed to minimize the potential migration of gases and vapors from the subsurface to occupied portions of structures (e.g. vapor barriers, gas venting systems);

b. all surface water must be directly and efficiently collected to systems that convey such water out of the Site groundwater collection area (i.e., beyond the groundwater collection system lines);

c. exposed areas must be graded for positive drainage and vegetated with species selected to minimize potential infiltration;

d. all parking and staging areas must be paved (gravel parking or staging areas being prohibited); and

e. all paved areas must be designed with surface water collection and pavement cross-sections that minimize potential infiltration.

ii) Excavation. There shall be no excavation, removal, disturbance, or digging of any soil within 15 feet from the groundwater collection system lines.

D. Cleared Portion of Site Outside Groundwater Collection Area

In addition to the restrictions listed in Paragraph A, that part of the Premises located within the area designated as the "Cleared Portion of Site Outside Groundwater Collection Area" shall also be subject to the following restrictions.

i) Development. That part of the Premises located within the Cleared Portion of Site Outside Groundwater Collection Area may be used for industrial and commercial use only, provided the prior written consent for any such use is given by the Department. Specifically prohibited are:

a. the use of any structure for residential dwellings, schools and child care facilities;

b. basements and underground usable space; and

c. foundations requiring passive or active systems for waterproofing.

ii) Excavation. There shall be no excavation, removal, disturbance, or digging of any soil within 15 feet from the groundwater collection system lines.

iii) Excavation. There shall be no excavation, removal, disturbance, or digging of any soil within 15 feet from the forcemain.

There were no changes of use, groundwater or surface water use, and no excavations occurred onsite during the Certifying Period. 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

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 annual monitoring event. In most cases, inspection is more frequent. For example, collection of the groundwater/leachate is monitored continuously by Town personnel and effluent compliance reports are submitted quarterly to the BSA. 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 2023 are provided in the attached annual report as Attachment A.

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.

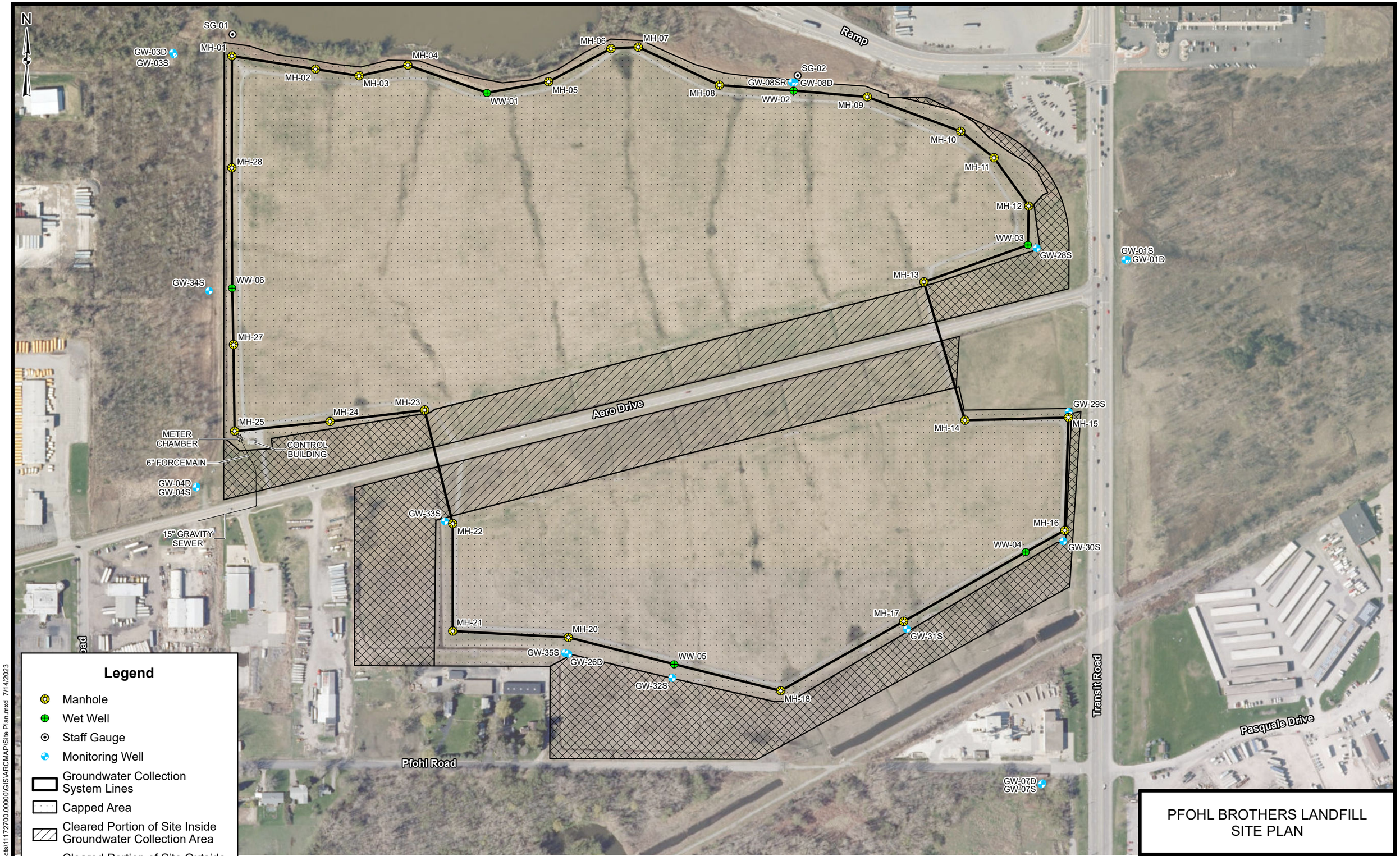
6.0 CONCLUSIONS AND RECOMMENDATIONS

The remedial action at the Pfohl Brothers Landfill Site is operating as designed and remains protective of human health and the environment.

Monitoring well GW-07D has routinely exhibited chromium, lead, and nickel exceedances of the applicable water quality standards. To evaluate if this is related to sample turbidity or dissolved groundwater flow, both filtered and unfiltered samples for metals analysis will be collected from this well during the next sampling event planned for November 2024.

An errata sheet for the Site O&M Plan was finalized based on NYSDEC comments in June 2024. In the September 14, 2023 response letter to the previous PRR, the NYSDEC requested photographs be collected during the annual site-wide inspections. Since the request came after the annual groundwater sampling and inspection event had been completed, photographs were not obtained for this year. Photographs will be collected during future annual site-wide inspections as requested.

FIGURES



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PFOHL BROTHERS LANDFILL SITE PLAN

URS

FIGURE 2-1

ATTACHMENTS

ATTACHMENT A

January – December 2023

Annual Report

ANNUAL REPORT
OPERATION AND MAINTENANCE
JANUARY 2023 TO DECEMBER 2023
PFOHL BROTHERS LANDFILL
CHEEKTOWAGA, NY

Submitted to:

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
700 DELAWARE AVENUE
BUFFALO, NEW YORK 14209

Prepared by:

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50 LAKEFRONT BOULEVARD, SUITE 111
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REVISED
JUNE 2024

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APPENDICES

1.0 INTRODUCTION

This 2023 Annual Report is being submitted for the Pfohl Brothers Landfill Site (Site) to document the implementation of, and compliance with, the site-specific site management requirements stated in the Operation and Maintenance (O&M) Plan, which was issued as draft in 2002 and approved as final in 2006, with an errata sheet currently under revision. This report documents the activities conducted between January and December 2023, as required in Section 3.6 of the O&M Plan.

1.1 Background

The Pfohl Brothers Landfill is located on the north and south sides of Aero Drive in the Town of Cheektowaga, Erie County, New York (Figure 1-1). The site is a landfill, listed as Site No. 915043 on the New York State Department of Environmental Conservation (NYSDEC) registry of Inactive Hazardous Waste Disposal Site (IHWDS) Program. The landfill operated between 1932 and 1971, 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 to evaluate the environmental quality of the site and surrounding area. 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 2001. A Consent Order between NYSDEC and potentially responsible parties (PRPs) for closure of the site was signed in 2001 and included remedial action which commenced in 2001. Responsibility for implementing the remedial action was divided between a “steering committee” of industrial PRPs and the Town of Cheektowaga (Town). The steering committee responsibilities lay generally with the capital construction activities of the remedial construction. The remedial construction 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 Town, which was named as a PRP for disposal of municipal waste at the Pfohl Brothers Landfill when it was operating, was responsible for performing the operation and maintenance (O&M) activities of the groundwater collection system, pursuant to a settlement agreement between the Town and the steering committee.

1.2 Operation and Maintenance Activities

While remedial construction was substantially complete by late 2002, the final O&M Plan which was issued as a draft in 2002, was not approved by the NYSDEC until March 10, 2006. Nevertheless, the Town and its consultant (URS Corporation – New York (URS)) had assumed most of the operational responsibilities since 2002 and had assumed all of the O&M activities described in the O&M Plan in 2004. This includes a variety of general maintenance activities as outlined in Section 2, and sampling and other monitoring activities as outlined in Section 3.

This report is the 2023 Annual Report, as required in Section 3.6 of the O&M Plan.

2.0 GENERAL MAINTENANCE ACTIVITIES

Since completion of remedial construction activities in 2002, personnel from the Town's Engineering Department have performed general activities to ensure the physical operation of the landfill as intended by the design. The general maintenance activities performed by the Town from January through December 2023 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 (WW-01 to WW-06) 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 (in 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 downstream 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. The time the pumps are shut down is noted as "inhibit", followed by an "enable" when they are turned back on. Shutdown events of this nature occurred on 42 occasions in 2023. Additionally, there was one temporary power outage on July 19, 2023.
- 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.
- Inspected wet wells for excessive corrosion to critical equipment.
- Cleaned upper-level equipment and applied corrosion inhibitor fluid.
- Performed bimonthly site/security checks, data retrieval, and analysis.
- Replaced the motor/pump assembly, check valve and discharge hose in wet wells WW-03 and WW-04. Replacements were in-kind.

- Replaced the discharge hose in-kind in wet well WW-05.
- The following Control Building activities were completed:
    - Performed annual flow totals data collection and reset totalizer equipment,
    - Surge suppressor reset after numerous power outages,
    - Replaced uninterruptable power supply (UPS) batteries in-kind,
    - Replaced the motor and fan assembly on the Unit Heater in-kind,
    - Cleaned control room electronic components cabinets, and
    - Replaced the air filter in-kind.
- Contractor mowed the entire cap and trimmed along the perimeter chain-link fence.
- Monthly roadside (litter) debris and trash removal along Aero Drive.
- Plowed snow to access the Control Building when necessary.

There is a faulty level signal from wet well WW-03, such that the well has been bypassed for several years and run occasionally on manual mode to “exercise” the equipment. The remaining wet wells have been adequately pumping the levels down to their set points. The repair of the level signal at WW-03, which would require the entire communication run from that well to the control building to be excavated and replaced, is cost prohibitive and is not warranted at this time.

No additional repairs/maintenance issues need to be addressed at this time.

3.0 MONITORING ACTIVITIES

The Town has retained URS to perform monitoring activities as outlined in Section 3.1 of the O&M Plan. Since January 2004, 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) have been performed on a quarterly basis; and, groundwater quality monitoring (Section 3.1.1.3 of the O&M Plan) has been performed on a semi-annual basis, until this year (2023), when it was approved to be changed to an annual basis.

A summary of the monitoring activities completed for the 2023 reporting period is presented in the following subsections. Quarterly activities were conducted in March, June, September and December 2023, and annual activities were conducted in May-June 2023. There are 19 groundwater monitoring wells, ten manhole monitoring points, two staff gauge points and six wet wells that are part of the monitoring activities. These sampling locations are shown on Figure 3-1.

3.1 Groundwater Hydraulic Monitoring

Groundwater and surface water elevations were monitored on a quarterly basis and during the annual groundwater quality monitoring event 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. Table C-1 lists the measured elevations and Table C-2 provides a comparison of the measured levels in the groundwater monitoring wells to the corresponding staff gauges, manholes and wet wells.

The data presented in Table C-2 indicate that the groundwater levels outside the collection system (in the groundwater monitoring wells and staff gauges) were higher than the levels measured in the corresponding wet wells or manholes during every monitoring event. This demonstrates that the collection system is operating as designed since it is creating a groundwater depression inside the collection system. A groundwater contour map was generated for the May 2023 event and is presented as Figure 3-2. Since the design of the landfill consists of an impermeable very flexible polyethylene (VFPE) geomembrane liner keyed into clay surrounding the entire landfill, separate contours were generated for the monitoring points within the liner system (i.e., wet wells and manholes) and the monitoring points outside the liner system (i.e., monitoring wells and staff gauges).

3.2 Groundwater Quality Monitoring

Groundwater sampling was conducted during the annual monitoring event between May 30 and June 1, 2023 at all overburden and bedrock wells listed in Table 3.2 of the O&M Plan (as listed in Table 3-1 attached to this report). Figure 3-1 shows the well locations.

All wells were purged and sampled for VOCs, SVOCs and metals using dedicated/ disposable equipment. Field water quality parameters (i.e., pH, specific conductivity, temperature, dissolved oxygen, oxidation reduction potential, and turbidity) were measured during the purging process. Low flow sampling techniques were used at all wells, with the exception of wells with low recharge rates which used passive diffusion bags (PDBs).

PDBs were placed in three monitoring wells with low recharge rates (GW-04S, GW-07S, and GW-07D) on March 23, 2023. The PDBs were removed from the wells during the May/June 2023 sampling event, and the water was poured into the appropriate sample containers for laboratory analysis of VOCs. Following removal of the PDBs, the three wells were purged dry. Samples for SVOCs and metals were collected after water levels recovered (the next day for monitoring wells GW-07S and GW-07D and later the same day for monitoring well GW-04S).

Purge logs with water quality measurements and sample collection summary sheets are provided in Appendix D. Following collection, the samples were packed with ice in coolers and transported under chain-of-custody control to Eurofins Buffalo, an analytical laboratory in 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 Semiannual Report dated September 2007 (January through June 2007), and as approved in 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 Buffalo 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" (estimated concentration) 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 August 2023 is submitted separately from this report. URS also uploaded the validated data onto the NYSDEC EQuIS database on March 26, 2024.

Results

Table 3-2 of this report presents the groundwater sample results compared to the 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 sampled location.

Two SVOCs, 1,4-dichlorobenzene and bis(2-ethylhexyl)phthalate, were detected at concentrations above their respective Class GA water quality standards. 1,4-Dichlorobenzene was present in well GW-03D at an estimated concentration of 4.1 micrograms per liter (µg/L), and 3.4 µg/L in its duplicate, slightly above the water quality standard of 3 µg/L. Bis(2-ethylhexyl)phthalate was present in well GW-03D at a concentration of 15 µg/L, and 20 µg/L in its duplicate, above the water quality standard of 5 µg/L. Bis(2-ethylhexyl)phthalate was also present in well GW-07D at a concentration of 560 µg/L, above the water quality standard of 5 µg/L. However, this anomalously high result is likely due to the replacement of the polyethylene lined stainless steel leader on the sampling bailer during the previous sampling event, since bis(2-

ethylhexyl)phthalate is a manufactured chemical that is commonly added to plastics to make them flexible. Prior to the next sampling event, the polyethylene lined stainless steel leader at GW-07D will need to be further rinsed and wiped clean to prevent further unintended cross-contamination and potential exceedances for bis(2-ethylhexyl)phthalate.

The metals iron, magnesium, manganese, and/or sodium exceeded their Class GA water quality standards in most site wells, but which are naturally occurring elements and not expected to be sourced from the landfill. The sample from well GW-07D also had concentrations of chromium, lead, and nickel above their respective Class GA water quality standards. Monitoring well GW-07D has routinely exhibited chromium, lead, and nickel exceedances of the applicable water quality standards. To evaluate if this is related to sample turbidity or dissolved groundwater flow, both filtered and unfiltered samples for metals analysis will be collected from this well during the next sampling event.

Comparison to Historical Results

Organics

The 2023 organics results are consistent with historical results; there have been very few and infrequent detections of most VOCs/SVOCs. 1,4-Dichlorobenzene has frequently been detected at low levels in GW-03D, with estimated concentrations ranging from 2.4 to 4.2 µg/L over the last several years. The bis(2-ethylhexyl)phthalate result in GW-07D was anomalously high in 2023 and was likely due to the replacement of the polyethylene lined stainless steel leader on the stainless steel sampling bailer during the previous event.

Metals

No significant changes in metals concentrations were observed during 2023 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 wells 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

A trend analysis of groundwater parameters that historically have exceeded Class GA water quality 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 water standards have occurred over the sampling events in recent years. Various metal parameters exceeded the Class GA water quality standards historically, however, only the parameters that have recently exceeded are discussed below.

Organics

The Mann-Kendall Nonparameteric Test for Trend was used to determine if there was a trend over the last 20 events for the following parameters:

- 1,4-Dichlorobenzene in GW-03D (on Figure E-3), and
- Bis(2-ethylhexyl)phthalate in GW-07D (on Figure E-7).

The test indicated there was an upward trend for both parameters at each respective well.

As previously discussed, the result for bis(2-ethylhexyl)phthalate in GW-07D was anomalously high during the last two events since changing out the polyethylene lined stainless steel leader at this well.

Metals

The Mann-Kendall Nonparameteric Test for Trend was used to determine the trends over the last 20 events for various metal parameters, as summarized in the following table (note, "--" indicates no discernable trend, gray highlight indicates the parameter has never been above criteria at that location, and "*" indicates that there is seasonal variability observed):

Figure	**Monitoring Well**	**Parameters Routinely Exceeding Groundwater Standards and Trend**			
		Iron	**Magnesium**	**Manganese**	**Sodium**
E-1	**GW-01D**	--	Upward		Upward
E-2	**GW-01S**	--	Upward	Downward	Upward

Figure	Monitoring Well	Parameters Routinely Exceeding Groundwater Standards and Trend			
		Iron	Magnesium	Manganese	Sodium
E-3	**GW-03D**	Downward		Downward	--
E-4	**GW-03S**	Downward	Downward	--	Upward
E-5	**GW-04D**	--	Upward	--	Upward
E-6	**GW-04S**	Downward	Upward	Downward	--
E-7	**GW-07D**	Upward	Upward	Upward	Upward
E-8	**GW-07S**	--	Upward	--	Upward
E-9	**GW-08D**	--		Downward	--
E-10	**GW-08SR**	Downward	--	Downward	Downward
E-11	**GW-26D**	Downward		Downward	Downward
E-12	**GW-28S**	--	Downward	Downward	Downward
E-13	**GW-29S**	--	Downward	Downward	--
E-14	**GW-30S**	--*	Downward*	--*	--*
E-15	**GW-31S**	Upward	--	Downward	
E-16	**GW-32S**	Downward	Downward	--	Downward*
E-17	**GW-33S**	--	Downward	--	Downward
E-18	**GW-34S**	Downward	Downward	--*	Downward
E-19	**GW-35S**	--	--	--	--

Similarly, the Mann-Kendall Nonparameteric Test for Trend was used to determine if there was a trend over the last 20 events for chromium, lead, and nickel in GW-07D (on Figure E-7). The test indicated there is an upward trend for all three metals over this period.

3.3 Groundwater Discharge Monitoring

Four quarterly discharge sampling events were completed in 2023, in March, June, September, and December. The sampling was performed in accordance with the requirements of Pollutant Discharge Permit No. 22-07-CH016, authorized by the BSA and the Town of Cheektowaga on July 1, 2022. The permit requires quarterly sampling and analysis of select metals (i.e., barium, cadmium, chromium, copper, lead, nickel, and zinc) and total suspended solids (TSS), as well as measurement of pH and flow. A copy of the permit, which shows the monitoring parameters and associated discharge limits, is included as Appendix F.

During the discharge sampling events in March 2023, June 2023, September 2023, and December 2023, each regulated parameter was below the limits set by the permit. Copies of the

data summary tables that were included with the quarterly monitoring reports submitted to the BSA are included as Appendix G.

Once per Permit cycle (the initial event), the BSA requires analysis for total mercury, USEPA Method 608, 624, and 625 parameters. The next time these will be sampled is expected to be June 2025.

3.4 Monitoring Well Inspections

During the May 2023 groundwater sampling event, well inspections were performed on all overburden and bedrock monitoring wells.

All wells appeared to be in good condition, with the exception of minor damage to the risers on monitoring wells GW-07D, GW-01S, and GW-01D, which were previously noted in the 2022 Annual Report. These wells are still functional and do not require immediate repair. The monitoring well inspection logs are included as Appendix H.

4.0 SUMMARY AND RECOMMENDATIONS

General Maintenance: The Town will continue to maintain mechanical equipment at the Site on an as-needed basis, and will operate the groundwater collection and discharge system as designed. It is recommended that the Town continue regular inspections, mow the cap at least 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 collection trench water levels are maintained at lower elevations than the monitoring points outside the landfill system, as designed. Continued quarterly hydraulic monitoring is recommended. The next rounds of monitoring will be conducted by URS in March, June, September and December 2024.

Groundwater Quality Monitoring: Groundwater sample results indicate that only low levels of SVOCs and metals are present at select monitoring wells. Similar concentrations of most parameters were found during previous sampling events. The bis(2-ethylhexyl)phthalate result in GW-07D is anomalously high and is likely due to the replacement of the polyethylene lined stainless steel leader on the stainless steel sampling bailer during the November 2022 event. Prior to the next sampling event, the stainless steel leader at GW-07D will need to be further rinsed and wiped clean to prevent further exceedances for bis(2-ethylhexyl)phthalate. In addition, monitoring well GW-07D has routinely exhibited chromium, lead, and nickel exceedances of the applicable water quality standards. To evaluate if this is related to sample turbidity or dissolved groundwater flow, both filtered and unfiltered samples for metals analysis will be collected from this well during the next sampling event.

Continued annual groundwater quality monitoring, alternating between May and November, is recommended. The next round of groundwater sampling will be conducted by URS in November 2024.

Groundwater Discharge Monitoring: Groundwater discharges remain within permit limits. Continued quarterly discharge monitoring is recommended. The next rounds of monitoring will be conducted by URS in March, June, September and December 2024.

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- 29S
GW- 30S
GW- 31S
GW- 32S
GW- 33S
GW- 34S

FREQUENCY

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

TABLE 3-2
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
MAY - JUNE 2023

Location ID			GW-01D	GW-01S	GW-03D	GW-03D	GW-03S
Sample ID			GW-01D-05302023	GW-01S-05302023	FD-05312023	GW-03D-05312023	GW-03S-05312023
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/30/23	05/30/23	05/31/23	05/31/23	05/31/23
Parameter	**Units**	*			Field Duplicate (1-1)		
Volatile Organic Compounds							
Acetone	UG/L	50					
Semivolatile Organic Compounds							
1,3-Dichlorobenzene	UG/L	3			2.3 J	2.7 J	
1,4-Dichlorobenzene	UG/L	3			3.4 J	4.1 J	
bis(2-Ethylhexyl)phthalate	UG/L	5			20	15	
Metals							
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.099	0.12	0.083	0.085	0.090
Cadmium	MG/L	0.005					0.0014
Chromium	MG/L	0.05	0.018				0.0026 J
Copper	MG/L	0.2	0.0018 J				0.0035 J
Iron	MG/L	0.3	1.1	5.2	1.1	1.1	0.35
Lead	MG/L	0.025					
Magnesium	MG/L	35	38.7	14.8	15.8	16.1	90.9
Manganese	MG/L	0.3	0.029	0.61	0.20	0.20	0.64
Mercury	MG/L	7.00E-04					
Nickel	MG/L	0.1	0.0032 J		0.0049 J	0.0049 J	0.064
Sodium	MG/L	20	132	135	185	190	113
Zinc	MG/L	2					0.012

*- 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.

TABLE 3-2
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
MAY - JUNE 2023

Location ID			GW-04D	GW-04S	GW-07D	GW-07D	GW-07S
Sample ID			GW-04D-05302023	GW-04S-05302023	GW-07D-05302023	GW-07D-05312023	GW-07S-05302023
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/30/23	05/30/23	05/30/23	05/31/23	05/30/23
Parameter	**Units**	*					
Volatile Organic Compounds							
Acetone	UG/L	50			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			NA	560	NA
Metals							
Arsenic	MG/L	0.025			NA		NA
Barium	MG/L	1	0.10	0.12	NA	0.15	NA
Cadmium	MG/L	0.005			NA	0.0032	NA
Chromium	MG/L	0.05	0.0018 J	0.0032 J	NA	0.50	NA
Copper	MG/L	0.2		0.0026 J	NA	0.060	NA
Iron	MG/L	0.3	0.17	1.5	NA	32.5	NA
Lead	MG/L	0.025			NA	0.28	NA
Magnesium	MG/L	35	83.5	29.9	NA	39.6	NA
Manganese	MG/L	0.3	0.023	0.069	NA	0.21	NA
Mercury	MG/L	7.00E-04			NA		NA
Nickel	MG/L	0.1	0.0017 J	0.0049 J	NA	0.24	NA
Sodium	MG/L	20	108	32.6	NA	82.6	NA
Zinc	MG/L	2			NA	0.18	NA

*- 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.

TABLE 3-2
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
MAY - JUNE 2023

Location ID			GW-07S	GW-08D	GW-08SR	GW-26D	GW-28S
Sample ID			GW-07S-05312023	GW-08D-05312023	GW-085R-05312023	GW-26D-05312023	GW-28S-06012023
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			05/31/23	05/31/23	05/31/23	05/31/23	06/01/23
Parameter	**Units**	*					
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				2.3 J	
Metals							
Arsenic	MG/L	0.025					
Barium	MG/L	1	0.48	0.056	0.14	0.13	0.081
Cadmium	MG/L	0.005					
Chromium	MG/L	0.05	0.0073	0.010	0.0016 J		
Copper	MG/L	0.2		0.0023 J	0.0018 J	0.0017 J	0.0018 J
Iron	MG/L	0.3	0.40	0.20	12.7	2.4	0.16
Lead	MG/L	0.025					
Magnesium	MG/L	35	50.8	12.7	52.6	20.0	28.0
Manganese	MG/L	0.3	0.088	0.045	0.86	0.36	0.77
Mercury	MG/L	7.00E-04				4.50E-05 J	
Nickel	MG/L	0.1	0.018	0.0062 J	0.0023 J	0.0017 J	0.0015 J
Sodium	MG/L	20	62.4	190	217	285	7.0
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.

TABLE 3-2
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
MAY - JUNE 2023

Location ID			GW-29S	GW-30S	GW-31S	GW-32S	GW-33S
Sample ID			GW-29S-06012023	GW-30S-06012023	GW-31S-06012023	GW-32S-06012023	GW-3S5-06012023
Matrix			Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)			-	-	-	-	-
Date Sampled			06/01/23	06/01/23	06/01/23	06/01/23	06/01/23
Parameter	**Units**	*					
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	0.0060 J				
Barium	MG/L	1	0.16	0.13	0.085	0.045	0.040
Cadmium	MG/L	0.005					
Chromium	MG/L	0.05					
Copper	MG/L	0.2					
Iron	MG/L	0.3	8.3	9.9	2.6		
Lead	MG/L	0.025	0.0035 J				
Magnesium	MG/L	35	54.0	23.5	25.2	22.0	27.1
Manganese	MG/L	0.3	0.57	1.6	0.46	0.19	0.021
Mercury	MG/L	7.00E-04					
Nickel	MG/L	0.1			0.0016 J		
Sodium	MG/L	20	7.2	142	2.2	2.1	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.

TABLE 3-2
GROUNDWATER SAMPLE ANALYTICAL RESULTS
PFOHL BROTHERS LANDFILL SITE
MAY - JUNE 2023

Location ID			GW-34S	GW-35S
Sample ID			GW-34S-05312023	GW-35S-05312023
Matrix			Groundwater	Groundwater
Depth Interval (ft)			-	-
Date Sampled			05/31/23	05/31/23
Parameter	**Units**	*		
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	0.14	0.080
Cadmium	MG/L	0.005		
Chromium	MG/L	0.05		
Copper	MG/L	0.2	0.0016 J	
Iron	MG/L	0.3	0.053	0.060
Lead	MG/L	0.025		
Magnesium	MG/L	35	42.1	21.2
Manganese	MG/L	0.3	0.64	0.54
Mercury	MG/L	7.00E-04		
Nickel	MG/L	0.1	0.0036 J	0.0061 J
Sodium	MG/L	20	25.7	2.1
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.

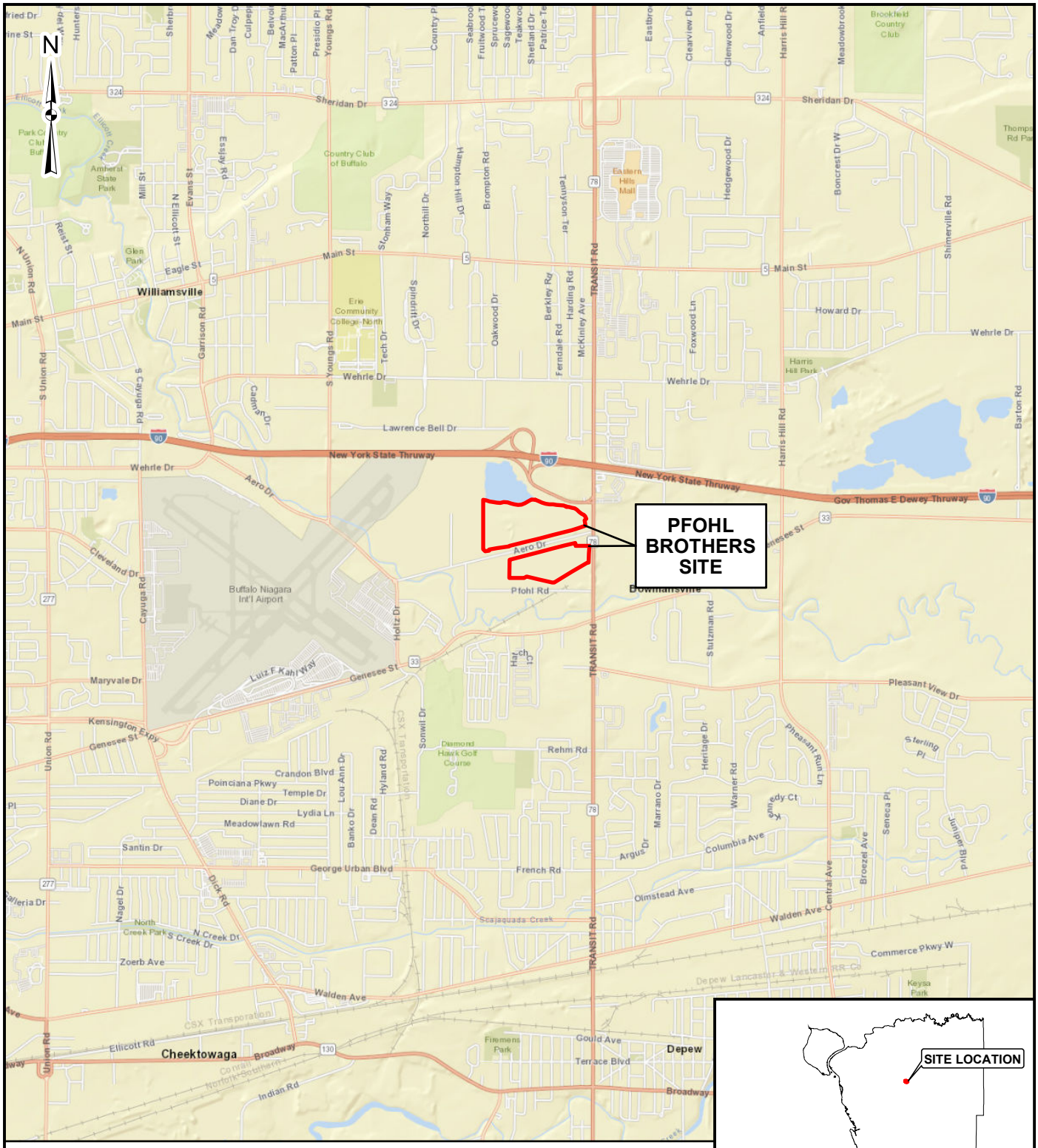
Concentration Exceeds

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

NA - Not Analyzed

Only Detected Results Reported.

FIGURES



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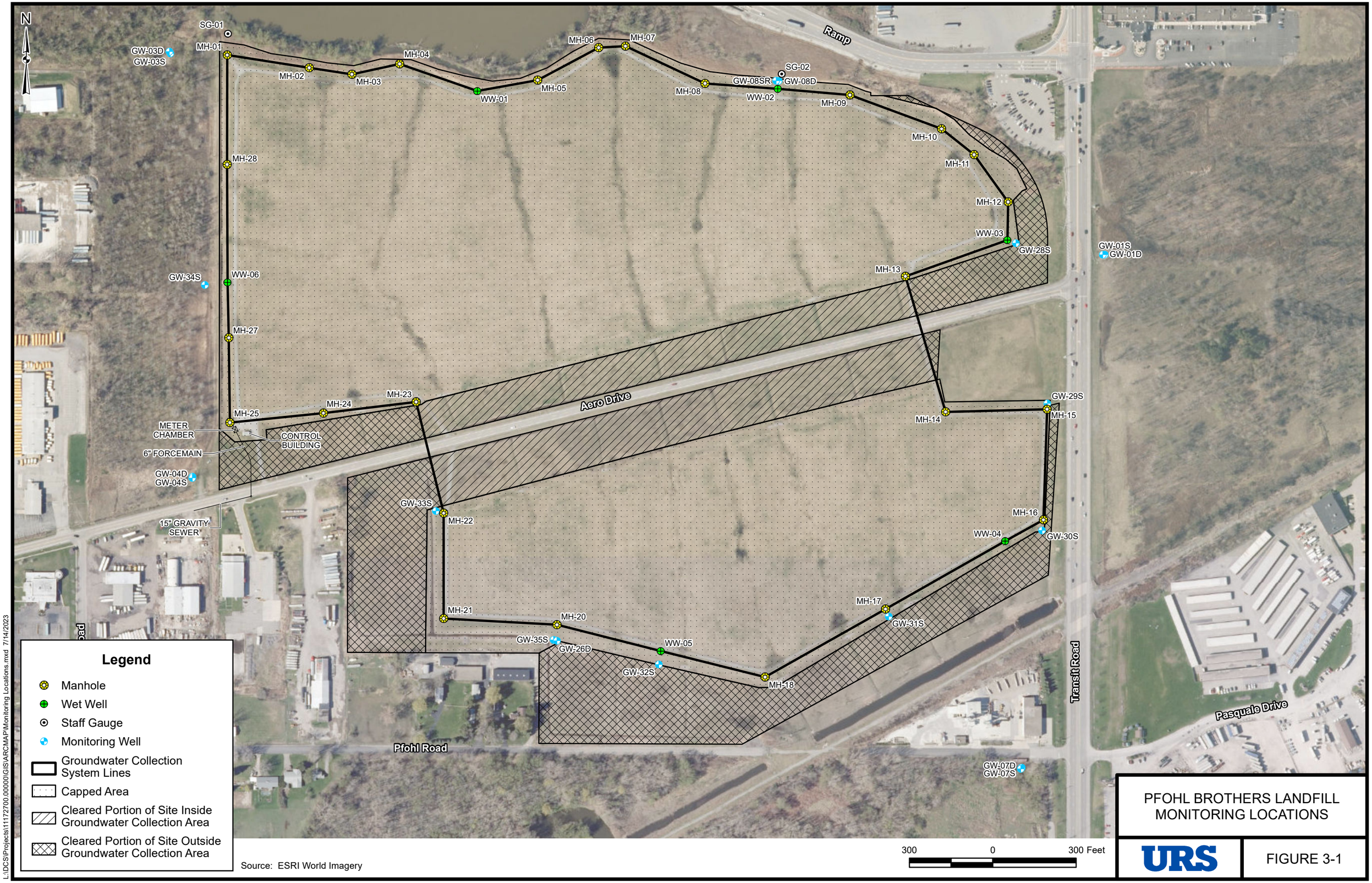
URS

PFOHL BROTHERS LANDFILL
SITE LOCATION

FIGURE 1-1



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PFOHL BROTHERS LANDFILL MONITORING LOCATIONS

URS

FIGURE 3-1

N

SG-01, Dry
MH-01, 688.96
GW-03D, 691.75
GW-03S, 689.53
MH-03, 688.83
WW-01, 688.72
MH-07, 688.03
SG-02, Dry
GW-08SR, 692.07
GW-08D, 691.63
WW-02, 688.78
Ramp
Transit Road
MH-10, 688.49
WW-03, 688.52
GW-28S, 691.01
GW-01S, 691.16
GW-01D, 692.50
WW-06, 689.39
GW-34S, 690.96
GW-29S, 690.31
MH-15, 684.96
MH-25, 688.87
GW-04D, 680.32
GW-04S, 687.54
Aero Drive
GW-33S, 692.13
MH-22, 689.05
MH-16, 684.86
GW-30S, 688.58
WW-04, 684.32
MH-17, 684.90
GW-31S, 693.22
MH-20, 686.44
GW-35S, 692.73
GW-26D, 691.52
WW-05, 683.64
GW-32S, 693.29
Rein Road
Pfohl Road
Pasquale Drive
GW-07D, 656.51
GW-07S, 693.89

Legend

- Monitoring Well
- Staff Gauge
- Groundwater Flow Direction (Outside Landfill)
- Groundwater Elevation Contour (Outside Landfill)
- Groundwater Collection System Lines
- Manhole
- Wet Well
- Groundwater Flow Direction (Inside Landfill - Inferred)
- Groundwater Elevation Contour (Inside Landfill - Inferred)
- Capped Area

Note: Deep wells were not used in contour generation.

Source: ESRI World Imagery

300 0 300 Feet

PFOHL BROTHERS LANDFILL GROUNDWATER CONTOURS (MAY 30, 2023)

URS

FIGURE 3-2

L:\DCS\Projects\11172700.00000\GIS\ARCMAP\GW Contours - Shallow (20230530) (Barrier).mxd 4/12/2024

APPENDIX A

EXAMPLE DAILY INSPECTION SHEETS

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

Date 3/23/23 — Weather conditions 52°F, rain

Time — Read by: TJ/RM

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	99.0	-3.9	-521887	2819
WW-2	4.6	0.0	40	224
WW-1	4.3	0.0	208577	8337
WW-6	7.3	0.0	4301851	22980
WW-4	9.7	0.0	2512900	12547
WW-5	9.9	0.0	599155	1526

Flow Totalizer at Meter chamber

Heat Trace

Outside temp T = 52°F — Set point SP = 48°F

Current A = 0.0

Large Suppressor events 87

Motor Control Center

Volts 490 volts — Which WW was running?

Amps 3 amps — 1☐ 2☐ 3☐ 4☐ 5☐ 6☐ NONE

Filter **Checked** ☐ **Changed** ☐

Comments and/or Current Conditions

WW-5 Back Running, Needs New Hose

WW-4 Needs Pump + Hose Replaced.

Pfohl Brothers Landfill Site

Daily Logsheet — **Town of Cheektowaga**

Date 6/16/23 — Weather conditions Cldy/LtRain

Time 1210 — Read by: DVN

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	9.0	0	-744654	2819
WW-2	4.6	0	40	224
WW-1	4.5	0	202577	8337
WW-6	7.3	0	5422712	23291
WW-4	7.6	0	2512900	12547
WW-5	7.4	0	1797909	2013

Flow Totalizer at Meter chamber: 9949999

Heat Trace

Outside temp T = 61

Current A = 0

Set point SP = 40°

Large Suppressor events: 198

Motor Control Center

Volts 480 volts

Amps 3 amps

Which WW was running?

1☐ 2☐ 3☐ 4☐ 5☐ 6☐

Filter **Checked** ☒ **Changed** ☐

Comments and/or Current Conditions

Working on removing & Replacing WW-4 pump & hose

Pfohl Brothers Landfill Site

Daily Logsheet

Town of Cheektowaga

Date 10/27/23

Time 1154

Weather conditions Cloudy

Read by: JWN

	Level of Water from bottom (ft.)	Flow gallons / minute	Flow Totals gallons	Pump Run Time Hrs.
WW-3	99.0	0	-4054	2819
WW-2	4.6	0	84	224
WW-1	4.2	0	59126	8367
WW-6	1.0	0	782422	23526
WW-4	7.3	16.2	192	0
WW-5	6.9	26.2	1034397	2529

Flow Totalizer at Meter chamber 1876118

Heat Trace

Outside temp **T =** 72°

Current **A =** 6

Set point **SP =** 40°

Surge Suppressor events 221

Motor Control Center

Volts 486 **volts**

Amps 9 **amps**

Which WW was running?

1 2 3 4 5 6

Filter **Checked** **Changed**

Comments and/or Current Conditions

WW-4 Pump Replaced / Check Valve / Hoses

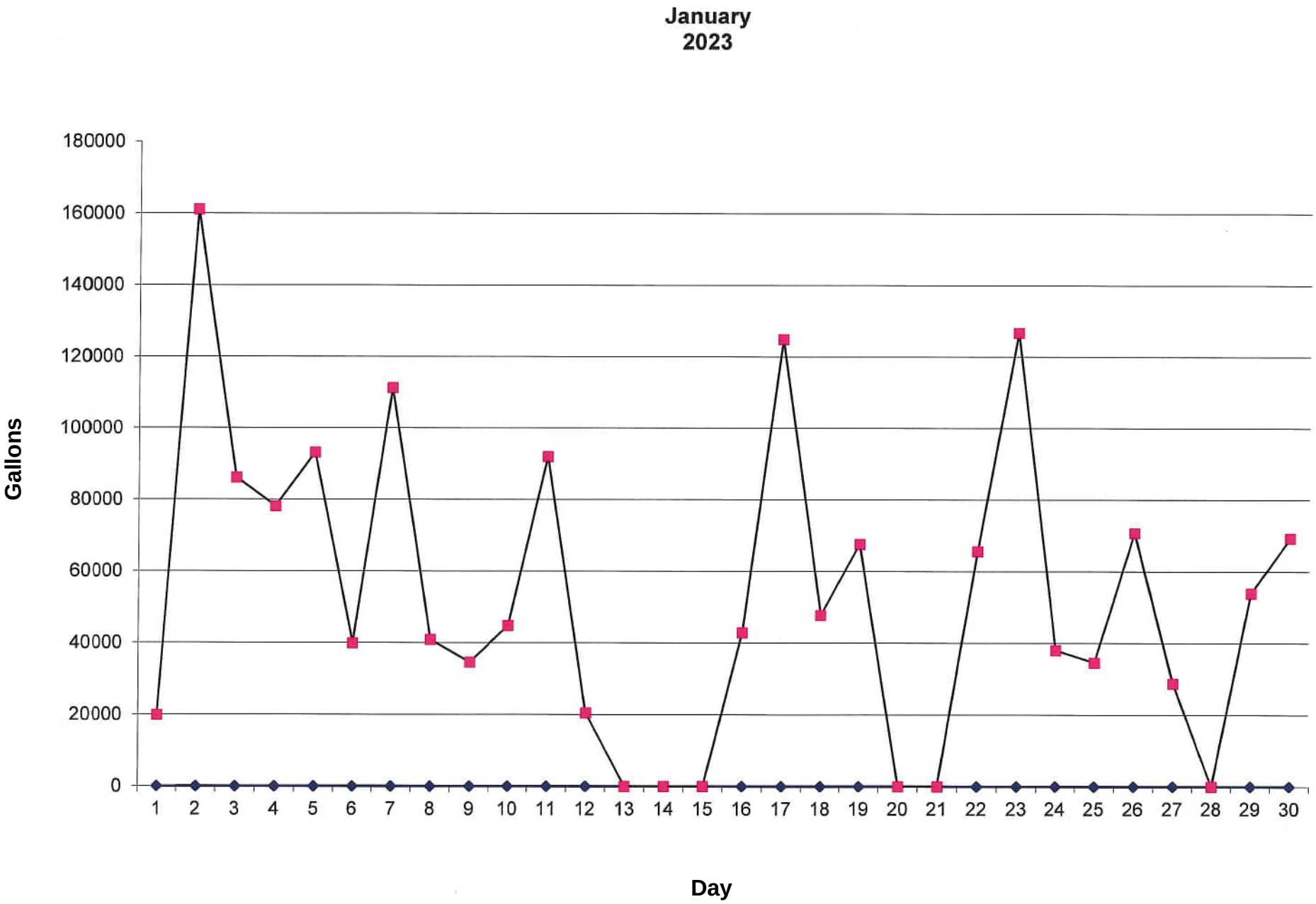
JWN

APPENDIX B

MONTHLY FLOW SUMMARIES
(JANUARY 2023 – DECEMBER 2023)

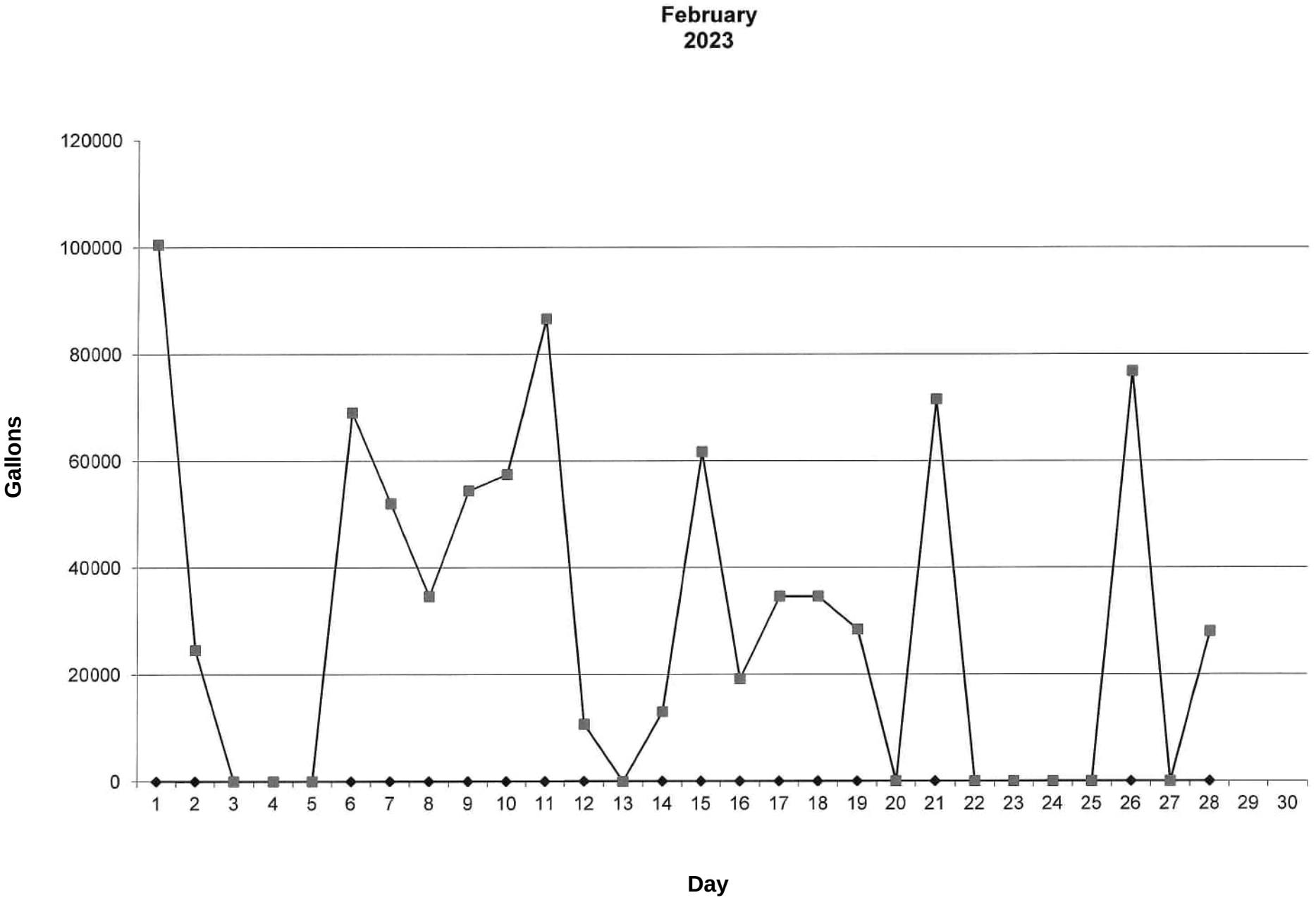
Direct Discharge Flow Data

12/31/2022		4,398,341	0	
Jan-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		4,418,196	19,855	20:54 enable
2		4,579,342	161,145	
3		4,665,492	86,150	14:13 inhibit
4		4,743,670	78,178	09:40 enable
5		4,836,828	93,158	
6		4,876,709	39,881	
7		4,987,941	111,232	
8		5,028,814	40,873	
9		5,063,371	34,557	
10		5,108,125	44,754	
11		5,200,170	92,045	
12		5,220,670	20,500	17:03 inhibit
13		5,220,670	0	
14		5,220,670	0	
15		5,220,670	0	
16		5,263,488	42,817	15:42 enable
17		5,388,320	124,832	
18		5,436,023	47,703	
19		5,503,567	67,544	23:30 inhibit
20		5,503,567	0	
21		5,503,567	0	
22		5,569,166	65,599	11:28 enable
23		5,695,880	126,714	
24		5,733,832	37,952	
25		5,768,392	34,560	
26		5,839,107	70,715	
27		5,867,834	28,726	
28		5,867,834	0	
29		5,921,756	53,922	11:52 inhibit 21:10 enable
30		5,990,997	69,241	
31		6,026,369	35,371	
		1,628,028	**1,628,024**	


January
2023
Gallons
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
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
Day

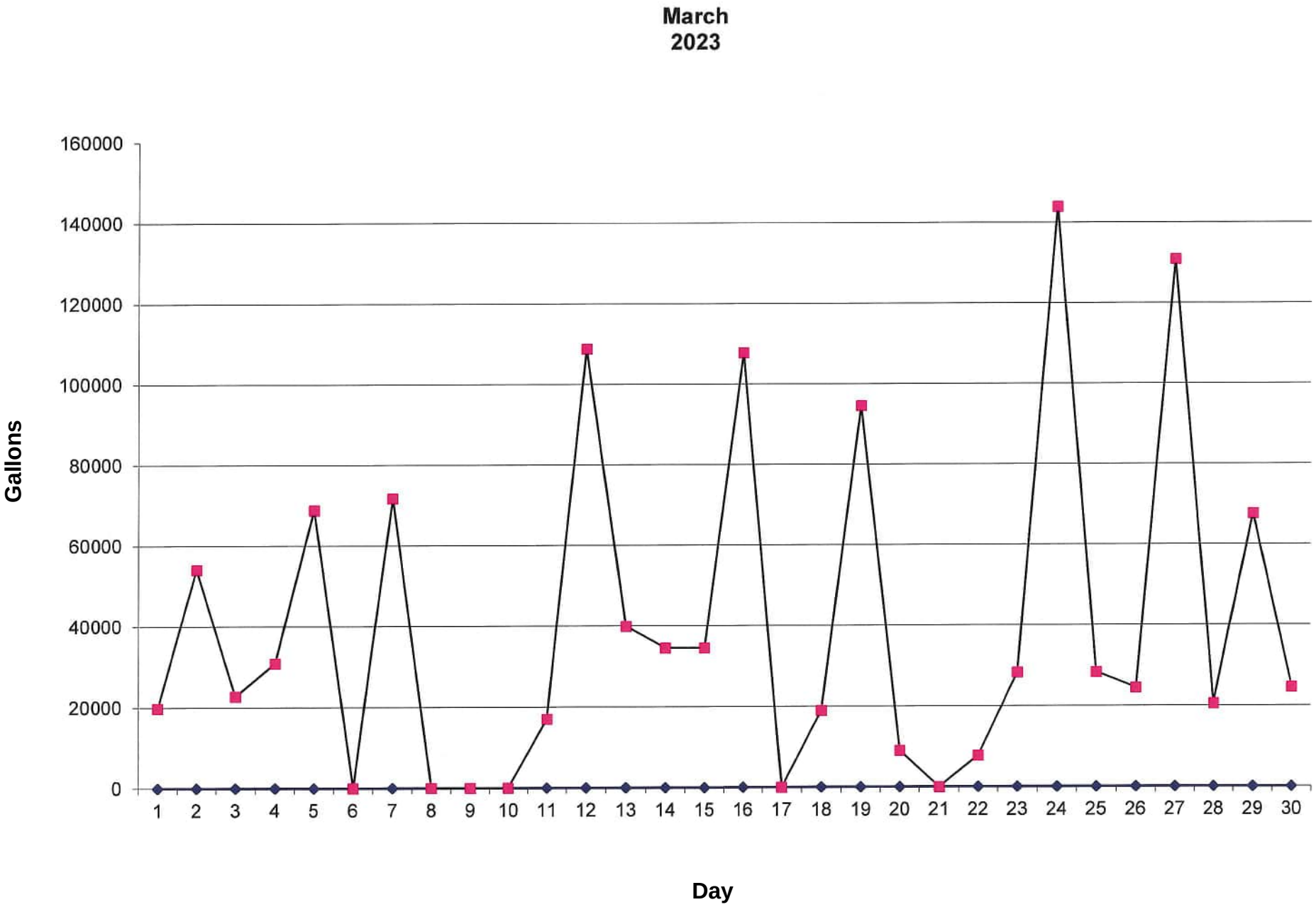
Direct Discharge Flow Data

1/31/2023		6,026,369	35,371	
Feb-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		6,126,875	100,506	
2		6,151,415	24,539	
3		6,151,415	0	
4		6,151,415	0	
5		6,151,415	0	
6		6,220,448	69,033	
7		6,272,430	51,982	
8		6,306,990	34,560	
9		6,361,381	54,391	11:07 inhibit
10		6,418,810	57,429	12:48 enable
11		6,505,401	86,591	
12		6,516,069	10,668	
13		6,516,069	0	
14		6,529,083	13,013	
15		6,590,747	61,664	
16		6,609,922	19,175	
17		6,644,482	34,560	
18		6,679,042	34,560	
19		6,707,440	28,398	
20		6,707,440	0	
21		6,778,996	71,555	
22		6,778,996	0	23:29 inhibit
23		6,778,996	0	08:44 enable
24		6,778,996	0	
25		6,778,996	0	
26		6,855,775	76,779	
27		6,855,775	0	23:34 inhibit
28		6,883,768	27,993	16:40 enable
		857,399	**857,396**	


February
2023
120000
100000
80000
60000
40000
20000
0
Gallons
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
Day

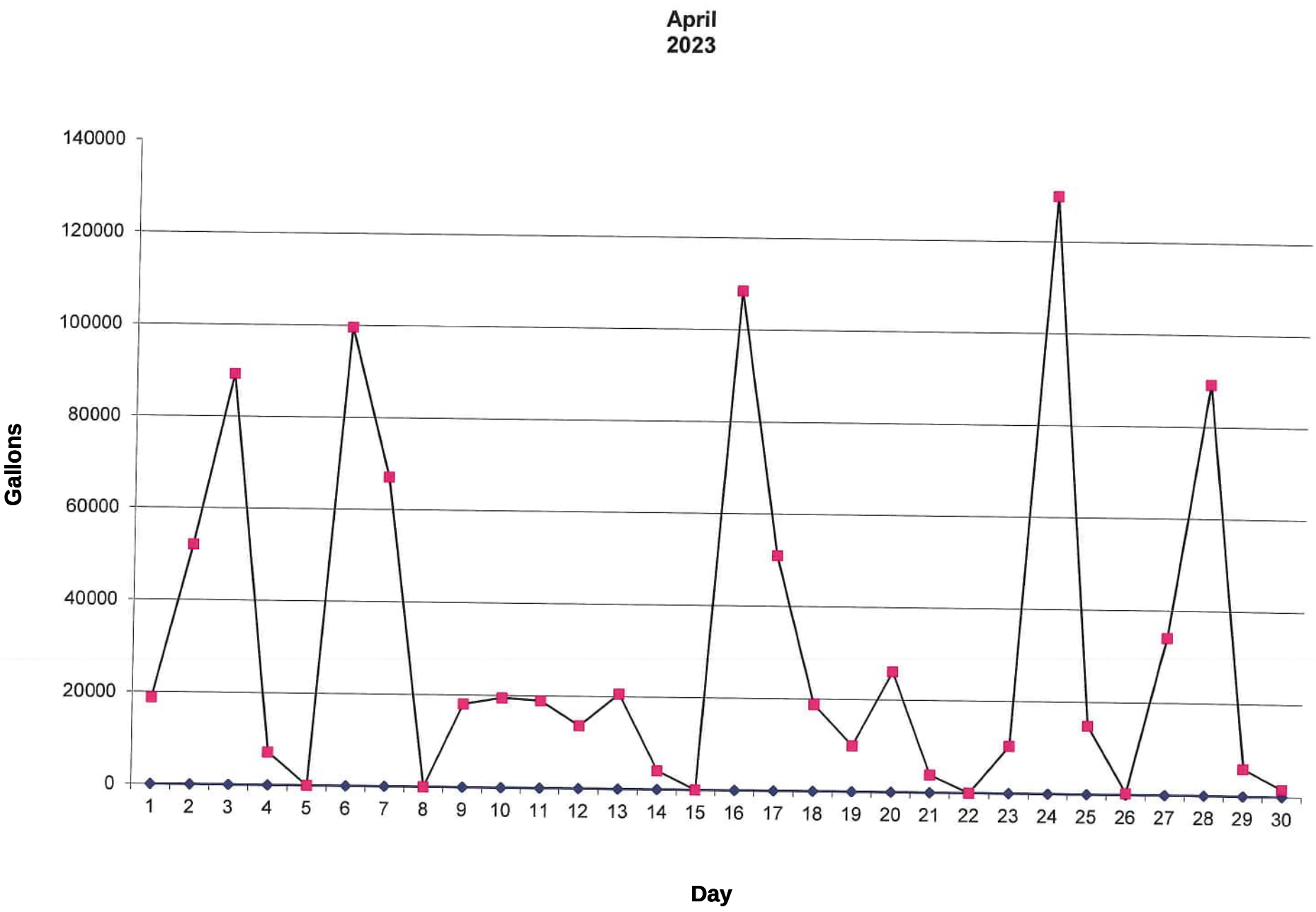
Direct Discharge Flow Data

2/28/2023		6,883,768	27,993	
Mar-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		6,903,600	19,832	
2		6,957,710	54,110	
3		6,980,427	22,717	18:24 inhibit
4		7,011,313	30,886	21:46 enable
5		7,080,177	68,864	
6		7,080,177	0	
7		7,151,901	71,724	
8		7,151,901	0	
9		7,151,901	0	
10		7,151,901	0	
11		7,168,919	17,017	
12		7,277,726	108,807	
13		7,317,668	39,942	
14		7,352,228	34,560	
15		7,386,788	34,560	
16		7,494,586	107,798	23:15 inhibit
17		7,494,586	0	
18		7,513,574	18,987	20:09 enable
19		7,608,183	94,609	
20		7,617,237	9,053	
21		7,617,237	0	
22		7,624,966	7,729	23:28 inhibit
23		7,653,271	28,305	14:41 enable
24		7,797,203	143,932	
25		7,825,583	28,379	10:14 inhibit
26		7,850,035	24,452	16:40 enable
27		7,980,910	130,875	
28		8,001,433	20,523	
29		8,069,110	67,677	
30		8,093,697	24,587	
31		8,115,021	21,324	
		1,231,253	**1,231,249**	


March
2023
Gallons
160000
140000
120000
100000
80000
60000
40000
20000
0
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
Day

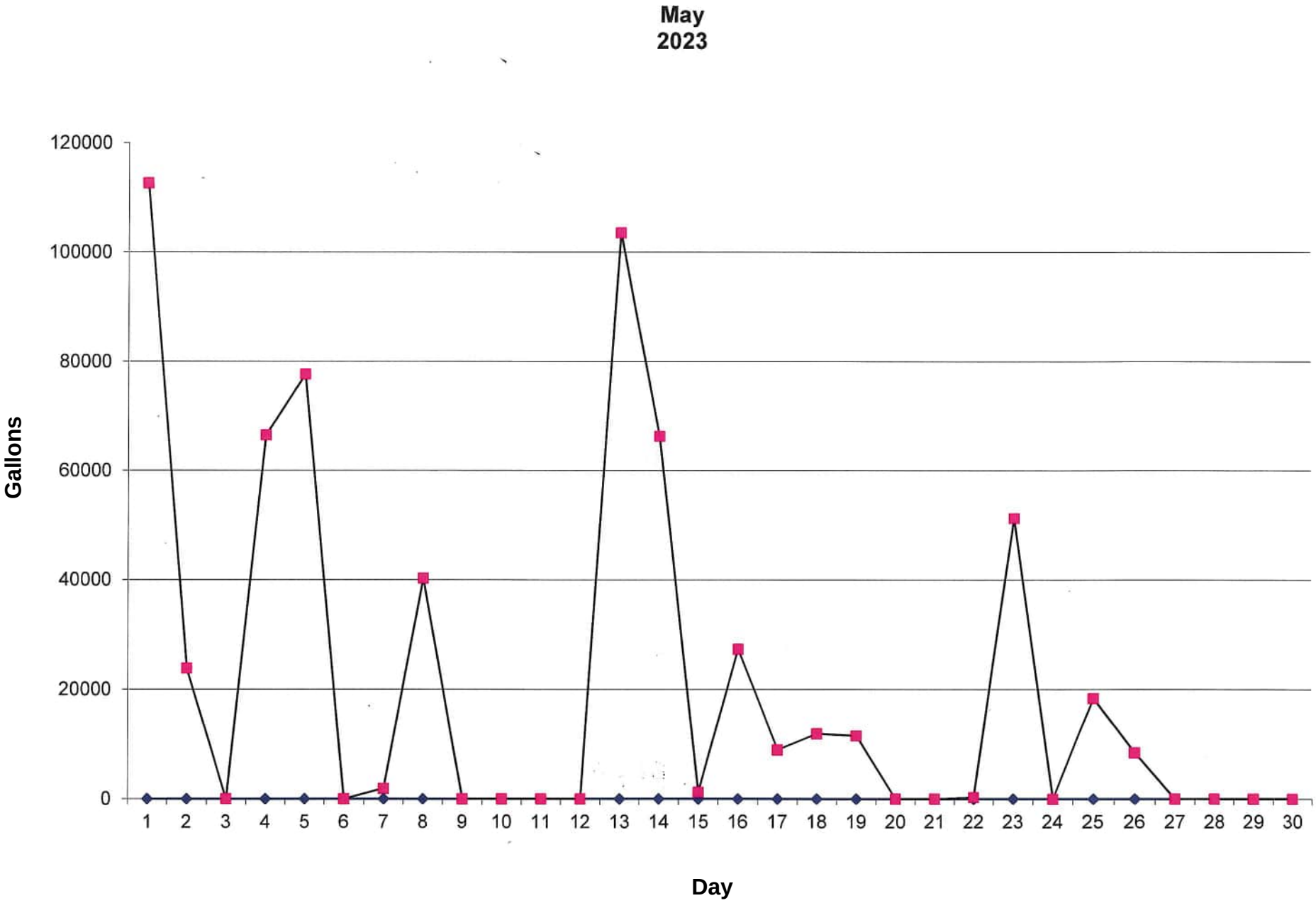
Direct Discharge Flow Data

			3/31/2023	8,115,021	21,324	
Apr-23		**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
	1		8,133,836	18,814	07:59 inhibit
	2		8,185,873	52,037	14:55 enable
	3		8,275,159	89,286	
	4		8,282,287	7,128	03:21 inhibit
	5		8,282,287	0	
	6		8,381,885	99,597	06:56 enable
	7		8,448,974	67,089	
	8		8,448,974	0	
	9		8,467,020	18,046	
	10		8,486,512	19,492	
	11		8,505,488	18,976	
	12		8,519,136	13,648	
	13		8,539,710	20,578	
	14		8,543,744	4,034	
	15		8,543,744	0	
	16		8,652,290	108,546	23:06 inhibit
	17		8,703,273	50,983	13:31 enable
	18		8,722,072	18,799	
	19		8,732,005	9,933	23:09 inhibit
	20		8,758,104	26,099	08:54 enable
	21		8,761,944	3,840	
	22		8,761,944	0	06:29 inhibit
	23		8,772,211	10,267	21:37 enable
	24		8,902,072	129,861	
	25		8,916,899	14,827	23:19 inhibit
	26		8,917,220	321	08:13 enable
	27		8,951,270	34,058	
	28		9,040,548	89,278	
	29		9,046,452	5,904	
	30		9,047,984	1,532	17:31 inhibit 21:53 enable
	31				
			932,963	**932,973**	


April
2023
Gallons
140000
120000
100000
80000
60000
40000
20000
0
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
Day

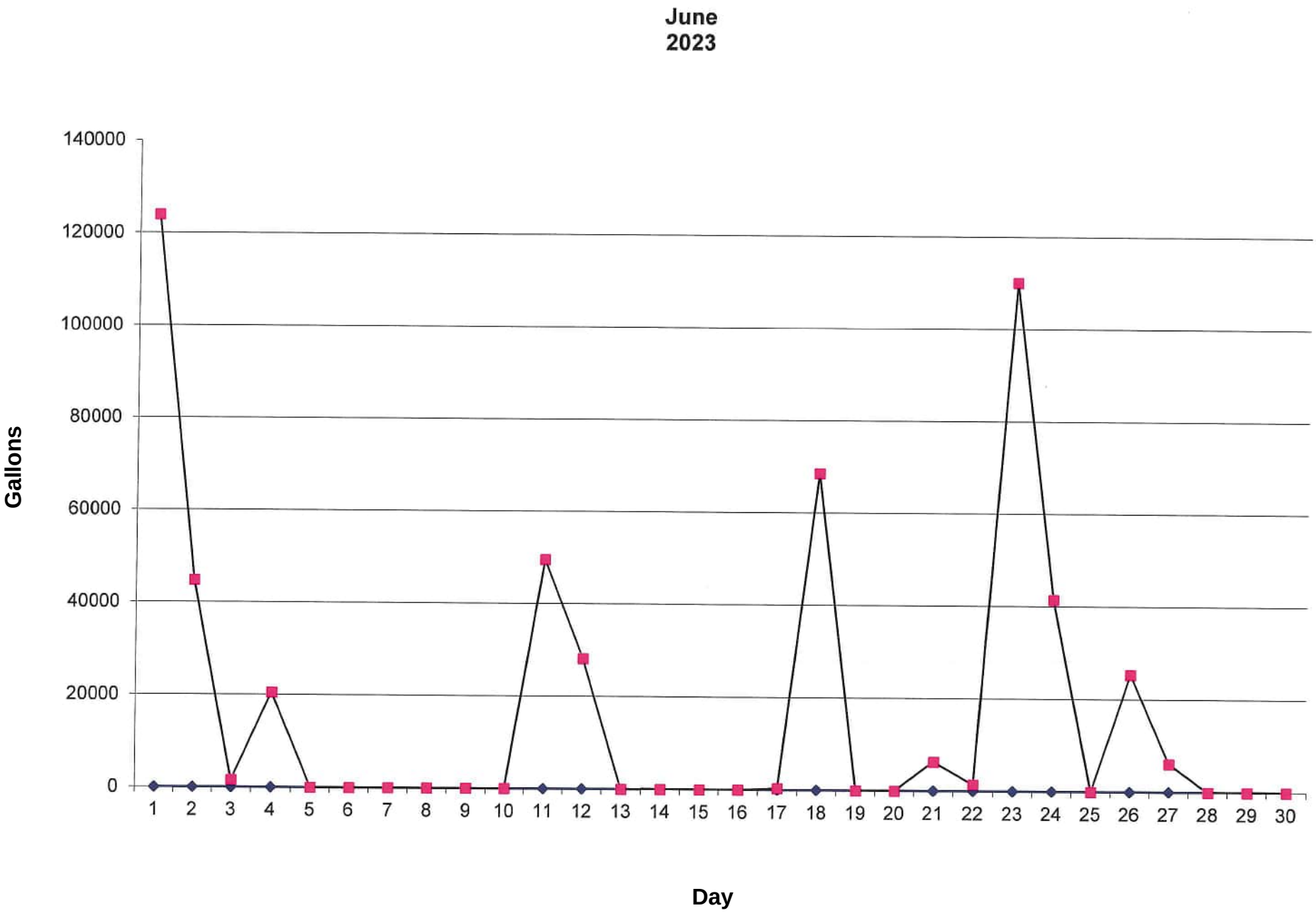
Direct Discharge Flow Data

4/30/2023		9,047,984	1,532	
May-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		9,160,639	112,655	
2		9,184,484	23,845	
3		9,184,484	0	
4		9,250,999	66,515	
5		9,328,682	77,683	
6		9,328,682	0	
7		9,330,603	1,921	
8		9,370,936	40,333	
9		9,370,936	0	
10		9,370,936	0	
11		9,370,936	0	
12		9,370,936	0	
13		9,474,495	103,559	
14		9,540,797	66,302	
15		9,542,053	1,256	
16		9,569,407	27,354	
17		9,578,345	8,938	
18		9,590,242	11,897	
19		9,601,749	11,507	
20		9,601,749	0	
21		9,601,749	0	
22		9,602,056	307	
23		9,653,318	51,262	
24		9,653,318	0	
25		9,671,697	18,379	
26		9,680,127	8,430	
27		9,680,127	0	
28		9,680,127	0	
29		9,680,127	0	
30		9,680,127	0	
31		9,681,506	1,379	
		633,522	**633,522**	


May
2023
120000
100000
80000
60000
40000
20000
0
Gallons
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
Day

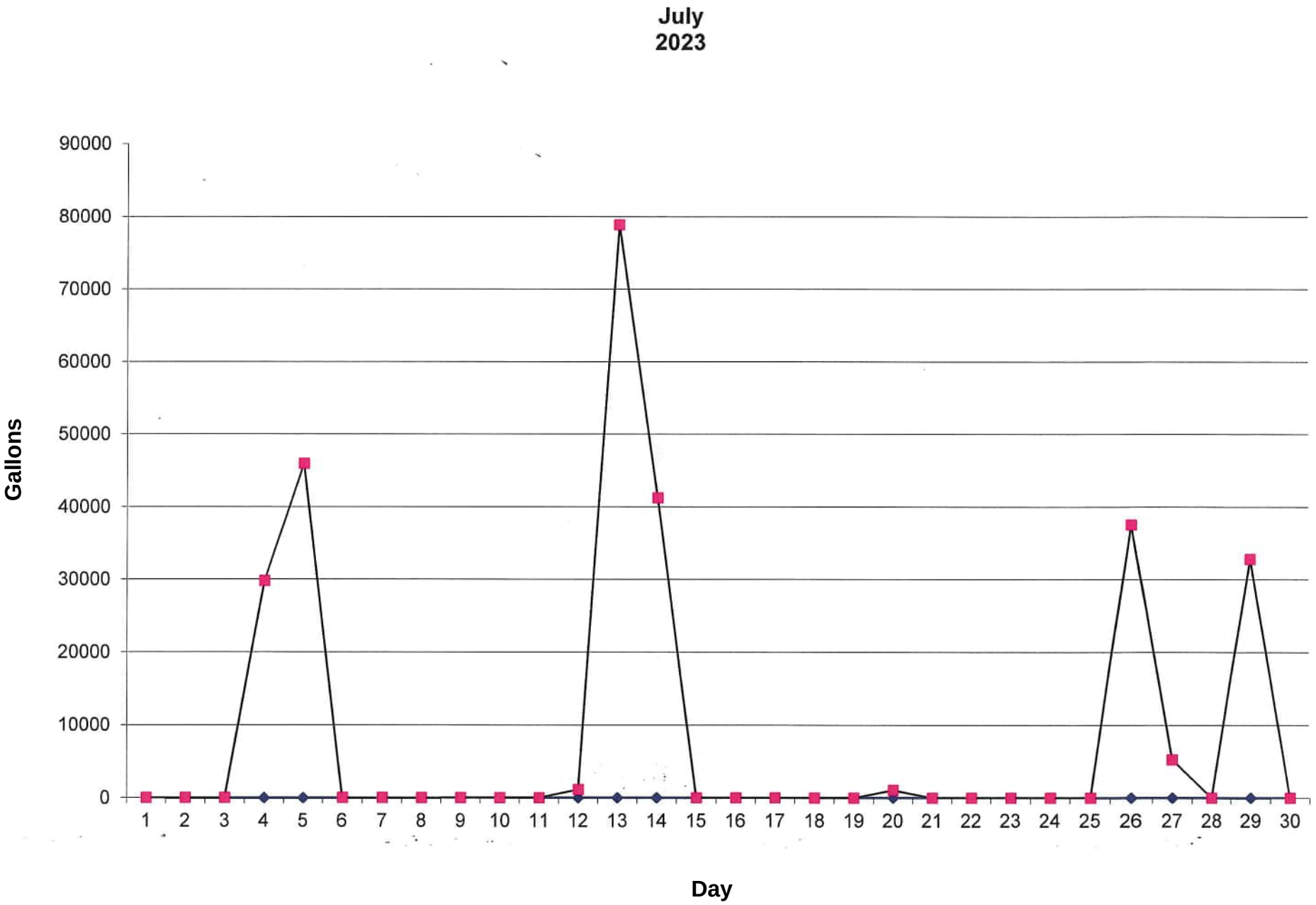
Direct Discharge Flow Data

5/31/2023		9,681,506	1,379	
Jun-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		9,805,511	124,005	
2		9,850,272	44,761	
3		9,851,792	1,520	
4		9,872,292	20,500	
5		9,872,292	0	
6		9,872,292	0	
7		9,872,292	0	
8		9,872,292	0	
9		9,872,292	0	
10		9,872,292	0	
11		9,921,850	49,558	23:05 inhibit
12		9,949,999	28,149	11:00 enable
13		9,949,999	0	
14		9,949,999	0	
15		9,949,999	0	
16		9,949,999	0	
17		9,950,356	357	
18		10,018,917	68,561	
19		10,018,917	0	
20		10,018,917	0	
21		10,025,207	6,290	
22		10,026,642	1,435	
23		10,136,765	110,123	21:32 inhibit
24		10,178,210	41,445	11:00 enable
25		10,178,210	0	
26		10,203,527	25,317	23:05 inhibit
27		10,209,588	6,061	11:49 enable
28		10,209,588	0	
29		10,209,588	0	
30		10,209,588	0	
		528,082	**528,082**	

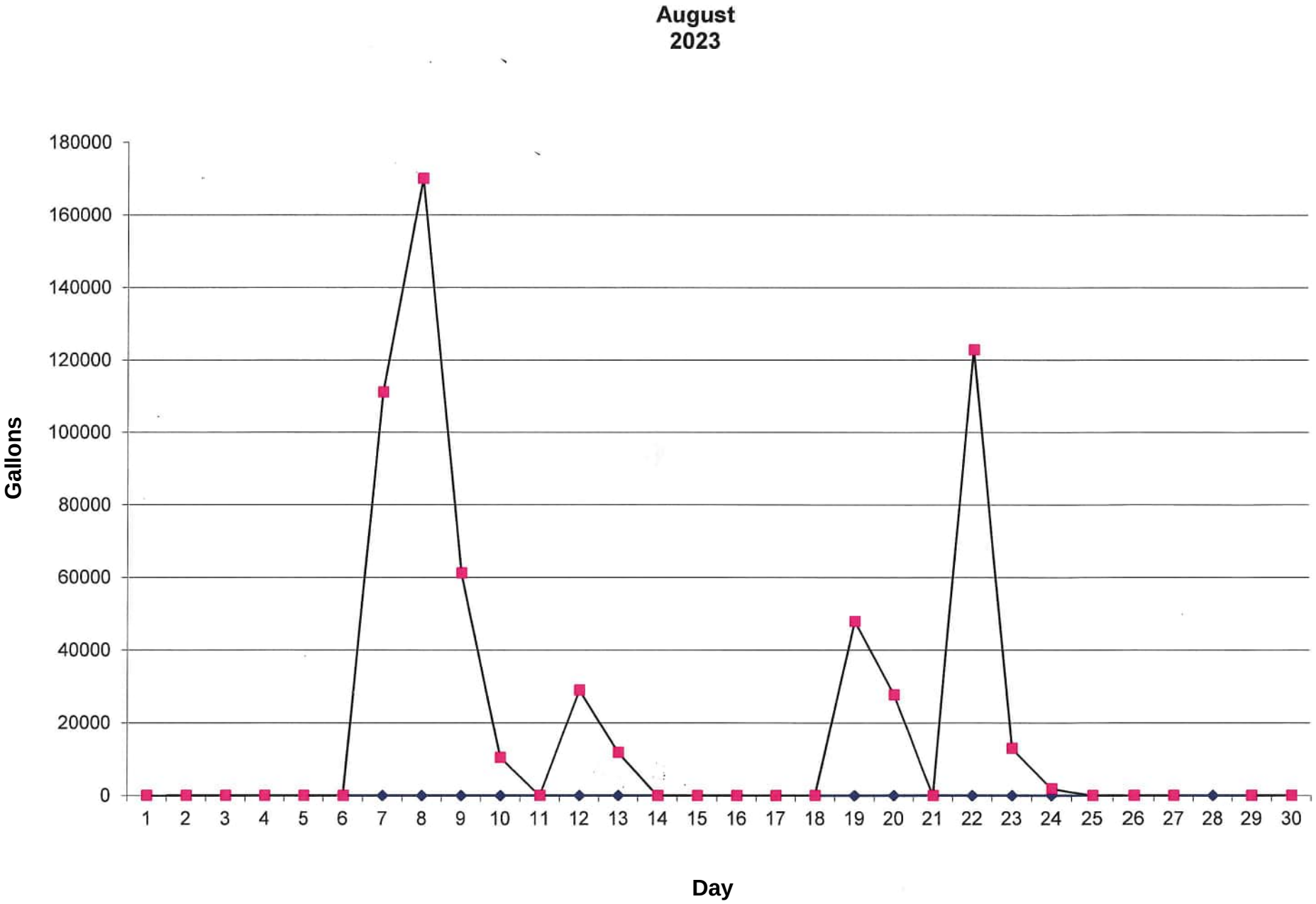

June
2023
Gallons
140000
120000
100000
80000
60000
40000
20000
0
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30
Day

Direct Discharge Flow Data

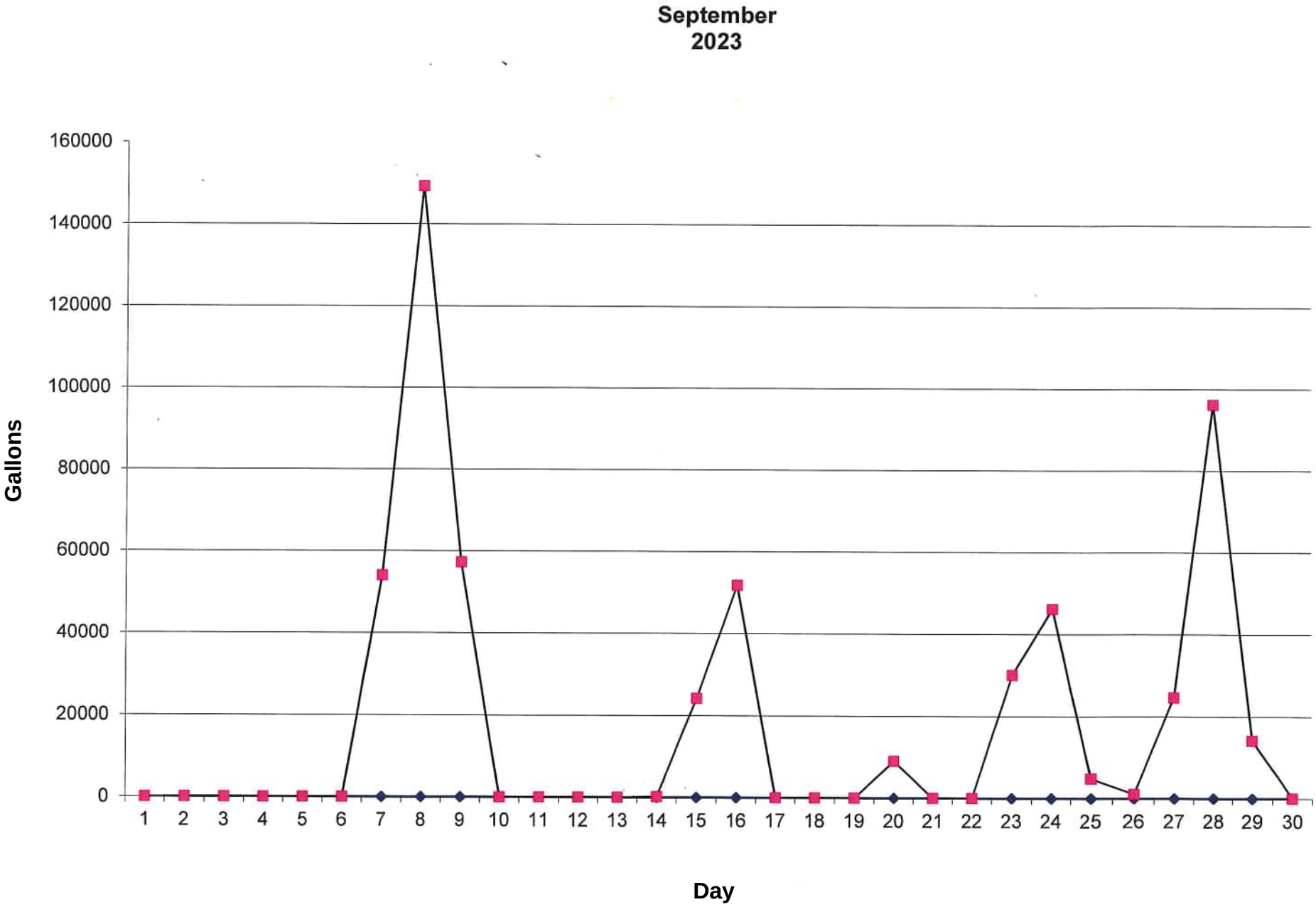
6/30/2023		10,209,588	0	2022-2023 Total
Jul-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		10,209,588	0	
2		10,209,588	0	15:13 inhibit 20:55 enable
3		10,209,588	0	06:27 inhibit 10:00 enable
4		10,239,382	29,795	
5		10,285,317	45,935	
6		10,285,317	0	
7		10,285,317	0	
8		10,285,317	0	
9		10,285,317	0	
10		10,285,317	0	
11		55,280	0	ANNUAL RESET
12		56,396	1,115	00:14 inhibit
13		135,268	78,871	07:31 enable
14		176,499	41,231	
15		176,499	0	
16		176,499	0	11:568 inhibit
17		176,499	0	08:12 enable
18		176,499	0	
19		176,499	0	Power Failure
20		177,571	1,072	20:34 inhibit
21		177,571	0	
22		177,571	0	
23		177,571	0	
24		177,571	0	
25		177,571	0	
26		215,107	37,536	09:10 enable
27		220,344	5,236	
28		220,344	0	
29		253,150	32,806	14:44 inhibit
30		253,150	0	
31		253,150	0	
		328,879	**328,877**	


July
2023
Gallons
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
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
Day

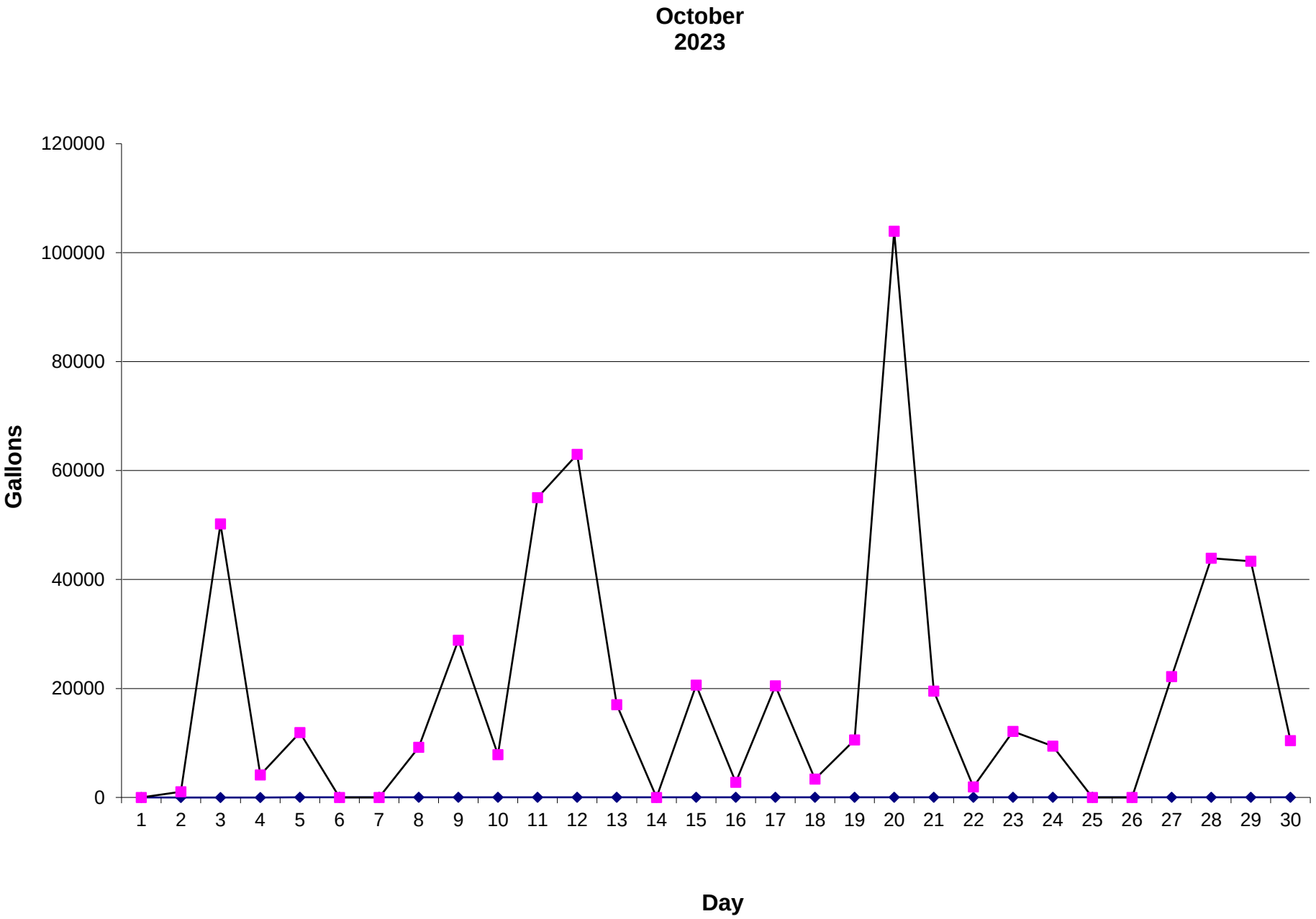
7/31/2023		253,150	0	
Aug-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		253,150	0	
2		253,150	0	
3		253,150	0	
4		253,150	0	
5		253,150	0	
6		253,150	0	
7		364,308	111,158	9:14 enable
8		534,343	170,038	
9		595,491	61,147	
10		605,926	10,435	8:17 inhibit / 18:18 enable
11		605,926	0	
12		634,934	29,008	
13		646,794	11,859	
14		646,794	0	
15		646,794	0	
16		646,794	0	
17		646,794	0	23:09 inhibit
18		646,794	0	11:58 enable
19		694,620	47,826	
20		722,323	27,702	
21		722,323	0	
22		845,152	122,829	
23		858,137	12,985	
24		860,019	1,881	23:37 inhibit
25		860,019	0	
26		860,019	0	
27		860,019	0	
28		860,019		
29		860,019	0	
30		860,019	0	
31		860,019	0	
		606,869	**606,868**	


August
2023
Gallons
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
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
Day

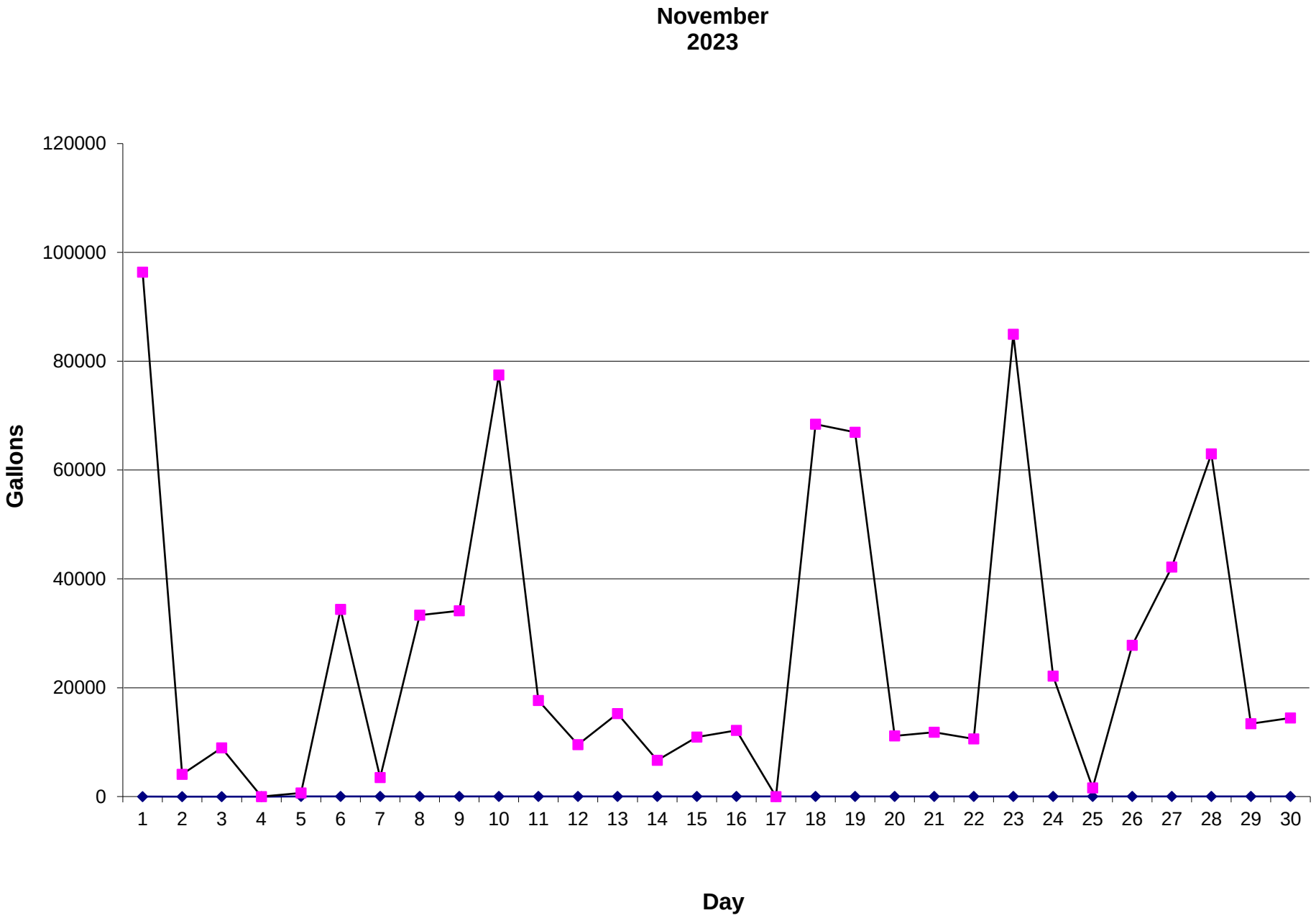
8/31/2023		860,019	0	
Sep-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		860,019	0	
2		860,019	0	
3		860,019	0	
4		860,019	0	
5		860,019	0	
6		860,019	0	
7		914,085	54,066	11:14 enable
8		1,063,370	149,285	
9		1,120,665	57,295	
10		1,120,665	0	
11		1,120,665	0	
12		1,120,665	0	16:53 inhibite 21:01 enable
13		1,120,665	0	
14		1,120,830	164	
15		1,145,022	24,192	
16		1,196,824	51,802	
17		1,196,824	0	
18		1,196,824	0	
19		1,196,824	0	
20		1,205,833	9,009	
21		1,205,833	0	
22		1,205,833	0	
23		1,235,865	30,031	
24		1,282,026	46,160	
25		1,286,853	4,827	
26		1,287,903	1,049	
27		1,312,516	24,613	
28		1,408,793	96,277	
29		1,422,906	14,113	
30		1,422,906	0	
31				
		562,887	**562,883**	


September
2023
160000
140000
120000
100000
80000
60000
40000
20000
0
Gallons
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
Day

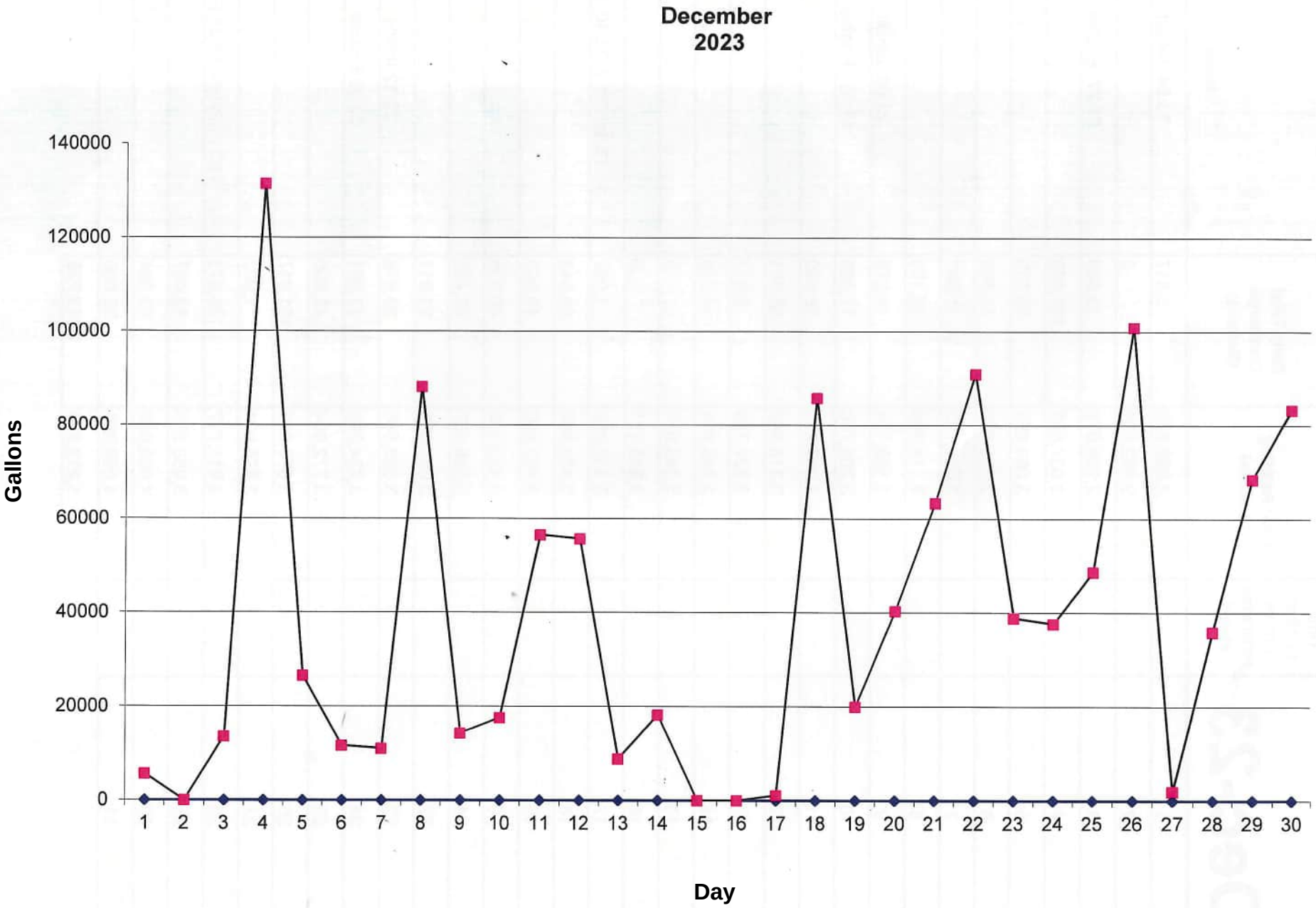
9/30/2023		1,422,906	0	
Oct-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		1,422,907	0	
2		1,423,940	1,033	
3		1,474,135	50,194	
4		1,478,254	4,118	
5		1,490,167	11,912	23:01 inhibit
6		1,490,167	0	
7		1,490,167	0	
8		1,499,362	9,195	19:59 enable
9		1,528,213	28,851	
10		1,536,070	7,857	15:05 inhibit
11		1,591,077	55,006	14:12 enable
12		1,654,043	62,966	
13		1,671,058	17,014	
14		1,671,058	0	18:44 inhibit
15		1,691,658	20,599	
16		1,694,420	2,762	08:16 enable
17		1,714,894	20,473	
18		1,718,248	3,353	
19		1,728,818	10,569	
20		1,832,766	103,948	
21		1,852,289	19,523	
22		1,854,205	1,915	
23		1,866,314	12,108	
24		1,875,704	9,390	
25		1,875,704	0	
26		1,875,704	0	
27		1,897,901	22,197	
28		1,941,820	43,918	
29		1,985,187	43,367	
30		1,995,617	10,430	05:50 inhibtit
31		2,083,314	87,696	08:40 enable
		660,408	**660,394**	


October
2023
120000
100000
80000
60000
40000
20000
0
Gallons
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
Day

10/31/2023		2,083,314	0	
Nov-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		2,179,703	96,389	
2		2,183,794	4,091	
3		2,192,740	8,945	
4		2,192,740	0	
5		2,193,384	644	
6		2,227,793	34,409	
7		2,231,298	3,504	
8		2,264,651	33,352	23:38 Inhibited
9		2,298,791	34,140	17:13 Enabled
10		2,376,282	77,490	
11		2,393,940	17,658	
12		2,403,463	9,522	
13		2,418,717	15,253	
14		2,425,400	6,683	
15		2,436,351	10,951	
16		2,448,522	12,171	
17		2,448,522	0	13:52 Inhibited
18		2,516,946	68,423	11:34 enabled
19		2,583,882	66,935	
20		2,592,041	11,159	
21		2,606,863	11,822	13:52 Inhibited
22		2,617,459	10,596	18:20 Enabled
23		2,702,431	84,971	
24		2,724,563	22,132	
25		2,726,136	1,573	
26		2,753,953	27,817	
27		2,796,114	42,160	
28		2,859,103	62,989	
29		2,872,492	13,388	
30		2,886,921	14,429	
		803,607	**803,596**	


November
2023
120000
100000
80000
60000
40000
20000
0
Gallons
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
Day

11/30/2023		2,886,921	0	
Dec-23	**Time; 11:58pm unless otherwise stated**	**Total Reading (Gallons)**	**Daily Total Discharge (Gallons)**	**Notes**
1		2,892,539	5,617	13:54 Inhibit
2		2,892,539	0	
3		2,906,078	13,549	21:27 Enable
4		3,037,548	131,469	
5		3,064,097	26,539	
6		3,075,706	11,609	
7		3,086,707	11,001	
8		3,174,898	88,190	
9		3,189,173	14,275	23:56 Inhibit
10		3,206,740	17,566	13:03 Enable
11		3,263,261	56,520	
12		3,318,942	55,681	
13		3,327,759	8,817	
14		3,345,971	18,212	
15		3,345,971	0	
16		3,345,971	0	
17		3,347,063	1,092	15:43 Inhibit / 23:40 Enable
18		3,432,906	85,843	
19		3,452,900	19,993	
20		3,493,235	40,335	
21		3,556,657	63,422	
22		3,647,668	91,011	
23		3,686,546	38,878	23:12 Inhibit
24		3,724,208	37,661	22:38 Enable
25		3,772,904	48,696	
26		3,873,922	101,017	
27		3,875,904	1,982	
28		3,911,777	35,873	11:31 Inhibit / 11:31 Enable
29		3,980,275	68,497	
30		4,063,660	83,384	
31		4,099,660	36,000	
		1,212,739	**1,212,729**	


December
2023
140000
120000
100000
80000
60000
40000
20000
0
Gallons
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
Day

APPENDIX C

HYDRAULIC MONITORING TABLES

TABLE C-1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - DECEMBER 2023

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								3/22/2023 1531	2.48	693.64	0.00	693.64	
MNW								5/30/2023 1235	3.62	692.50	0.00	692.50	
MNW								6/21/2023 1034	3.94	692.18	0.00	692.18	
MNW								9/20/2023 1103	3.76	692.36	0.00	692.36	
MNW								12/19/2023 1117	2.65	693.47	0.00	693.47	
GW-01S	1073087.779	1117961.500	694.53	NM	696.19	S	1						
MNW								3/22/2023 1530	3.32	692.87	0.00	692.87	
MNW								5/30/2023 1236	5.03	691.16	0.00	691.16	
MNW								6/21/2023 1033	5.91	690.28	0.00	690.28	
MNW								9/20/2023 1102	5.34	690.85	0.00	690.85	
MNW								12/19/2023 1115	2.95	693.24	0.00	693.24	
GW-03D	1073819.106	1114602.426	692.35	NM	693.88	D	1						
MNW								3/22/2023 1423	1.50	692.38	0.00	692.38	
MNW								5/30/2023 0852	2.13	691.75	0.00	691.75	
MNW								6/21/2023 0913	2.23	691.65	0.00	691.65	
MNW								9/20/2023 0954	1.90	691.98	0.00	691.98	
MNW								12/19/2023 0942	1.37	692.51	0.00	692.51	
GW-03S	1073812.622	1114605.762	692.61	NM	693.80	S	1						
MNW								3/22/2023 1424	2.36	691.44	0.00	691.44	
MNW								5/30/2023 0851	4.27	689.53	0.00	689.53	
MNW								6/21/2023 0912	6.83	686.97	0.00	686.97	
MNW								9/20/2023 0953	11.83	681.97	0.00	681.97	
MNW								12/19/2023 0941	4.42	689.38	0.00	689.38	

NM - No Measurement

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Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE C-1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - DECEMBER 2023

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-04D	1072289.432	1114685.625	690.89	NM	692.75	D	1						
MNW								3/22/2023 1541	12.56	680.19	0.00	680.19	
MNW								5/30/2023 1515	12.43	680.32	0.00	680.32	
MNW								6/21/2023 1046	12.99	679.76	0.00	679.76	
MNW								9/20/2023 1110	12.98	679.77	0.00	679.77	
MNW								12/19/2023 1127	12.38	680.37	0.00	680.37	
GW-04S	1072284.456	1114685.127	690.76	NM	692.72	S	1						
MNW								3/22/2023 1542	4.11	688.61	0.00	688.61	
MNW								5/30/2023 1514	5.18	687.54	0.00	687.54	
MNW								6/21/2023 1045	5.79	686.93	0.00	686.93	
MNW								9/20/2023 1109	5.64	687.08	0.00	687.08	
MNW								12/19/2023 1126	3.88	688.84	0.00	688.84	
GW-07D	1071242.458	1117669.925	697.15	NM	699.94	D	1						
MNW								3/22/2023 1523	47.67	652.27	0.00	652.27	
MNW								5/30/2023 1020	43.43	656.51	0.00	656.51	
MNW								6/21/2023 1020	58.35	641.59	0.00	641.59	
MNW								9/20/2023 1055	50.48	649.46	0.00	649.46	
MNW								12/19/2023 1108	44.18	655.76	0.00	655.76	
GW-07S	1071238.157	1117666.265	697.47	NM	699.51	S	1						
MNW								3/22/2023 1524	4.16	695.35	0.00	695.35	
MNW								5/30/2023 1138	5.62	693.89	0.00	693.89	
MNW								6/21/2023 1019	6.52	692.99	0.00	692.99	
MNW								9/20/2023 1052	6.76	692.75	0.00	692.75	
MNW								12/19/2023 1109	4.64	694.87	0.00	694.87	

NM - No Measurement

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Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE C-1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - DECEMBER 2023

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-08D	1073713.617	1116795.328	695.28	NM	697.79	D	1						
MNW								3/22/2023 1435	5.40	692.39	0.00	692.39	
MNW								5/30/2023 0904	6.16	691.63	0.00	691.63	
MNW								6/21/2023 0925	6.27	691.52	0.00	691.52	
MNW								9/20/2023 1006	5.91	691.88	0.00	691.88	
MNW								12/19/2023 0955	5.23	692.56	0.00	692.56	
GW-08SR	1073714.172	1116786.343	695.08	NM	697.50	S	1						
MNW								3/22/2023 1436	5.00	692.50	0.00	692.50	
MNW								5/30/2023 0905	5.43	692.07	0.00	692.07	
MNW								6/21/2023 0924	5.59	691.91	0.00	691.91	
MNW								9/20/2023 1005	5.21	692.29	0.00	692.29	
MNW								12/19/2023 0956	5.13	692.37	0.00	692.37	
GW-26D	1071698.573	1115997.470	696.01	NM	698.50	D	1						
MNW								3/22/2023 1511	6.29	692.21	0.00	692.21	
MNW								5/30/2023 0950	6.98	691.52	0.00	691.52	
MNW								6/21/2023 1008	7.08	691.42	0.00	691.42	
MNW								9/20/2023 1042	6.75	691.75	0.00	691.75	
MNW								12/19/2023 1055	6.15	692.35	0.00	692.35	
GW-28S	1073129.479	1117648.927	698.60	NM	700.95	S	1						
MNW								3/22/2023 1441	8.22	692.73	0.00	692.73	
MNW								5/30/2023 0910	9.94	691.01	0.00	691.01	
MNW								6/21/2023 0931	10.63	690.32	0.00	690.32	
MNW								9/20/2023 1014	10.70	690.25	0.00	690.25	
MNW								12/19/2023 1003	8.50	692.45	0.00	692.45	

NM - No Measurement

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Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE C-1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - DECEMBER 2023

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								3/22/2023 1454	6.20	693.43	0.00	693.43	
MNW								5/30/2023 0932	9.32	690.31	0.00	690.31	
MNW								6/21/2023 0946	9.89	689.74	0.00	689.74	
MNW								9/20/2023 1029	9.95	689.68	0.00	689.68	
MNW								12/19/2023 1020	5.82	693.81	0.00	693.81	
GW-30S	1072096.109	1117743.563	693.67	NM	696.58	S	1						
MNW								3/22/2023 1457	7.52	689.06	0.00	689.06	
MNW								5/30/2023 0935	8.00	688.58	0.00	688.58	
MNW								6/21/2023 0950	8.06	688.52	0.00	688.52	
MNW								9/20/2023 1033	8.14	688.44	0.00	688.44	
MNW								12/19/2023 1025	7.36	689.22	0.00	689.22	
GW-31S	1071786.280	1117191.441	695.84	NM	698.62	S	1						
MNW								3/22/2023 1500	2.58	696.04	0.00	696.04	
MNW								5/30/2023 0939	5.40	693.22	0.00	693.22	
MNW								6/21/2023 0954	6.73	691.89	0.00	691.89	
MNW								9/20/2023 1036	7.61	691.01	0.00	691.01	
MNW								12/19/2023 1030	2.48	696.14	0.00	696.14	
GW-32S	1071613.793	1116364.200	696.19	NM	698.37	S	1						
MNW								3/22/2023 1507	2.52	695.85	0.00	695.85	
MNW								5/30/2023 0943	5.08	693.29	0.00	693.29	
MNW								6/21/2023 0958	5.98	692.39	0.00	692.39	
MNW								9/20/2023 1038	6.31	692.06	0.00	692.06	
MNW								12/19/2023 1036	2.22	696.15	0.00	696.15	

NM - No Measurement

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Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE C-1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - DECEMBER 2023

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-33S	1072165.625	1115561.866	695.94	NM	698.24	S	1						
MNW								3/22/2023 1514	4.11	694.13	0.00	694.13	
MNW								5/30/2023 0953	6.11	692.13	0.00	692.13	
MNW								6/21/2023 1012	7.68	690.56	0.00	690.56	
MNW								9/20/2023 1048	5.28	692.96	0.00	692.96	
MNW								12/19/2023 1059	3.26	694.98	0.00	694.98	
GW-34S	1072979.205	1114730.200	692.51	NM	694.77	S	1						
MNW								3/22/2023 1413	2.55	692.22	0.00	692.22	
MNW								5/30/2023 0844	3.81	690.96	0.00	690.96	
MNW								6/21/2023 0901	5.27	689.50	0.00	689.50	
MNW								9/20/2023 0941	5.12	689.65	0.00	689.65	
MNW								12/19/2023 0926	2.23	692.54	0.00	692.54	
GW-35S	1071701.925	1115985.585	696.19	NM	697.39	S	1						
MNW								3/22/2023 1510	3.09	694.30	0.00	694.30	
MNW								5/30/2023 0949	4.66	692.73	0.00	692.73	
MNW								6/21/2023 1007	5.61	691.78	0.00	691.78	
MNW								9/20/2023 1043	6.03	691.36	0.00	691.36	
MNW								12/19/2023 1054	3.18	694.21	0.00	694.21	
MH-01	1073806.665	1114810.501	698.62	NM	698.62	NA	1						
MH								3/22/2023 1420	10.48	688.14	0.00	688.14	
MH								5/30/2023 0847	9.66	688.96	0.00	688.96	
MH								6/21/2023 0907	9.65	688.97	0.00	688.97	
MH								9/20/2023 0945	10.12	688.50	0.00	688.50	
MH								12/19/2023 0936	10.47	688.15	0.00	688.15	

NM - No Measurement

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Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE C-1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - DECEMBER 2023

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-03	1073736.789	1115259.334	699.40	NM	699.40	NA	1						
MH								3/22/2023 1429	11.19	688.21	0.00	688.21	
MH								5/30/2023 0856	10.57	688.83	0.00	688.83	
MH								6/21/2023 0918	10.55	688.85	0.00	688.85	
MH								9/20/2023 0959	11.00	688.40	0.00	688.40	
MH								12/19/2023 0947	11.28	688.12	0.00	688.12	
MH-07	1073838.229	1116243.757	696.82	NM	696.82	NA	1						
MH								3/22/2023 1432	9.40	687.42	0.00	687.42	
MH								5/30/2023 0900	8.79	688.03	0.00	688.03	
MH								6/21/2023 0921	8.77	688.05	0.00	688.05	
MH								9/20/2023 1001	9.18	687.64	0.00	687.64	
MH								12/19/2023 0949	9.50	687.32	0.00	687.32	
MH-10	1073540.729	1117381.524	703.01	NM	703.01	NA	1						
MH								3/22/2023 1439	14.49	688.52	0.00	688.52	
MH								5/30/2023 0907	14.52	688.49	0.00	688.49	
MH								6/21/2023 0927	14.54	688.47	0.00	688.47	
MH								9/20/2023 1011	14.52	688.49	0.00	688.49	
MH								12/19/2023 0959	14.60	688.41	0.00	688.41	
MH-15	1072531.567	1117761.125	699.02	NM	699.02	NA	1						
MH								3/22/2023 1453	12.25	686.77	0.00	686.77	
MH								5/30/2023 0931	14.06	684.96	0.00	684.96	
MH								6/21/2023 0945	14.44	684.58	0.00	684.58	
MH								9/20/2023 1028	14.25	684.77	0.00	684.77	
MH								12/19/2023 1021	13.87	685.15	0.00	685.15	

NM - No Measurement

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Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

TABLE C-1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - DECEMBER 2023

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						
MH								3/22/2023 1456	11.90	686.67	0.00	686.67	
MH								5/30/2023 0934	13.71	684.86	0.00	684.86	
MH								6/21/2023 0949	14.19	684.38	0.00	684.38	
MH								9/20/2023 1032	13.85	684.72	0.00	684.72	
MH								12/19/2023 1024	13.47	685.10	0.00	685.10	
MH-17	1071813.137	1117180.019	702.16	NM	702.16	NA	1						
MH								3/22/2023 1459	15.50	686.66	0.00	686.66	
MH								5/30/2023 0938	17.26	684.90	0.00	684.90	
MH								6/21/2023 0953	17.86	684.30	0.00	684.30	
MH								9/20/2023 1035	17.48	684.68	0.00	684.68	
MH								12/19/2023 1027	17.08	685.08	0.00	685.08	
MH-20	1071756.395	1115997.024	706.20	NM	706.20	NA	1						
MH								3/22/2023 1509	19.51	686.69	0.00	686.69	
MH								5/30/2023 0947	19.76	686.44	0.00	686.44	
MH								6/21/2023 1006	19.75	686.45	0.00	686.45	
MH								9/20/2023 1041	19.74	686.46	0.00	686.46	
MH								12/19/2023 1051	19.78	686.42	0.00	686.42	
MH-22	1072158.023	1115589.309	698.05	NM	698.05	NA	1						
MH								3/22/2023 1513	9.26	688.79	0.00	688.79	
MH								5/30/2023 0952	9.00	689.05	0.00	689.05	
MH								6/21/2023 1013	9.05	689.00	0.00	689.00	
MH								9/20/2023 1047	9.04	689.01	0.00	689.01	
MH								12/19/2023 1058	8.97	689.08	0.00	689.08	

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

Filter = (Year([tblGWD].[LOGDATE])=(Year(Date())-1))

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TABLE C-1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - DECEMBER 2023

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-25	1072483.928	1114820.313	698.17	NM	698.17	NA	1						
MH								3/22/2023 1407	10.02	688.15	0.00	688.15	
MH								5/30/2023 0839	9.30	688.87	0.00	688.87	
MH								6/21/2023 0857	9.27	688.90	0.00	688.90	
MH								9/20/2023 0935	9.73	688.44	0.00	688.44	
MH								12/19/2023 0918	10.09	688.08	0.00	688.08	
SG-01	1073882.887	1114813.101	NM	NM	690.00	NA	1						
SG								3/22/2023 1422	-0.78	690.78	0.00	690.78	
SG								5/30/2023 0849	NM	-	NM	-	Dry at -0.80'
SG								6/21/2023 0909	NM	-	NM	-	Dry at -0.80'
SG								9/20/2023 0946	NM	-	NM	-	Dry at -0.76'
SG								12/19/2023 0938	-0.82	690.82	0.00	690.82	
SG-02	1073738.27	1116805.85	NM	NM	690.00	NA	1						
SG								3/22/2023 1437	-3.43	693.43	0.00	693.43	
SG								5/30/2023 0903	NM	-	NM	-	Dry at -3.20'
SG								6/21/2023 0926	NM	-	NM	-	Dry at -3.15'
SG								9/20/2023 1008	-3.30	693.30	0.00	693.30	
SG								12/19/2023 0952	-3.44	693.44	0.00	693.44	
WW-01	1073676.903	1115710.476	NM	NM	684.02	NA	1						
MH								3/22/2023 1400	-4.20	688.22	0.00	688.22	
MH								5/30/2023 0715	-4.70	688.72	0.00	688.72	
MH								6/21/2023 0820	-4.70	688.72	0.00	688.72	
MH								9/20/2023 0830	-4.40	688.42	0.00	688.42	
MH								12/19/2023 0830	-3.90	687.92	0.00	687.92	

NM - No Measurement

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

Note: The depth to water values for the SG and WW locations are height of water measurements. Therefore, they are entered as negative values and the corresponding elevations are adjusted accordingly.

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

Filter = (Year([tblGWD].[LOGDATE])=(Year(Date())-1))

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TABLE C-1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - DECEMBER 2023

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-02	1073684.724	1116792.311	NM	NM	684.18	NA	1						
MH								3/22/2023 1400	-4.70	688.88	0.00	688.88	
MH								5/30/2023 0715	-4.60	688.78	0.00	688.78	
MH								6/21/2023 0820	-4.60	688.78	0.00	688.78	
MH								9/20/2023 0830	-4.60	688.78	0.00	688.78	
MH								12/19/2023 0830	-4.50	688.68	0.00	688.68	
WW-03	1073140.339	1117618.499	NM	NM	683.80	NA	1						
MH								3/22/2023 1443	-4.79	688.59	0.00	688.59	
MH								5/30/2023 0911	-4.72	688.52	0.00	688.52	
MH								6/21/2023 0933	-4.72	688.52	0.00	688.52	
MH								9/20/2023 1015	-4.71	688.51	0.00	688.51	
MH								12/19/2023 1005	-4.66	688.46	0.00	688.46	
WW-04	1072057.563	1117610.508	NM	NM	676.62	NA	1						
MH								3/22/2023 1400	-9.50	686.12	0.00	686.12	
MH								5/30/2023 0715	-7.70	684.32	0.00	684.32	
MH								6/21/2023 0820	-7.20	683.82	0.00	683.82	
MH								9/20/2023 0830	-7.50	684.12	0.00	684.12	
MH								12/19/2023 0830	-7.90	684.52	0.00	684.52	
WW-05	1071661.368	1116370.876	NM	NM	676.14	NA	1						
MH								3/22/2023 1400	-9.60	685.74	0.00	685.74	
MH								5/30/2023 0715	-7.50	683.64	0.00	683.64	
MH								6/21/2023 0820	-7.00	683.14	0.00	683.14	
MH								9/20/2023 0830	-7.30	683.44	0.00	683.44	
MH								12/19/2023 0830	-7.70	683.84	0.00	683.84	

NM - No Measurement

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

Note: The depth to water values for the SG and WW locations are height of water measurements. Therefore, they are entered as negative values and the corresponding elevations are adjusted accordingly.

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

Filter = (Year([tblGWD].[LOGDATE])=(Year(Date())-1))

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TABLE C-1
PFOHL BROTHERS LANDFILL SITE
GROUNDWATER ELEVATIONS
JANUARY - DECEMBER 2023

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								3/22/2023 1400	-7.10	688.99	0.00	688.99	
MH								5/30/2023 0715	-7.50	689.39	0.00	689.39	
MH								6/21/2023 0820	-7.40	689.29	0.00	689.29	
MH								9/20/2023 0830	-7.20	689.09	0.00	689.09	
MH								12/19/2023 0830	-6.80	688.69	0.00	688.69	

NM - No Measurement

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

Note: The depth to water values for the SG and WW locations are height of water measurements. Therefore, they are entered as negative values and the corresponding elevations are adjusted accordingly.

Type:

MH	Manhole Monitoring Point
MNW	Monitoring Well
SG	Staff Gauge

Filter = (Year([tblGWD].[LOGDATE])=(Year(Date())-1))

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TABLE C-2
PFOHL BROTHERS LANDFILL SITE
OVERBURDEN HYDRAULIC GRADIENT

WELL PAIR:	WW-1	*	Level	WW-2	GW-8SR	Level	WW-2	SG-02	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
3/22/2023	688.22	---	---	688.88	692.50	3.62	688.88	693.43	4.55
5/30/2023	688.72	---	---	688.78	692.07	3.29	688.78	DRY	NA
6/21/2023	688.72	---	---	688.78	691.91	3.13	688.78	DRY	NA
9/20/2023	688.42	---	---	688.78	692.29	3.51	688.78	693.30	4.52
12/19/2023	687.92	---	---	688.68	692.37	3.69	688.68	693.44	4.76

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)
3/22/2023	688.59	692.73	4.14	686.12	---	---
5/30/2023	688.52	691.01	2.49	684.32	---	---
6/21/2023	688.52	690.32	1.80	683.82	---	---
9/20/2023	688.51	690.25	1.74	684.12	---	---
12/19/2023	688.46	692.45	3.99	684.52	---	---

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)
3/22/2023	685.74	695.85	10.11	688.99	692.22	3.23
5/30/2023	683.64	693.29	9.65	689.39	690.96	1.57
6/21/2023	683.14	692.39	9.25	689.29	689.50	0.21
9/20/2023	683.44	692.06	8.62	689.09	689.65	0.56
12/19/2023	683.84	696.15	12.31	688.69	692.54	3.85

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)
3/22/2023	688.14	690.78	2.64	686.77	693.43	6.66
5/30/2023	688.96	DRY	NA	684.96	690.31	5.35
6/21/2023	688.97	DRY	NA	684.58	689.74	5.16
9/20/2023	688.50	DRY	NA	684.77	689.68	4.91
12/19/2023	688.15	690.82	2.67	685.15	693.81	8.66

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 amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
3/22/2023	686.67	689.06	2.39	686.66	696.04	9.38
5/30/2023	684.86	688.58	3.72	684.90	693.22	8.32
6/21/2023	684.38	688.52	4.14	684.30	691.89	7.59
9/20/2023	684.72	688.44	3.72	684.68	691.01	6.33
12/19/2023	685.10	689.22	4.12	685.08	696.14	11.06

WELL PAIR:	MH-20	GW-35S	Level	MH-22	GW-33S	Level
	Water Level	Water Level	Difference	Water Level	Water Level	Difference
DATE	(ft amsl)	(ft amsl)	(ft)	(ft amsl)	(ft amsl)	(ft)
3/22/2023	686.69	694.30	7.61	688.79	694.13	5.34
5/30/2023	686.44	692.73	6.29	689.05	692.13	3.08
6/21/2023	686.45	691.78	5.33	689.00	690.56	1.56
9/20/2023	686.46	691.36	4.90	689.01	692.96	3.95
12/19/2023	686.42	694.21	7.79	689.08	694.98	5.90

Notes:

* = No corresponding monitoring well.
NA = Not applicable

APPENDIX D

GROUNDWATER PURGE AND SAMPLE COLLECTION LOGS

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-01S

Date: 5/30/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 5.03' Depth to Well Bottom: 14.94' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.1 Estimated Purge Volume (liters): 7.0

Sample ID: GW-01S-05302023 Sample Time: 14:45 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information: Riser pipe is bulged inwards, could not remove stainless steel bailer from within well, sampled around it.

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:10	7.14	13.2	1410	0.24	706.5	-163.9	200	5.03
14:15	7.30	12.9	1018	0.17	462.9	-174.2	200	5.97
14:20	7.36	12.5	972	0.14	205.4	-175.8	200	6.04
14:25	7.36	12.7	985	0.12	52.0	-179.9	200	6.07
14:30	7.35	12.6	993	0.11	32.2	-183.0	200	6.08
14:35	7.34	12.7	999	0.09	16.7	-186.0	200	6.11
14:40	7.34	12.7	1010	0.08	16.8	-187.6	200	6.12
14:45	7.34	12.8	1016	0.07	12.0	-185.9	200	6.14
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-01D

Date: 5/30/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 3.62' Depth to Well Bottom: 39.65' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 89.0 Estimated Purge Volume (liters): 64.4

Sample ID: GW-01D-05302023 Sample Time: 13:53 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:43	7.64	11.0	1468	0.14	27.0	-141.0	920	3.62
12:48	7.64	10.6	1451	0.09	68.0	-150.3	920	3.69
12:53	7.67	10.6	1441	0.07	74.1	-155.5	920	3.69
12:58	7.69	10.5	1453	0.06	131.1	-176.6	920	3.69
13:03	7.68	10.3	1405	0.05	145.8	-213.4	920	3.69
13:08	7.64	10.4	1436	0.05	158.6	-234.9	920	3.69
13:13	7.62	10.3	1453	0.05	183.8	-246.7	920	3.69
13:18	7.60	10.3	1377	0.04	235.9	-252.1	920	3.69
13:23	7.58	10.3	1349	0.04	289.1	-256.1	920	3.69
13:28	7.57	10.3	1352	0.04	295.9	-258.5	920	3.69
13:33	7.58	10.4	1354	0.04	36.5	-262.7	920	3.69
13:38	7.56	10.5	1459	0.04	35.3	-264.6	920	3.69
13:43	7.52	10.4	1460	0.04	37.3	-264.7	920	3.69
13:48	7.51	10.5	1457	0.04	40.1	-267.2	920	3.69
13:53	7.55	10.5	1459	0.05	41.8	-270.2	920	3.69
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-03S

Date: 5/31/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 4.44' Depth to Well Bottom: 13.22' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 5.4 Estimated Purge Volume (liters): 5.8

Sample ID: GW-03S-05312023 Sample Time: 8:55 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:15	6.92	11.7	1903	0.67	8.0	31.7	145	4.44
8:20	6.94	11.4	1838	0.46	1.4	6.4	145	6.44
8:25	7.00	11.0	1834	0.45	0.0	-0.5	145	7.06
8:30	7.05	11.1	1779	0.46	0.0	-2.8	145	7.62
8:35	7.09	11.0	1749	0.70	0.0	-3.5	145	8.10
8:40	7.11	10.9	1760	0.75	0.0	-2.9	145	8.61
8:45	7.14	11.0	1779	0.96	0.0	-1.7	145	8.75
8:50	7.09	11.0	1799	0.77	0.0	1.8	145	8.76
8:55	7.07	11.0	1812	0.63	0.0	2.9	145	8.74
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**		

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-03D

Date: 5/31/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 2.15' Depth to Well Bottom: 35.70' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 82.9 Estimated Purge Volume (liters): 57.6

Sample ID: GW-03D-05312023 Sample Time: 10:05 QA/QC: Duplicate GW-03D-05312023-a

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:05	7.20	9.5	1476	0.18	13.4	-84.3	960	2.15
9:10	7.17	9.5	1434	0.08	7.1	-111.9	960	2.15
9:15	7.16	9.4	1454	0.07	0.7	-117.3	960	2.15
9:20	7.16	9.4	1468	0.06	1.2	-124.5	960	2.15
9:25	7.16	9.4	1477	0.06	1.3	-129.9	960	2.15
9:30	7.17	9.4	1436	0.05	0.3	-134.7	960	2.15
9:35	7.17	9.4	1471	0.05	0.0	-139.4	960	2.15
9:40	7.17	9.4	1441	0.05	0.0	-142.9	960	2.15
9:45	7.18	9.5	1443	0.04	0.0	-146.1	960	2.15
9:50	7.18	9.4	1449	0.04	0.0	-149.4	960	2.15
9:55	7.18	9.4	1471	0.04	0.0	-152.1	960	2.15
10:00	7.19	9.4	1430	0.04	0.0	-153.6	960	2.15
10:05	7.19	9.5	1437	0.04	0.0	-155.7	960	2.15
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-04S

PROJECT NO.: 60411174

STAFF: Rob Murphy, Tom Urban, Alyssa Sands

DATE(S): 5/30/23

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	16.23	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.18	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	11.05	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	1.88	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=		6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	5.0	8"	2.60

$V=0.0408 \times (\text{CASING DIAMETER [INCHES]})^{c}$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	1.0	2.0	3.0	4.0	5.0		Sample			
pH	8.59	8.81	8.69	8.63	8.69	8.70		8.50			
SPEC. COND. (uS/cm)	572	565	578	563	561	558		588			
DO (mg/l)	4.57	5.08	6.15	4.09	3.65	3.46		4.30			
TEMPERATURE (^{0}C)	17.3	13.6	12.0	11.6	11.0	10.7		14.4			
TURBIDITY (NTU)	0.0	3.6	36.4	35.8	142.2	258.3		183.0			
ORP (millivolts)	-36.9	-38.1	-32.8	-34.4	-46.1	-68.0		-158.0			
TIME	15:32	15:34	15:36	15:38	15:40	15:42		17:00			

COMMENTS:
15:20 - Fill VOCs from passive diffusion bag (PDB), PDB was installed on 3/23/2023.
15:32 - Begin hand bailing well.
15:42 - Well dry after removing 5.0 gallons.
17:00 - Return to well, depth to water = 14.09 feet.
17:00 - Collect sample for SVOCs and Metals.

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-04D

Date: 5/30/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 12.43' Depth to Well Bottom: 45.57' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 81.9 Estimated Purge Volume (liters): 9.0

Sample ID: GW-04D-05302023 Sample Time: 16:50 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:50	7.66	14.3	1876	4.56	37.3	-119.9	150	12.43
15:55	7.50	13.4	1925	0.51	0.2	-196.2	150	12.69
16:00	7.50	12.6	1924	0.40	0.0	-214.1	150	12.87
16:05	7.52	12.3	1925	0.34	0.0	-221.6	150	13.02
16:10	7.52	12.2	1927	0.31	0.0	-233.4	150	13.15
16:15	7.52	12.8	1935	0.29	0.0	-243.7	150	13.20
16:20	7.54	12.3	1930	0.30	0.0	-245.0	150	13.31
16:25	7.51	12.2	1946	0.28	2.3	-255.5	150	13.37
16:30	7.47	12.1	1975	0.22	0.0	-266.1	150	13.50
16:35	7.45	11.9	2004	0.18	0.0	-273.2	150	13.67
16:40	7.44	11.7	2007	0.16	0.0	-273.7	150	13.71
16:44	7.44	11.8	2014	0.21	1.0	-275.3	150	13.75
16:50	7.43	12.0	2019	0.17	0.0	-277.9	150	13.77
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-07S

PROJECT NO.: 60411174

STAFF: Rob Murphy, Tom Urban, Alyssa Sands

DATE(S): 5/30/23 & 5/31/23

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	35.33	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	5.62	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	29.71	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.17	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	5.05	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=		6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	8.0	8"	2.60

$V=0.0408 \times (\text{CASING DIAMETER [INCHES]})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	2.0	4.0	6.0	8.0		Sample				
pH	8.10	8.11	8.05	8.00	7.97		7.69				
SPEC. COND. (uS/cm)	852	844	850	847	833		885				
DO (mg/l)	3.39	5.29	5.42	6.84	6.27		7.84				
TEMPERATURE (^{0}C)	14.6	12.0	12.1	12.1	12.6		14.1				
TURBIDITY (NTU)	59.64	0.00	6.99	46.12	269.25		0.00				
ORP (millivolts)	-171.158	-125.654	-110.0	-96.1	-89.5		-36.8				
TIME	11:48	11:51	11:55	11:59	12:02		10:55 on 5/31				

COMMENTS: 11:45 - Fill VOCs from passive diffusion bag (PDB), PDB was installed on 3/23/2023.
11:48 - Begin hand bailing well.
12:02 - Well dry after removing 8.0 gallons.
5/31/2023 10:55 - Return to well, depth to water = 6.10 feet.
10:55 - Collect sample for SVOCs and Metals.

WELL PURGING LOG

URS Corporation

SITE NAME: Pfohl Brothers Landfill WELL NO.: GW-07D

PROJECT NO.: 60411174

STAFF: Rob Murphy, Tom Urban, Alyssa Sands

DATE(S): 5/30/23 & 5/31/23

			WELL ID.	VOL. (GAL/FT)
1. TOTAL CASING AND SCREEN LENGTH (FT.)	=	60.83	1"	0.040
2. WATER LEVEL BELOW TOP OF CASING (FT.)	=	43.43	2"	0.17
3. NUMBER OF FEET STANDING WATER (#1 - #2)	=	17.40	3"	0.38
4. VOLUME OF WATER/FOOT OF CASING (GAL.)	=	0.66	4"	0.66
5. VOLUME OF WATER IN CASING (GAL.)(#3 x #4)	=	11.48	5"	1.04
6. VOLUME OF WATER TO REMOVE (GAL.)(#5 x 3)	=		6"	1.50
7. VOLUME OF WATER ACTUALLY REMOVED (GAL.)	=	11.5	8"	2.60

$V=0.0408 \times (\text{CASING DIAMETER [INCHES]})^2$

	ACCUMULATED VOLUME PURGED (GALLONS)										
PARAMETERS	Initial	3.0	6.0	9.0	11.5		Sample				
pH	7.46	7.66	7.73	7.77	7.88		7.94				
SPEC. COND. (uS/cm)	770.6	799.4	879.7	956.3	972.4		884.4				
DO (mg/l)	2.66	4.66	6.88	8.10	7.41		7.57				
TEMPERATURE (^{0}C)	17.8	15.5	14.0	13.7	13.4		17.6				
TURBIDITY (NTU)	0.00	0.37	1.18	3.99	17.17		98.15				
ORP (millivolts)	142.8	-152.3	-197.0	-211.4	-217.3		-45.9				
TIME	10:42	10:51	10:59	11:06	11:18		10:35 on 5/31				

COMMENTS: 10:25 - Fill VOCs from passive diffusion bag (PDB), PDB was installed on 3/23/2023.
10:42 - Begin hand bailing well.
11:06 - Well dry after removing 11.5 gallons.
5/31/2023 10:35 - return to well, depth to water = 59.96 feet.
10:35 - Collect sample for SVOCs and Metals.

Strong Sulfur Odor

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-08SR

Date: 5/31/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 5.38' Depth to Well Bottom: 13.02' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 4.7 Estimated Purge Volume (liters): 9.2

Sample ID: GW-08SR-05312023 Sample Time: 13:54 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:09	6.77	20.9	1960	6.76	309.5	-16.0	205	5.38
13:14	6.60	13.3	2287	0.29	183.5	-47.9	205	6.80
13:19	6.69	13.7	1840	0.20	95.7	-54.2	205	7.41
13:24	6.70	13.8	1820	0.19	90.3	-54.6	205	7.87
13:29	6.88	12.6	1653	0.29	39.8	-105.1	205	8.18
13:34	6.82	13.0	1682	0.19	11.7	-119.0	205	8.43
13:39	6.82	13.2	1769	0.21	12.1	-125.6	205	8.40
13:44	6.82	13.0	1877	0.21	5.9	-130.0	205	8.41
13:49	6.79	12.8	1948	0.20	12.0	-133.9	205	8.43
13:54	6.78	12.9	2041	0.19	3.7	-136.3	205	8.41
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-08D

Date: 5/31/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 6.18' Depth to Well Bottom: 36.54' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 75.0 Estimated Purge Volume (liters): 55.8

Sample ID: GW-08D-05312023 Sample Time: 15:08 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
14:08	7.19	25.3	244	8.75	16.1	-9.3	930	6.18
14:13	7.09	10.7	1399	0.32	18.2	-19.7	930	6.18
14:18	7.14	10.5	1349	0.30	17.1	-17.2	930	6.18
14:23	7.15	10.6	1369	0.21	10.2	-19.7	930	6.18
14:28	7.20	10.6	1407	0.16	5.6	-24.1	930	6.18
14:33	7.22	10.6	1360	0.14	6.2	-25.0	930	6.18
14:38	7.23	10.5	1404	0.12	6.3	-28.4	930	6.18
14:43	7.24	10.6	1357	0.10	9.2	-28.5	930	6.18
14:48	7.25	10.6	1361	0.10	6.7	-29.5	930	6.18
14:53	7.25	10.6	1373	0.09	7.4	-30.4	930	6.18
14:58	7.25	10.6	1362	0.08	11.1	-31.0	930	6.18
15:03	7.25	10.6	1347	0.08	8.7	-31.9	930	6.18
15:08	7.23	10.6	1398	0.07	11.0	-30.7	930	6.18
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-26D

Date: 5/31/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 7.00' Depth to Well Bottom: 40.70' Well Diameter: 4" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 83.2 Estimated Purge Volume (liters): 54.0

Sample ID: GW-26D-05312023 Sample Time: 16:40 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
15:40	7.23	17.9	1771	2.75	5678.4	-7.4	900	7.00
15:45	6.99	12.1	1943	0.11	179.7	-90.7	900	7.00
15:50	6.99	12.0	2002	0.08	45.2	-113.8	900	7.00
15:59	7.06	12.0	1974	0.05	7.1	-133.0	900	7.00
16:00	7.06	12.0	1975	0.06	10.1	-133.3	900	7.00
16:05	7.07	12.0	1989	0.06	15.5	-136.9	900	7.00
16:10	7.08	12.0	1943	0.05	14.3	-141.9	900	7.00
16:15	7.09	11.9	1956	0.05	16.4	-143.7	900	7.00
16:20	7.09	11.9	1957	0.05	3.6	-146.7	900	7.00
16:25	7.08	11.9	1971	0.05	14.6	-148.4	900	7.00
16:30	7.08	12.0	1986	0.05	5.9	-149.4	900	7.00
16:35	7.07	12.0	1952	0.05	5.8	-151.4	900	7.00
16:40	7.06	11.9	1948	0.04	4.8	-152.1	900	7.00
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-28S

Date: 6/1/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 10.00' Depth to Well Bottom: 15.52' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 3.4 Estimated Purge Volume (liters): 5.6

Sample ID: GW-28S-06012023 Sample Time: 8:54 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
8:19	7.48	14.6	628	1.71	10.8	158.8	160	10.00
8:24	7.15	12.5	616	0.39	0.0	70.5	160	10.74
8:29	7.16	11.6	612	0.27	0.0	29.0	160	11.03
8:34	7.20	11.6	606	0.21	0.5	14.7	160	11.15
8:39	7.24	11.4	597	0.28	0.0	5.9	160	11.14
8:44	7.28	11.6	598	0.47	0.0	5.7	160	11.16
8:49	7.29	11.6	609	0.58	0.0	13.1	160	11.26
8:54	7.29	11.7	614	0.57	0.0	7.4	160	11.37
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-29S

Date: 6/1/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 9.39' Depth to Well Bottom: 20.04' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.6 Estimated Purge Volume (liters): 6.4

Sample ID: GW-29S-06012023 Sample Time: 9:55 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
9:15	7.40	21.7	373	2.91	200.3	70.0	160	9.39
9:20	7.32	12.7	830	0.36	142.4	18.1	160	10.33
9:25	7.25	12.2	877	0.26	103.5	-37.2	160	10.85
9:30	7.17	12.1	900	0.21	61.5	-63.3	160	11.34
9:35	7.14	12.0	892	0.18	27.9	-73.8	160	11.55
9:40	7.12	12.4	915	0.16	15.2	-82.3	160	11.71
9:45	7.10	12.2	945	0.14	7.2	-87.0	160	11.85
9:50	7.11	12.1	942	0.12	4.2	-91.7	160	12.00
9:55	7.09	12.4	928	0.12	0.0	-93.9	160	12.07
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-30S

Date: 6/1/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 8.00' Depth to Well Bottom: 17.97' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 6.2 Estimated Purge Volume (liters): 8.6

Sample ID: GW-30S-06012023 Sample Time: 10:52 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
10:12	7.20	20.0	880	3.32	654.1	-23.1	215	8.00
10:17	6.88	11.6	1248	0.25	154.8	-57.1	215	8.04
10:22	6.89	11.1	1273	0.15	90.7	-73.3	215	8.04
10:27	6.90	11.1	1338	0.11	57.6	-84.5	215	8.04
10:32	6.92	11.2	1311	0.09	25.6	-93.6	215	8.04
10:37	6.93	11.3	1301	0.08	8.4	-101.9	215	8.04
10:42	6.95	11.1	1339	0.07	3.2	-110.1	215	8.04
10:47	6.95	11.2	1316	0.07	1.7	-111.5	215	8.04
10:52	6.96	11.3	1315	0.08	0.0	-112.7	215	8.04
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-31S

Date: 6/1/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 9.57' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 2.4 Estimated Purge Volume (liters): 7.7

Sample ID: GW-31S-06012023 Sample Time: 11:58 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:13	6.96	31.8	0	7.42	0.0	-56.0	170	5.69
11:18	7.06	14.6	651	3.21	0.0	-9.2	170	6.56
11:23	7.05	14.0	640	2.86	0.0	-31.5	170	7.03
11:28	7.09	14.2	636	1.97	0.0	-65.8	170	7.28
11:33	7.13	13.3	663	1.86	0.0	-77.5	170	7.47
11:38	7.15	13.6	656	1.52	0.0	-79.7	170	7.60
11:43	7.17	13.5	660	1.30	0.0	-83.2	170	7.73
11:48	7.19	13.6	652	0.93	0.0	-83.9	170	7.73
11:52	7.19	13.3	674	0.89	0.0	-87.0	170	7.73
11:58	7.21	13.2	648	0.83	0.0	-87.4	170	7.73
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-32S

Date: 6/1/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 5.22' Depth to Well Bottom: 9.93' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 2.9 Estimated Purge Volume (liters): 4.8

Sample ID: GW-32S-06012023 Sample Time: 12:49 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
12:19	7.16	19.2	603	0.67	2.9	13.7	160	5.22
12:24	7.13	14.8	476	0.57	0.0	5.9	160	5.66
12:29	7.12	14.6	477	0.65	0.0	8.0	160	5.70
12:34	7.15	14.6	478	0.41	0.0	2.1	160	5.72
12:39	7.19	14.6	472	0.31	0.0	-2.8	160	5.76
12:44	7.24	14.6	473	0.29	0.0	-8.1	160	5.80
12:49	7.26	14.1	474	0.28	0.0	-8.8	160	5.80
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-33S

Date: 6/1/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 6.41' Depth to Well Bottom: 8.21' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 1.1 Estimated Purge Volume (liters): 3.5

Sample ID: GW-33S-06012023 Sample Time: 13:33 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
13:08	7.17	30.4	666	2.43	0.0	-26.9	140	6.41
13:13	7.08	17.2	586	1.15	0.0	-33.0	140	6.75
13:18	7.08	16.3	601	0.90	0.0	-21.5	140	6.88
13:23	7.10	17.1	581	0.64	0.0	-5.8	140	7.10
13:28	7.11	17.2	588	0.78	0.0	0.3	140	7.21
13:33	7.13	17.4	603	0.58	0.0	-4.7	140	7.35
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-34S

Date: 5/31/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 3.96' Depth to Well Bottom: 10.01' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 3.7 Estimated Purge Volume (liters): 7.2

Sample ID: GW-34S-05312023 Sample Time: 12:38 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
11:53	7.38	29.3	745	8.59	1.0	14.9	160	3.96
11:58	6.78	14.3	1300	0.44	0.0	-34.6	160	4.57
12:03	6.78	12.5	1264	0.26	0.0	-48.3	160	4.88
12:08	6.84	12.3	1201	0.22	0.0	-58.6	160	4.94
12:13	6.90	12.2	1106	0.24	0.0	-51.8	160	5.03
12:18	6.91	12.5	1071	0.26	0.0	-52.0	160	5.10
12:23	6.94	12.4	1015	0.30	0.0	-66.5	160	5.16
12:28	6.96	12.5	1007	0.33	0.0	-70.7	160	5.20
12:33	6.95	13.0	992	0.32	0.0	-70.6	160	5.25
12:38	6.98	12.5	1016	0.36	0.0	-68.1	160	5.30
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

LOW FLOW GROUNDWATER PURGING/SAMPLING LOG

Project: 60411174 Site: Pfohl Brothers Well I.D.: GW-35S

Date: 5/31/2023 Sampling Personnel: Rob Murphy, Tom Urban, Alyssa Sands 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: 4.86' Depth to Well Bottom: 7.46' Well Diameter: 2" Screen Length:

Casing Type: Stainless Steel Volume in 1 Well Casing (liters): 1.6 Estimated Purge Volume (liters): 3.7

Sample ID: GW-35S-05312023 Sample Time: 17:13 QA/QC: -

Sample Parameters: VOCs, SVOCs, and TAL Metals

Other Information:

PURGE PARAMETERS

TIME	pH	TEMP (°C)	COND. (uS/cm)	DISS. O_2 (mg/l)	TURB. (NTU)	ORP (mV)	FLOW RATE (ml/min.)	DEPTH TO WATER (btor)
16:48	7.87	17.5	537	3.99	4.8	-58.7	150	4.86
16:53	7.43	16.2	508	0.42	0.0	-82.1	150	5.26
16:58	7.36	15.9	490	0.31	0.0	-95.4	150	5.31
17:03	7.33	15.7	497	0.23	0.0	-105.7	150	5.33
17:08	7.32	15.8	498	0.19	0.0	-111.6	150	5.34
17:13	7.32	15.8	498	0.22	0.0	-114.4	150	5.37
Tolerance:	**0.1**	**---**	**3%**	**10%**	**10%**	**+ or - 10**	**---**	

Information: WATER VOLUMES--0.75 inch diameter well = 87 ml/ft.; 1 inch diameter well = 154 ml/ft.; 2 inch diameter well = 617 ml/ft.; 4 inch diameter well = 2470 ml/ft. ($vol_{cyl} = \pi r^2 h$)

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill* Project Number: *60411174*

Sampling Crew Members: *R. Murphy, T. Urban, A. Sands* Supervisor: *R. Murphy*

Date of Sampling: *May 30, 2023*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-07D-05302023	GW-07D	43.5	43.5	10:25	Groundwater	VOCs	Not Applicable
GW-07S-05302023	GW-07S	19.1	30.3	11:45	Groundwater		Not Applicable
GW-01D-05302023	GW-01D	89.0	64.4	13:53	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-01S-05302023	GW-01S	6.1	7.0	14:45	Groundwater		Not Applicable
GW-04S-05302023	GW-04S	6.8	18.9	15:20, 17:00	Groundwater		Not Applicable
GW-04D-05302023	GW-04D	81.9	9.0	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.

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill* Project Number: *60411174*

Sampling Crew Members: *R. Murphy, T. Urban, A. Sands* Supervisor: *R. Murphy*

Date of Sampling: *May 31, 2023*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-03S-05312023	GW-03S	5.4	5.8	8:55	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-03D-05312023	GW-03D	82.9	57.6	10:05	Groundwater		Not Applicable
FD-05312023	GW-03D	82.9	57.6	10:05	Duplicate		Not Applicable
GW-07D-05312023	GW-07D	NA	NA	10:35	Groundwater	SVOCs/ Metals	Not Applicable
GW-07S-05312023	GW-07S	NA	NA	10:55	Groundwater		Not Applicable
GW-34S-05312023	GW-34S	3.7	7.2	12:38	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-08SR-05312023	GW-08SR	4.7	9.2	13:54	Groundwater		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.

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill* Project Number: *60411174*

Sampling Crew Members: *R. Murphy, T. Urban, A. Sands* Supervisor: *R. Murphy*

Date of Sampling: *May 31, 2023*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-08D-05312023	GW-08D	75.0	55.8	15:08	Groundwater	VOCs/SVOCs/ TAL Metals	Not Applicable
GW-08D-05312023	GW-08D	75.0	55.8	15:08	Matrix Spike		Not Applicable
GW-08D-05312023	GW-08D	75.0	55.8	15:08	Spike Duplicate		Not Applicable
GW-26D-05312023	GW-26D	83.2	54.0	16:40	Groundwater		Not Applicable
GW-35S-05312023	GW-35S	1.6	3.7	17:13	Groundwater		Not Applicable
TB-11022022-11032022	-	-	-	-	Trip Blank	VOCs	Not Applicable

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

GROUNDWATER SAMPLING - SAMPLE COLLECTION DATA SHEET

Project Name: *Pfohl Brothers Landfill* Project Number: *60411174*

Sampling Crew Members: *R. Murphy, T. Urban* Supervisor: *R. Murphy*

Date of Sampling: *June 1, 2023*

Sample I.D. Number	***Well Number***	***Well Volume (liters)***	***Volume Purged (liters)***	***Sample Time***	***Sample Description***	***Analysis Required***	***Chain-of-Custody Number***
GW-28S-06012023	GW-28S	3.4	5.6	8:54	Groundwater	VOCs/SVOCs/ Metals	Not Applicable
GW-29S-06012023	GW-29S	6.6	6.4	9:55	Groundwater		Not Applicable
GW-30S-06012023	GW-30S	6.2	8.6	10:52	Groundwater		Not Applicable
GW-31S-06012023	GW-31S	2.4	7.7	11:58	Groundwater		Not Applicable
GW-32S-06012023	GW-32S	2.9	4.8	12:49	Groundwater		Not Applicable
GW-33S-06012023	GW-33S	1.1	3.5	13:33	Groundwater		Not Applicable
TB-06012023	-	-	-	-	Trip Blank	VOCs	Not Applicable

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

APPENDIX E

GROUNDWATER TREND ANALYSIS

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

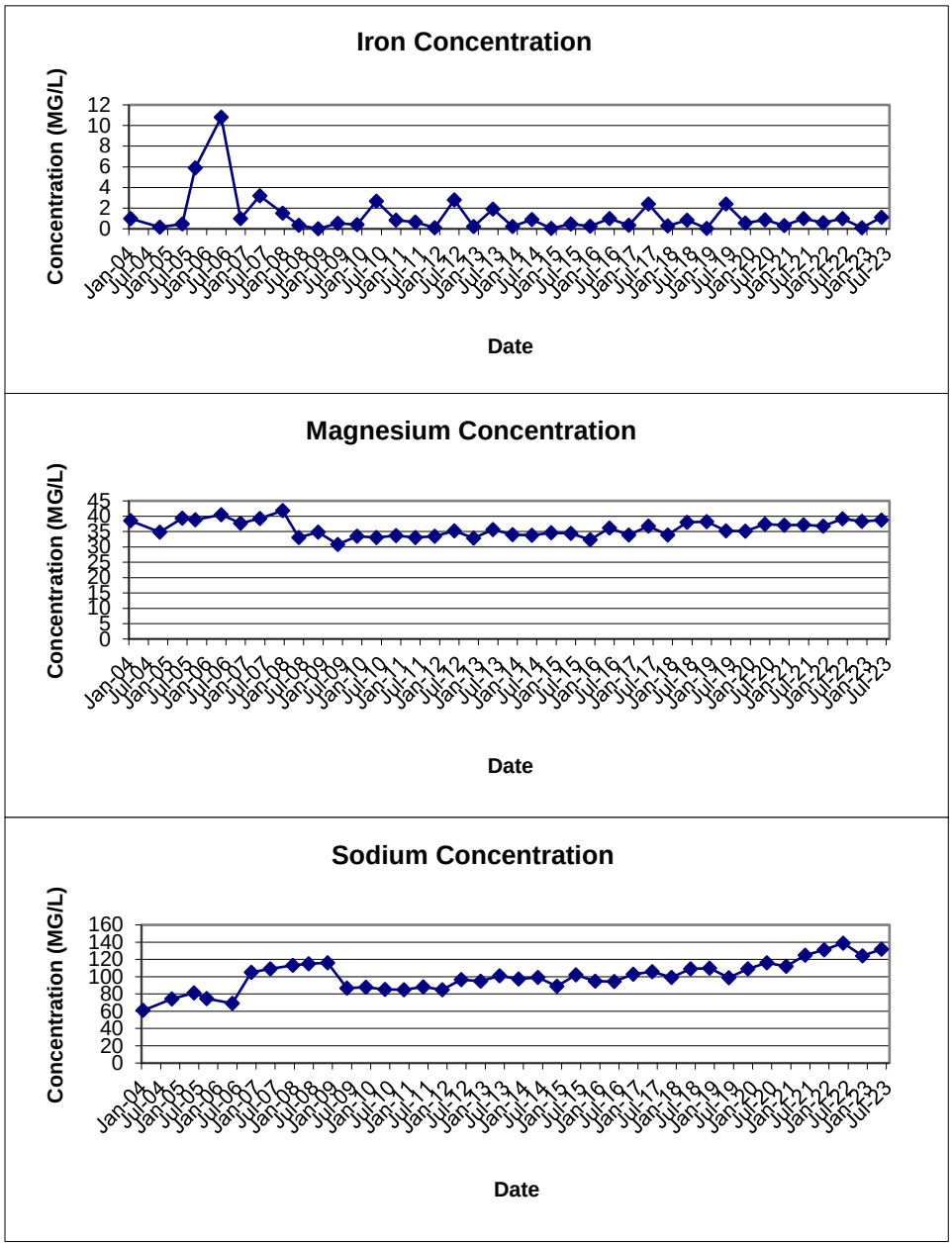


FIGURE E-2
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-01S

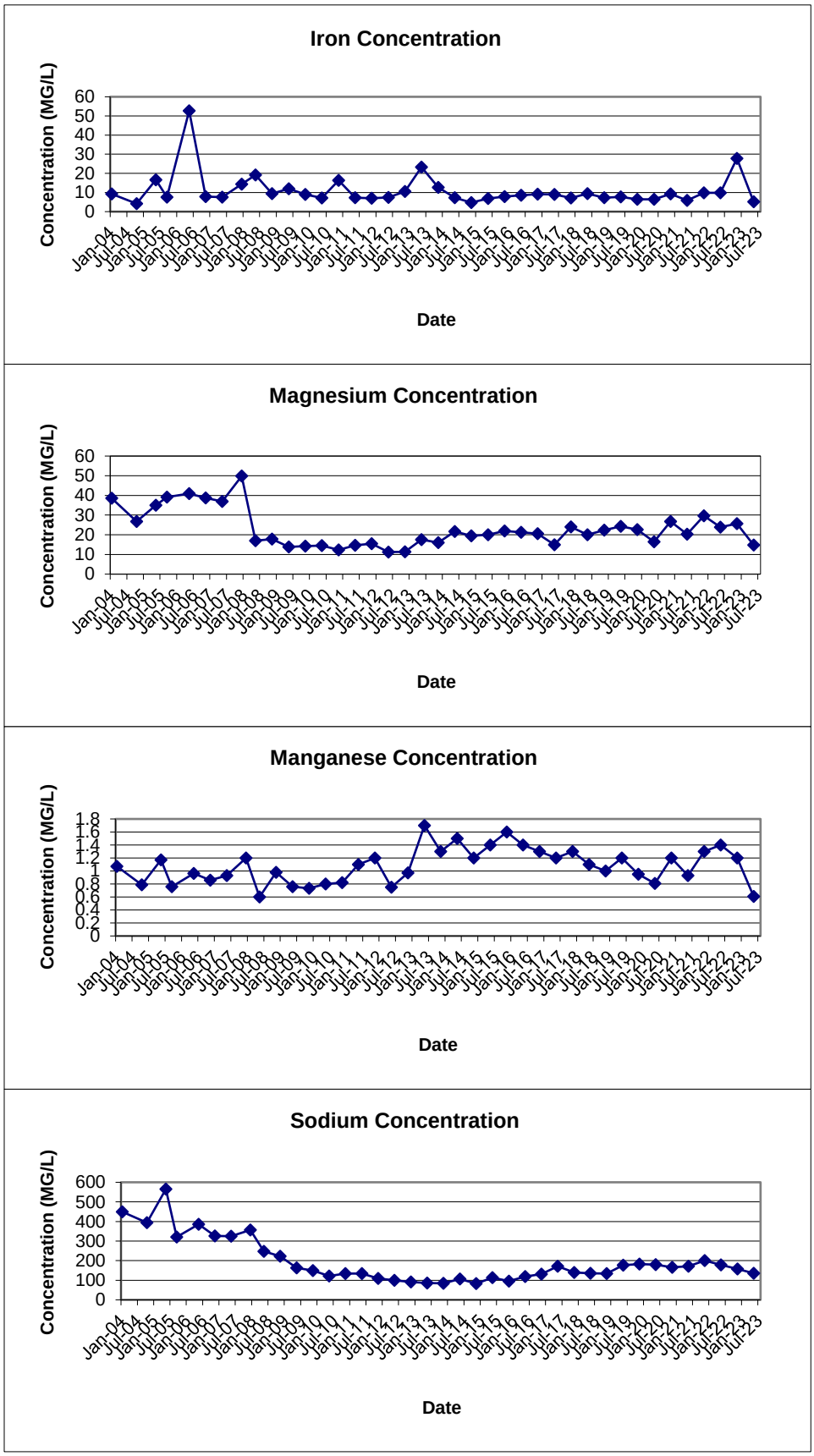


FIGURE E-3
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-03D

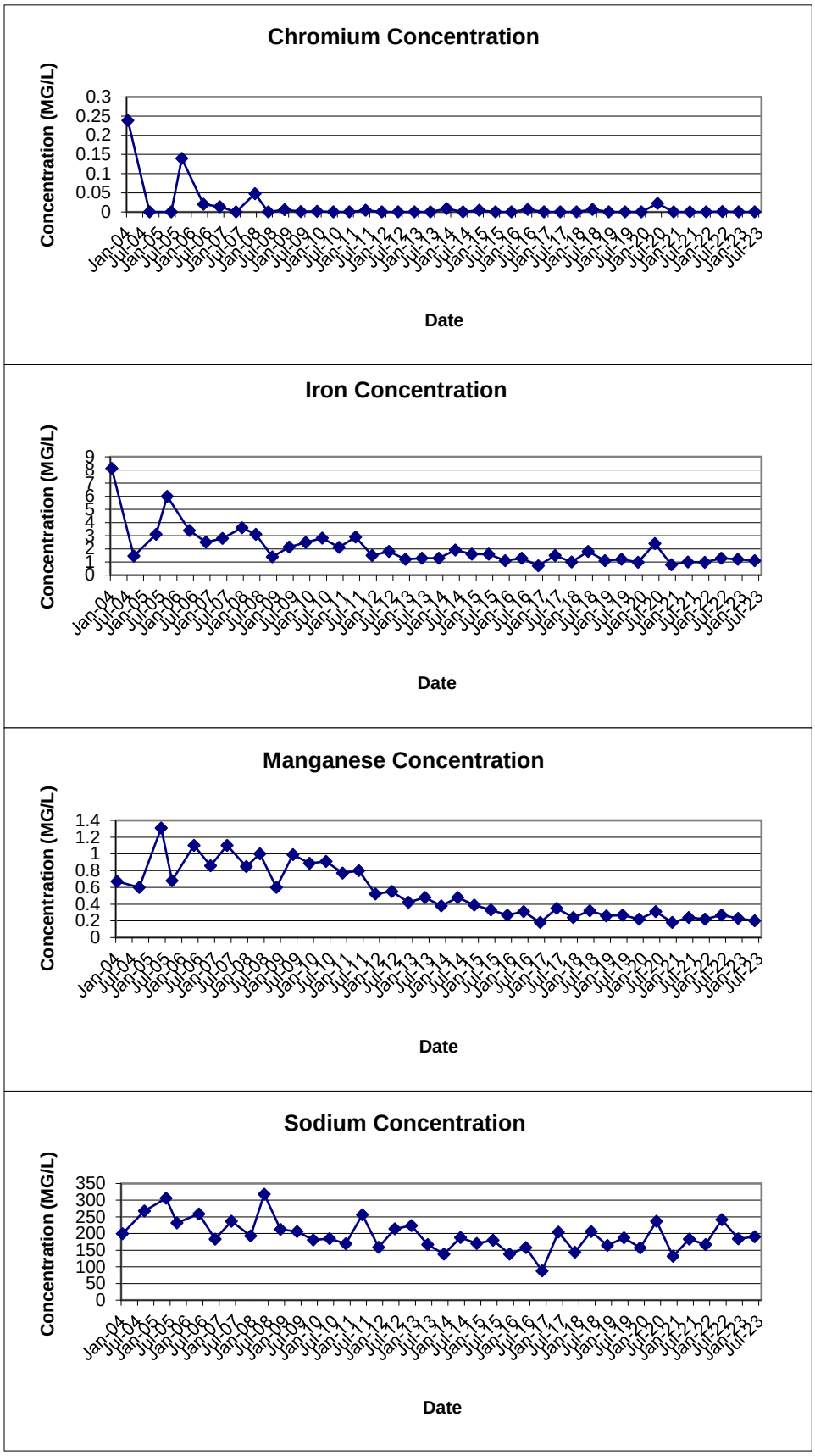


FIGURE E-3
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-03D

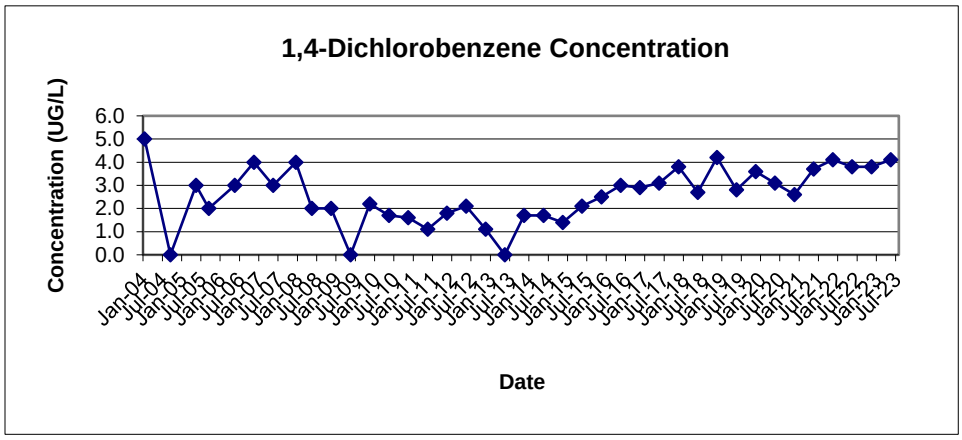
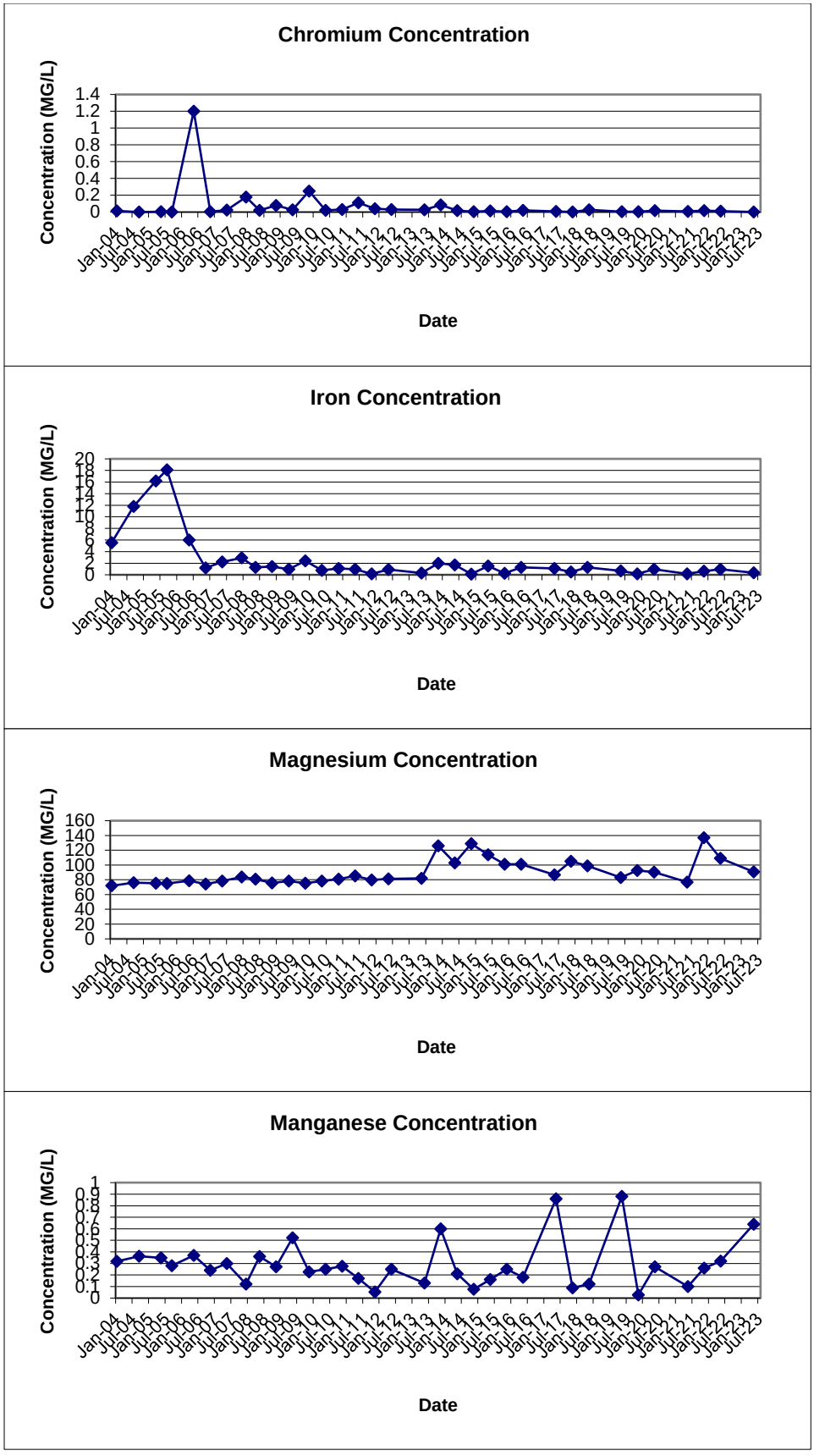
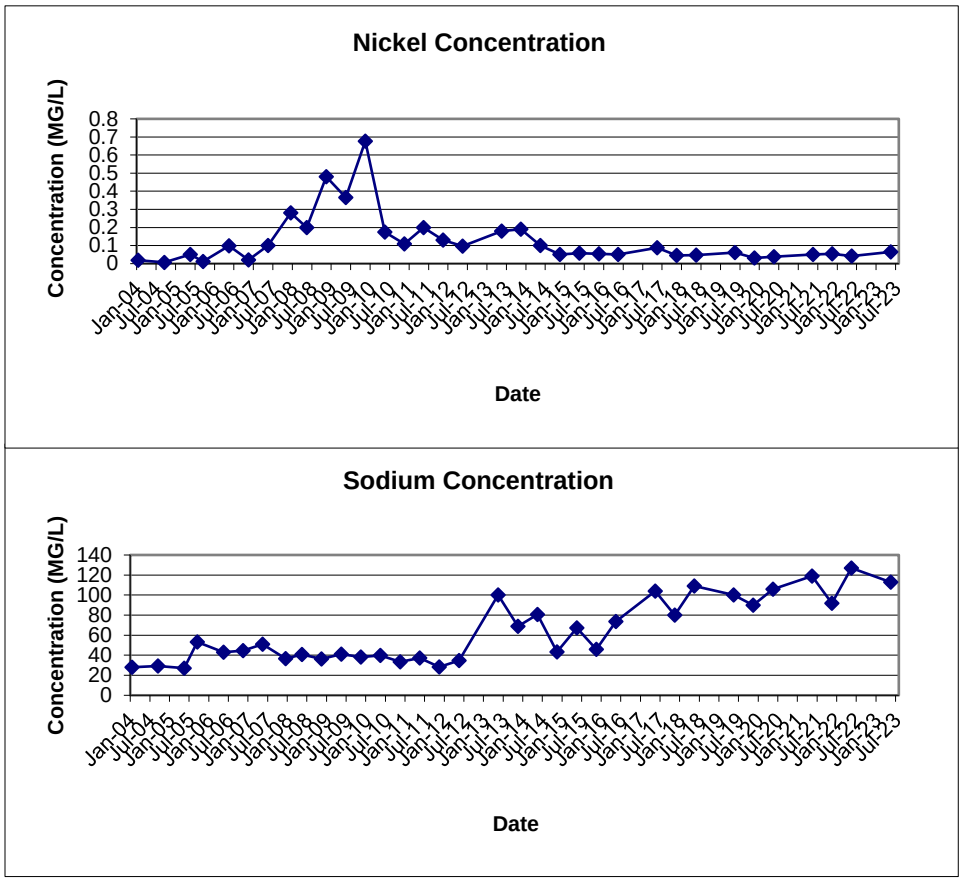


FIGURE E-4
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-03S



Well was dry and was not sampled in November 2016, 2018, 2020, 2022, and 2023

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



Well was dry and was not sampled in November 2016, 2018, 2020, 2022, and 2023

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

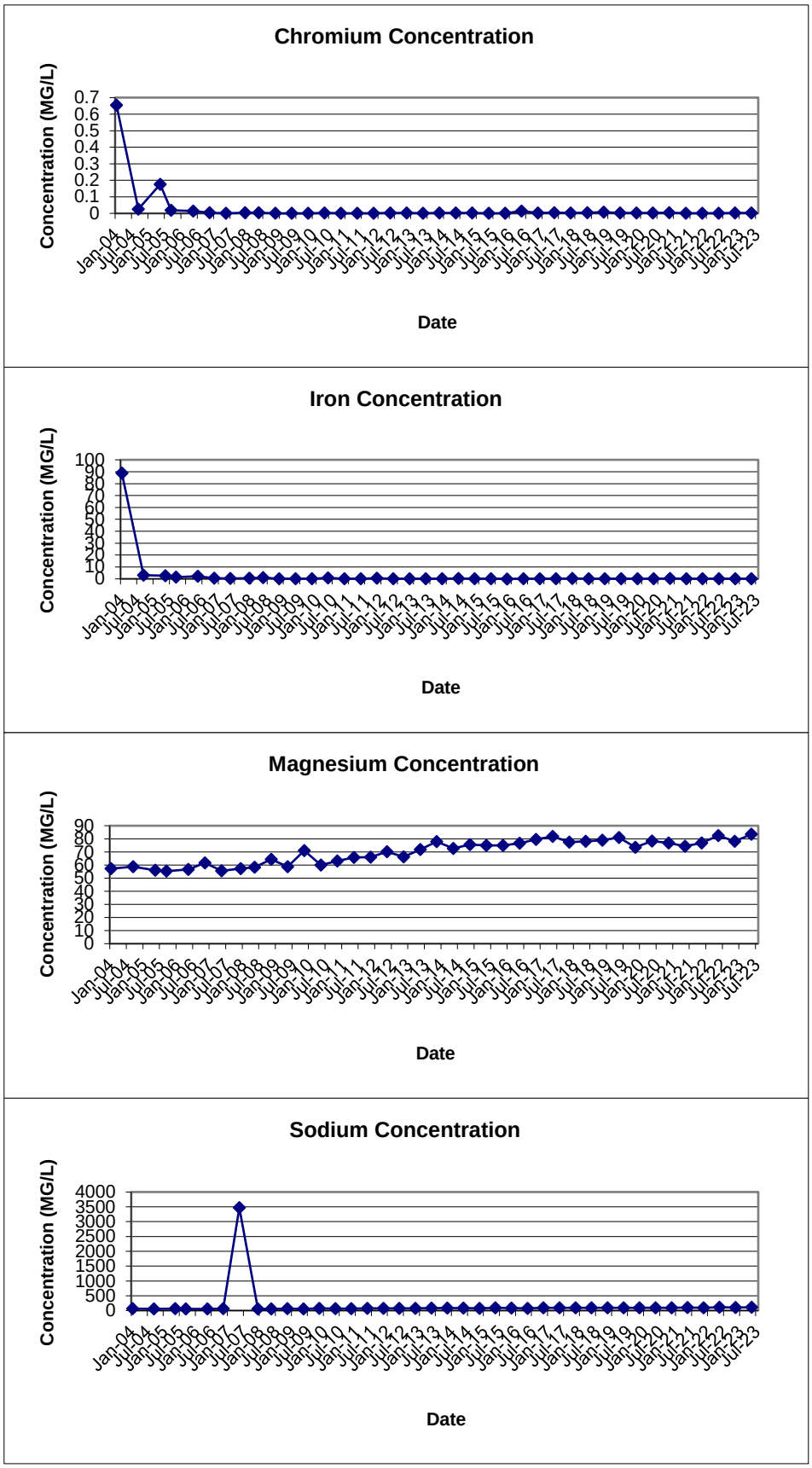


FIGURE E-6
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-04S

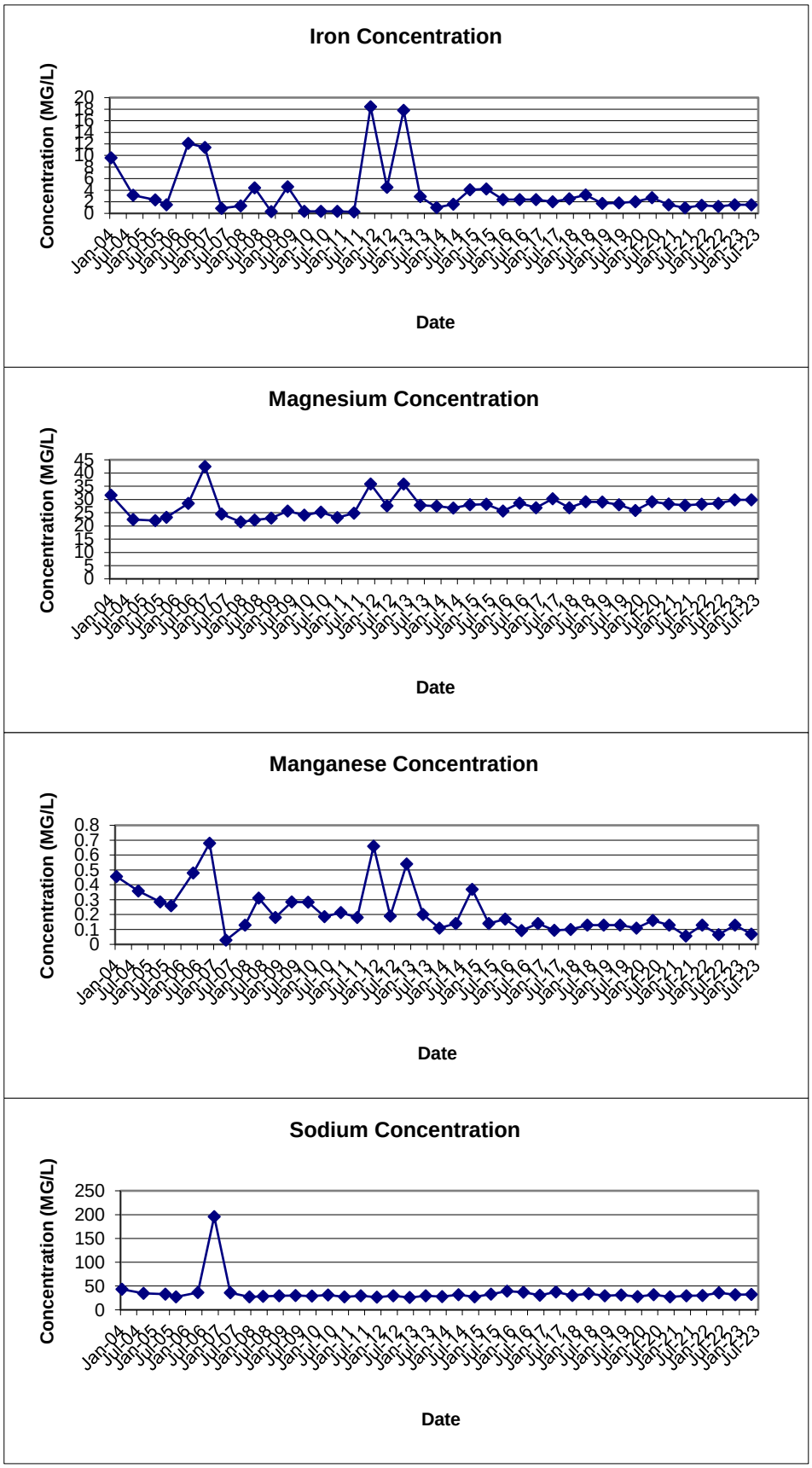


FIGURE E-7
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-07D

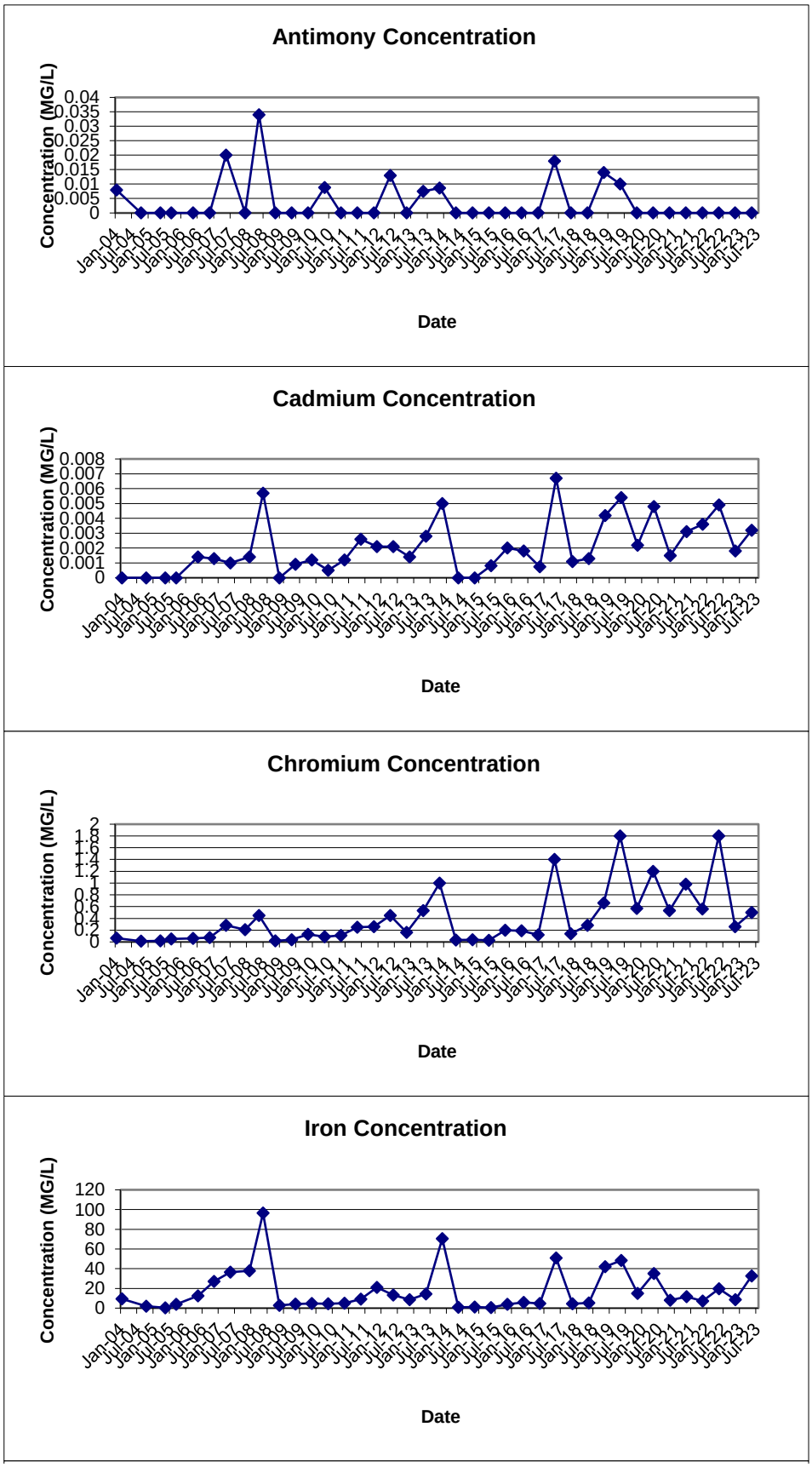


FIGURE E-7
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-07D

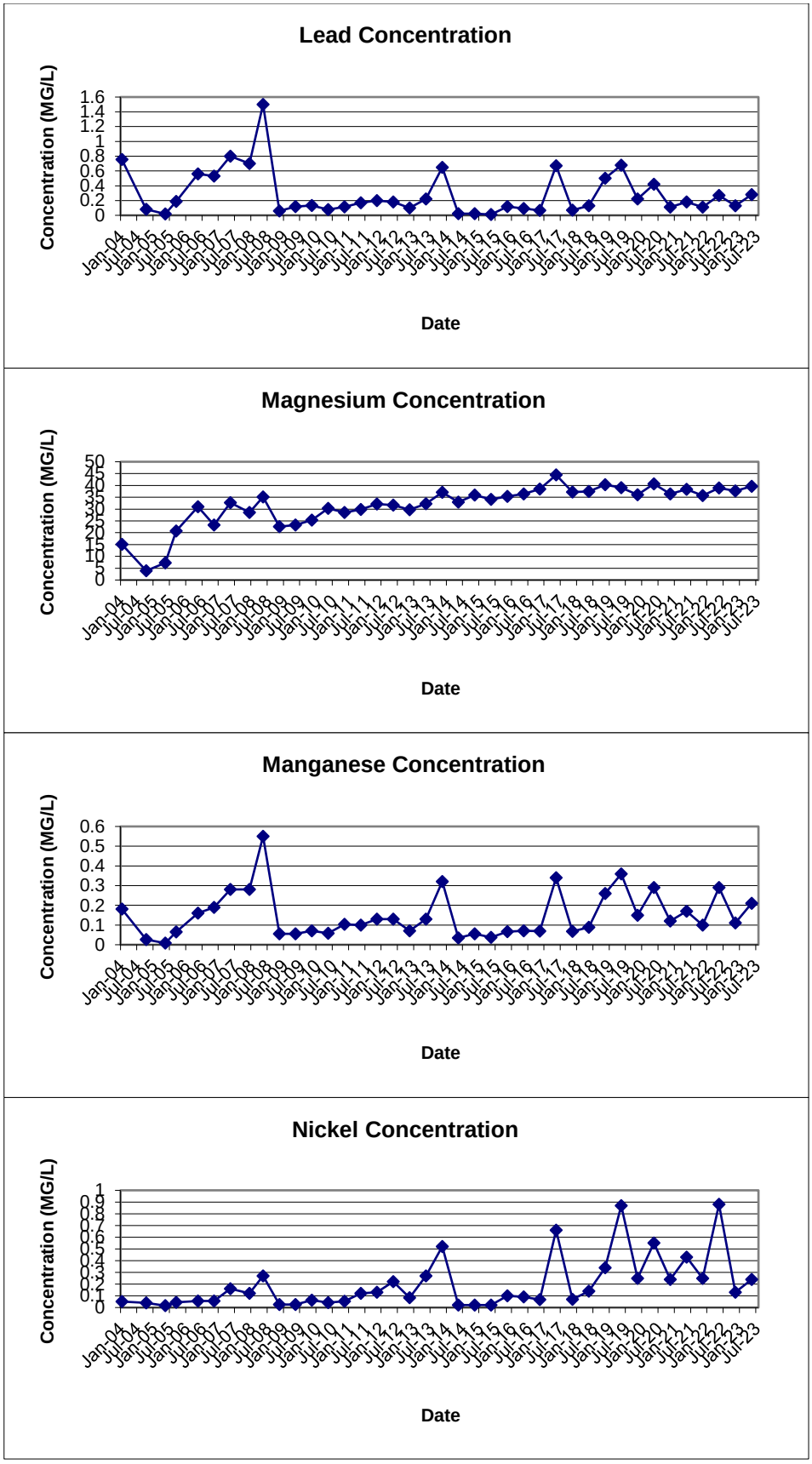


FIGURE E-7
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-07D

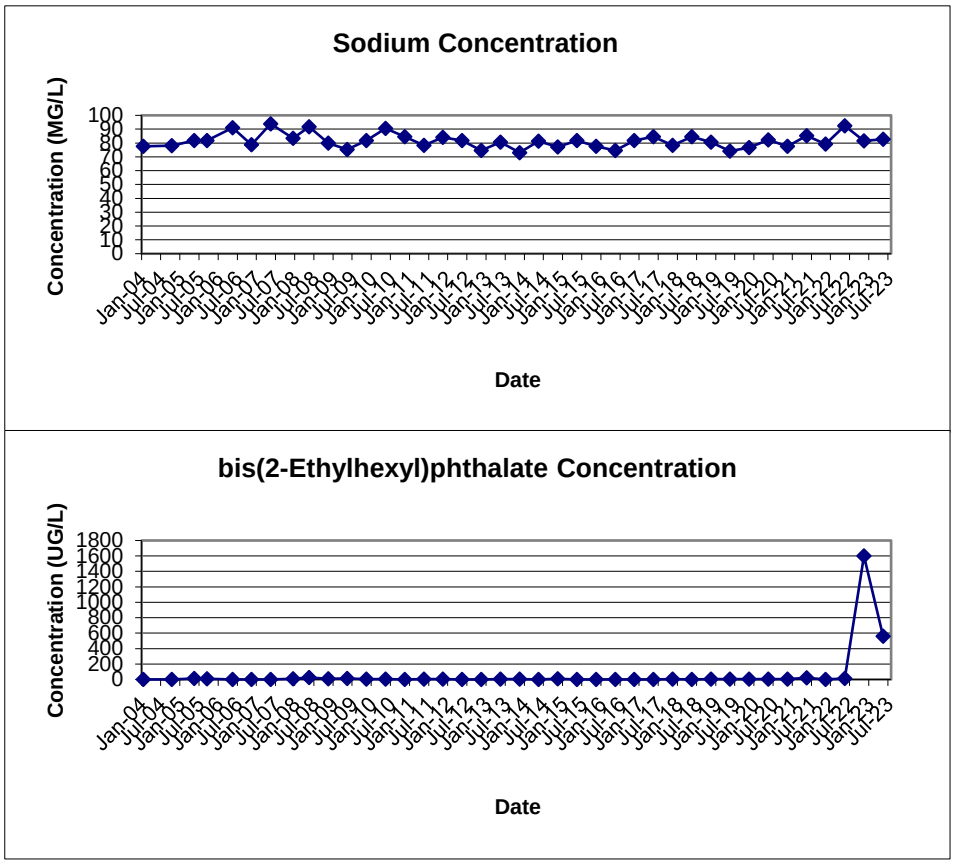


FIGURE E-8
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-07S

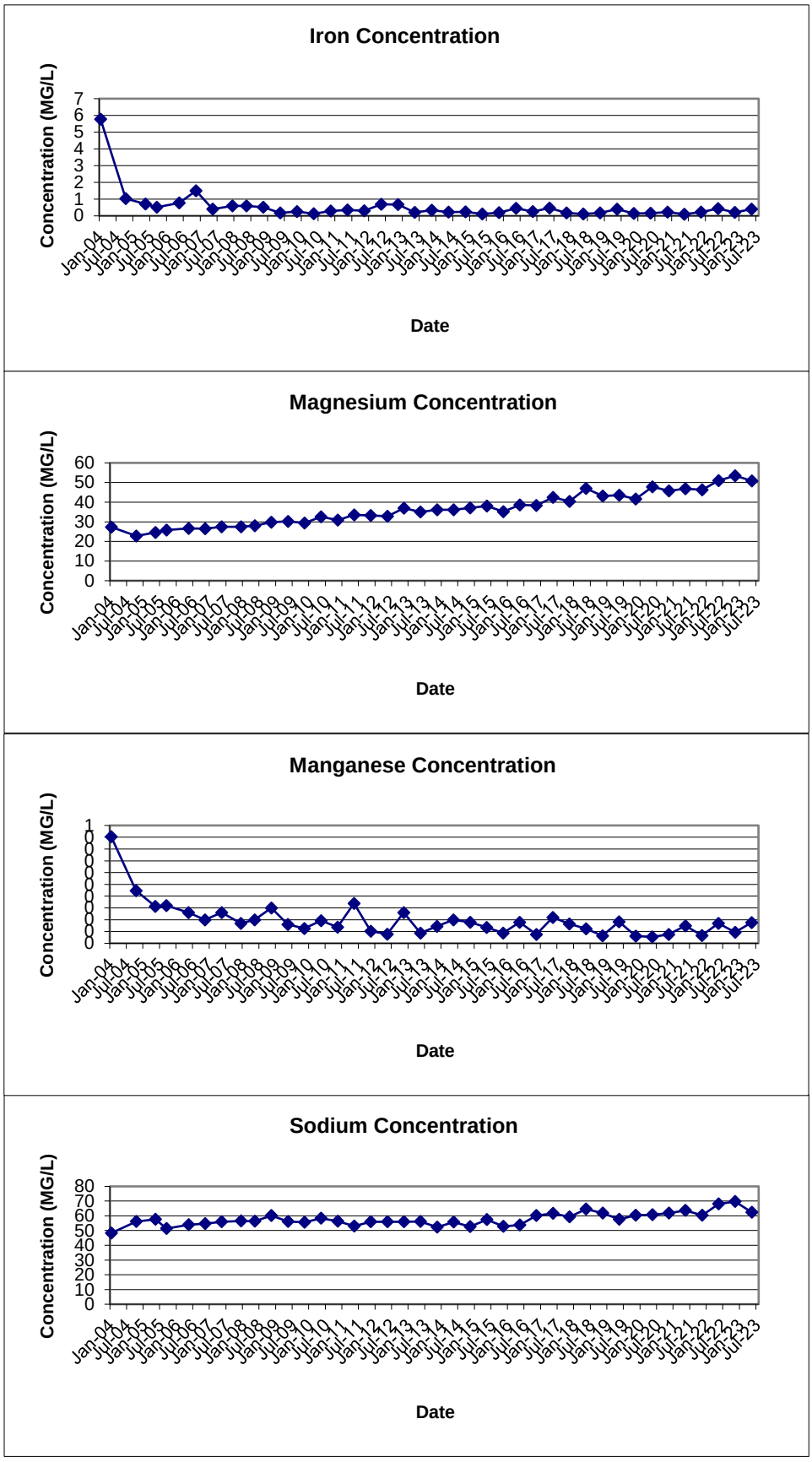


FIGURE E-9
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-08D

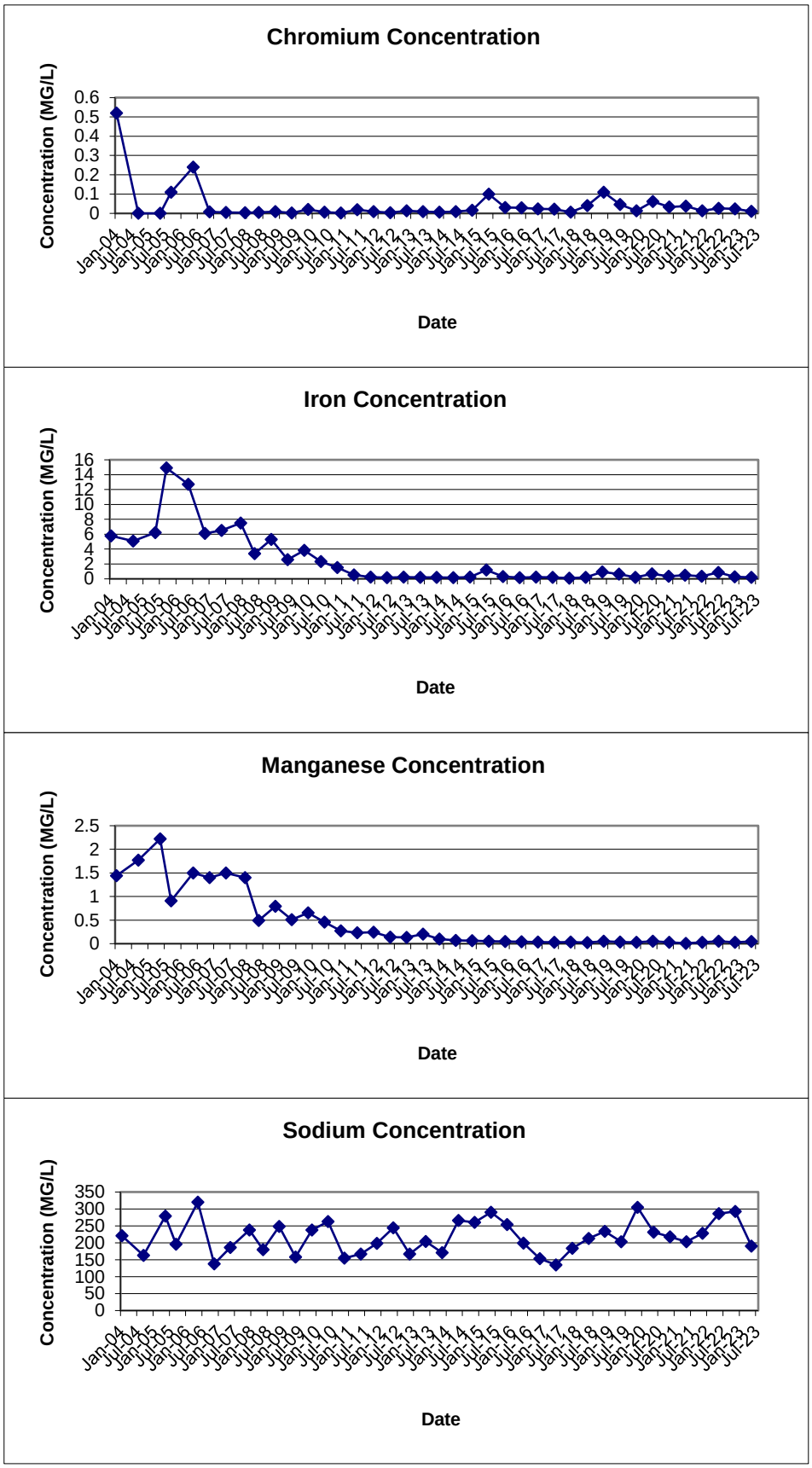


FIGURE E-10
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-08SR

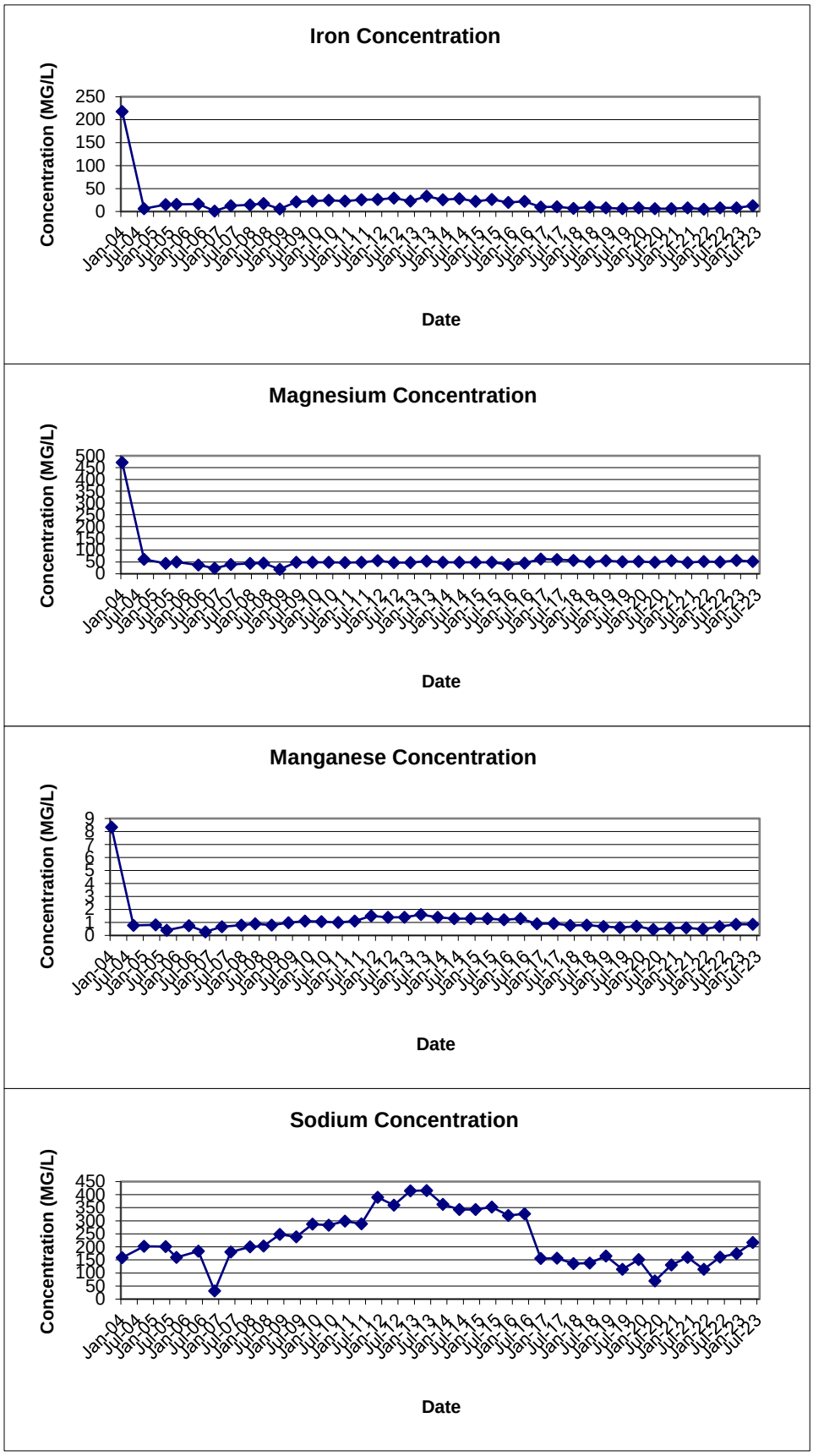


FIGURE E-11
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-26D

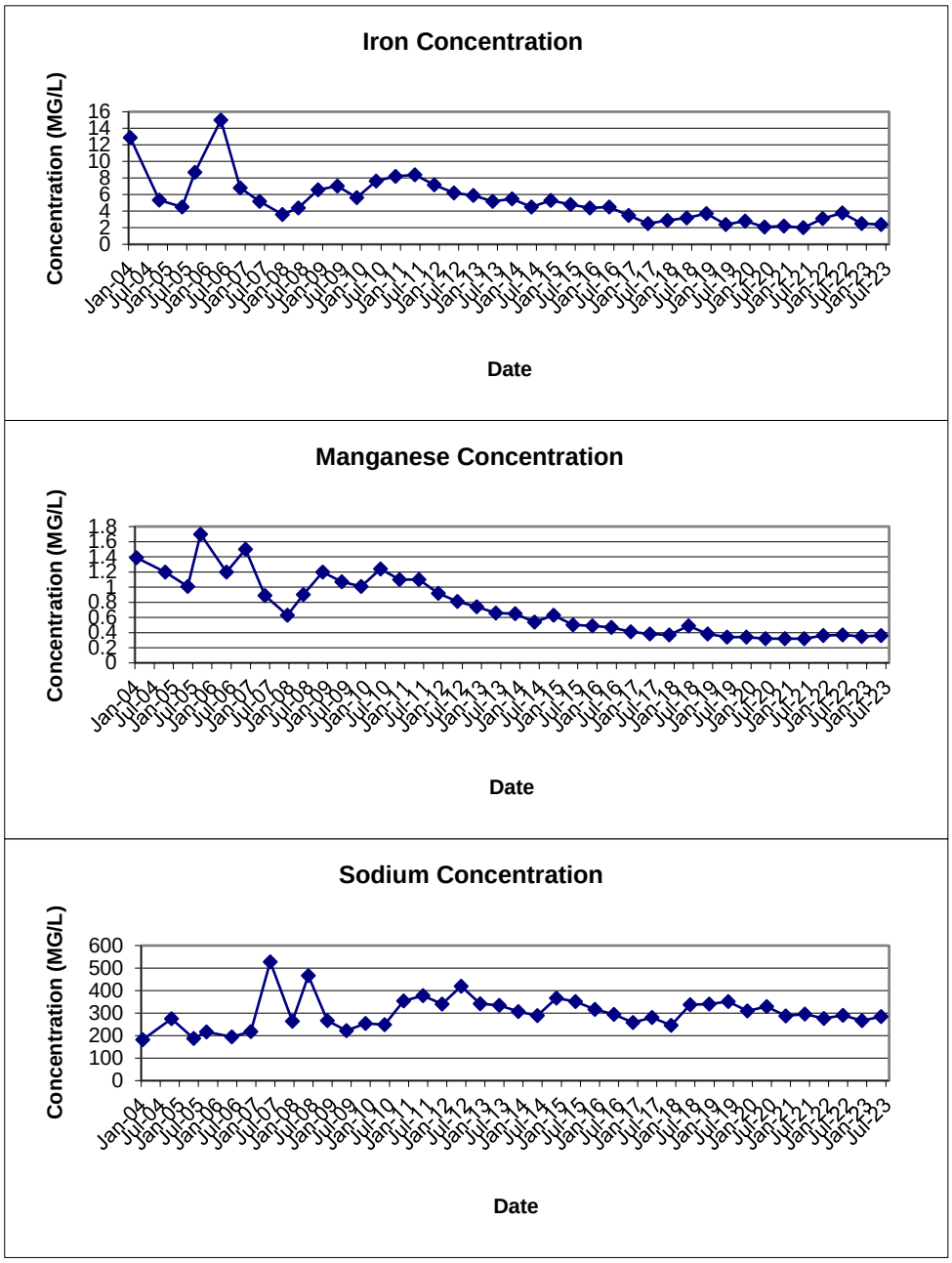


FIGURE E-12
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-28S

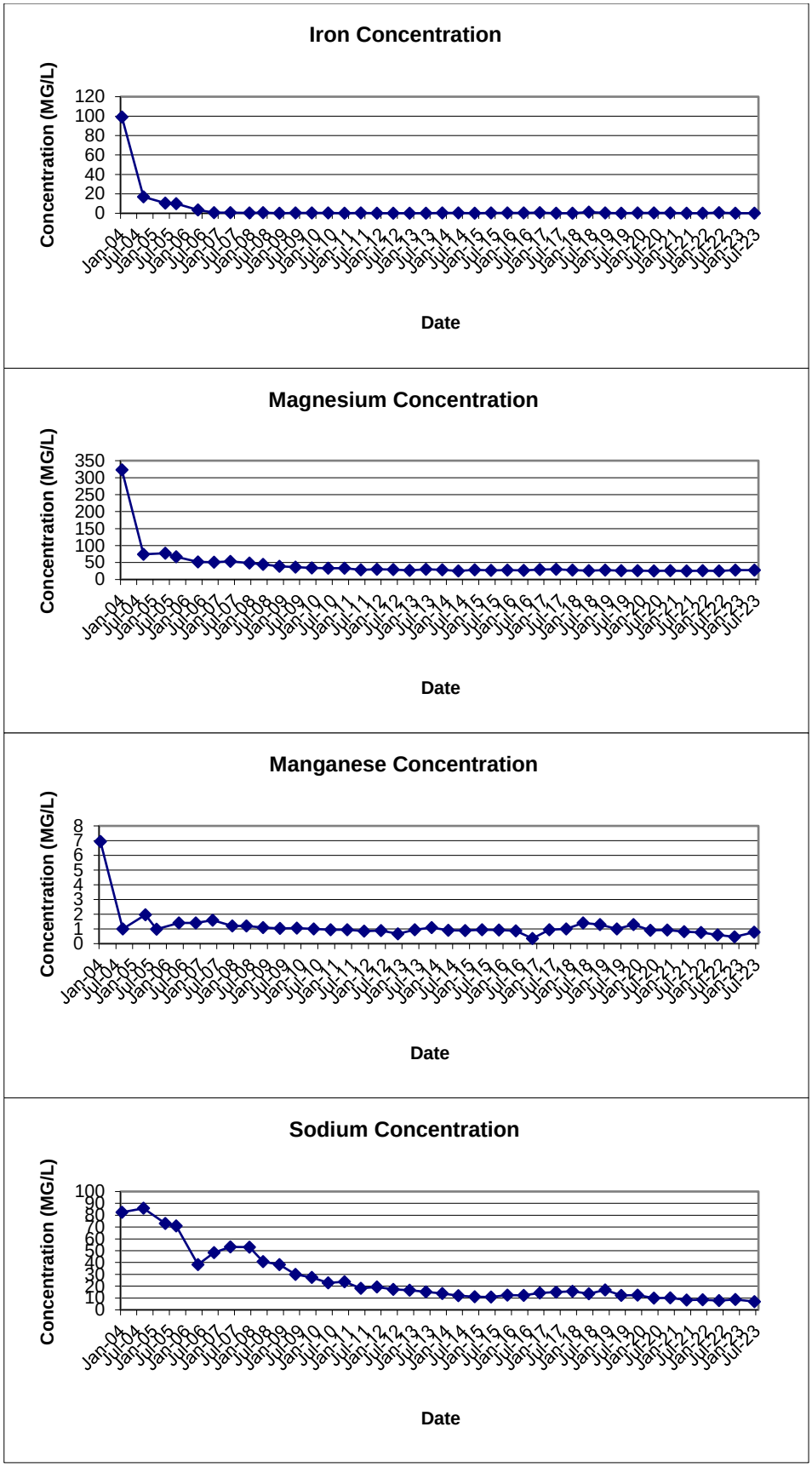


FIGURE E-13
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

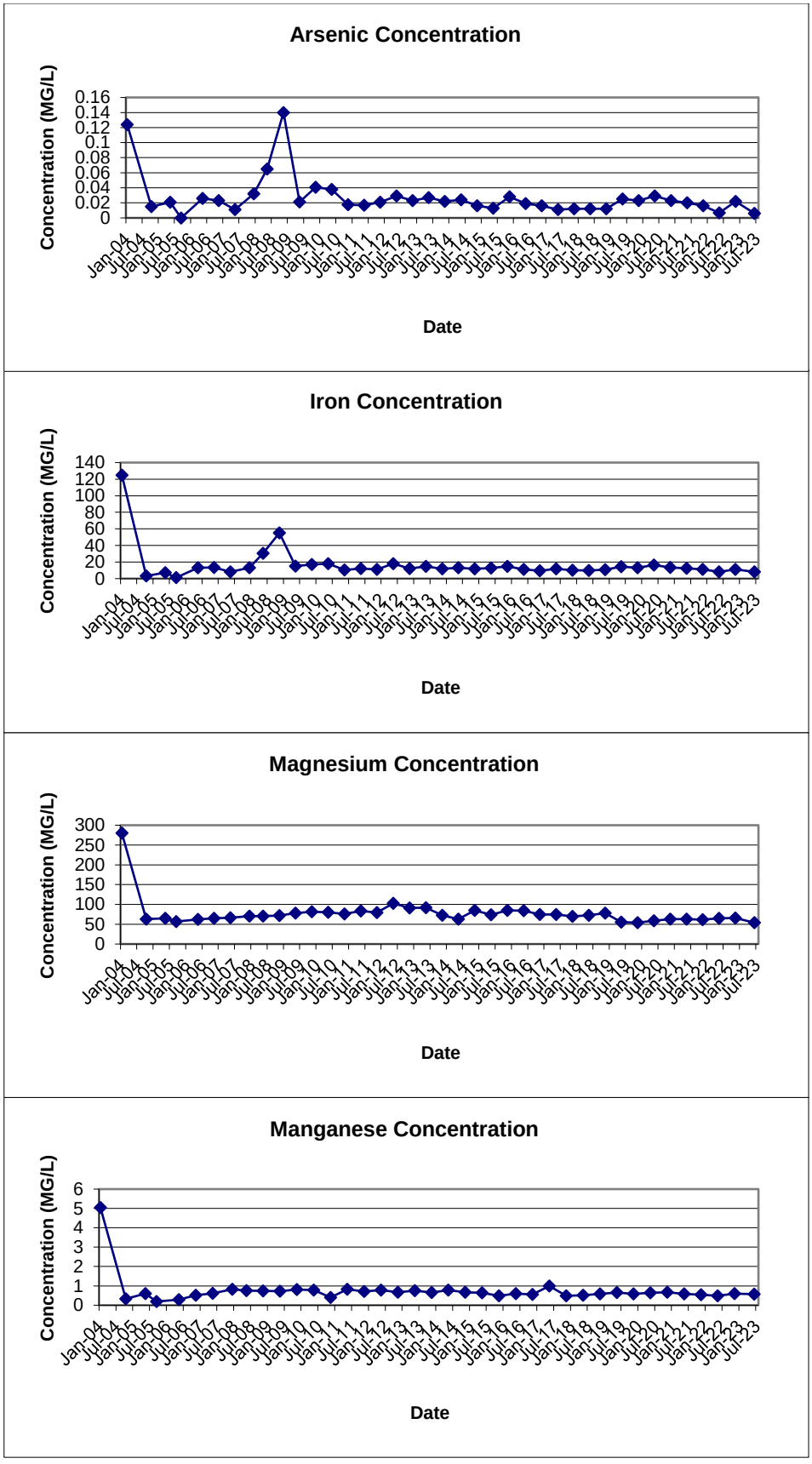


FIGURE E-13
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-29S

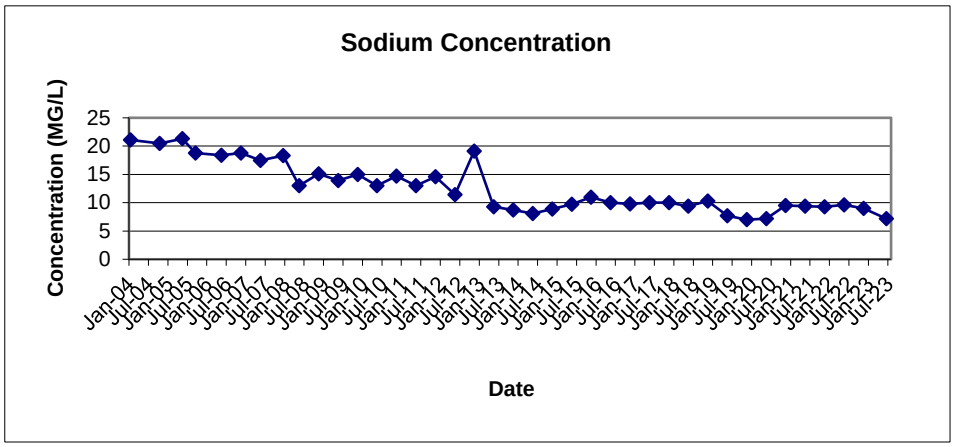


FIGURE E-14
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-30S

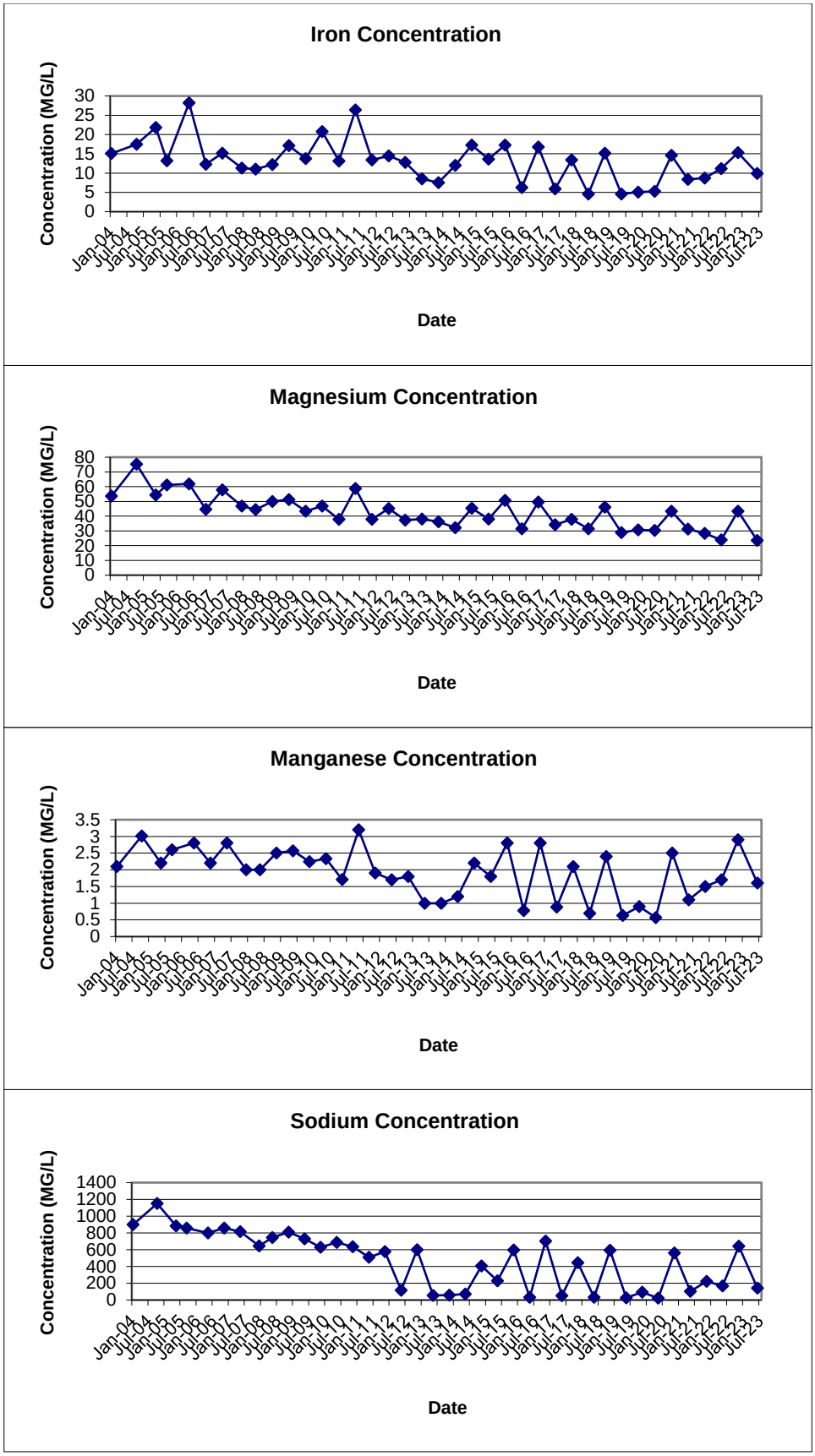


FIGURE E-15
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-31S

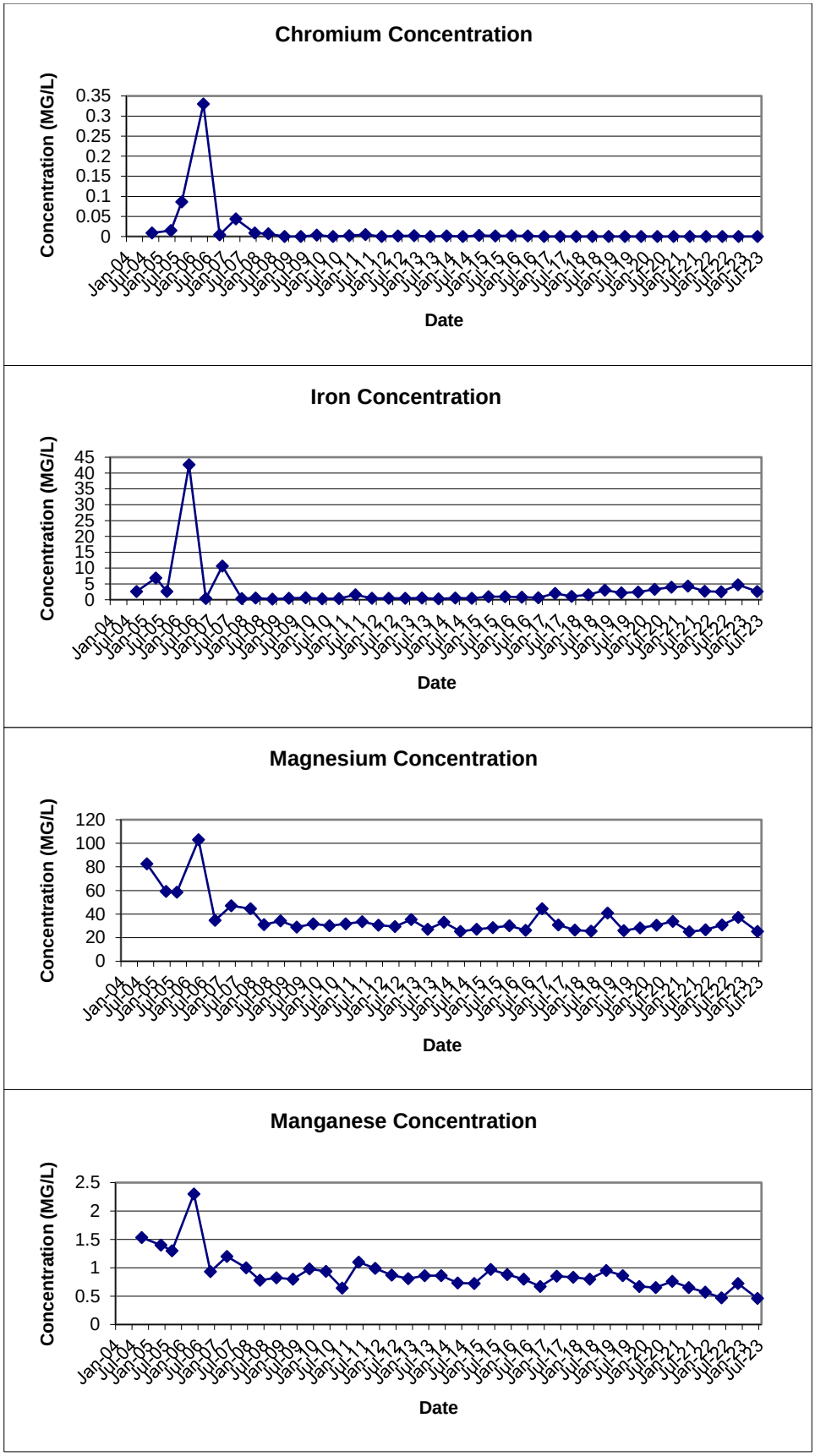


FIGURE E-16
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-32S

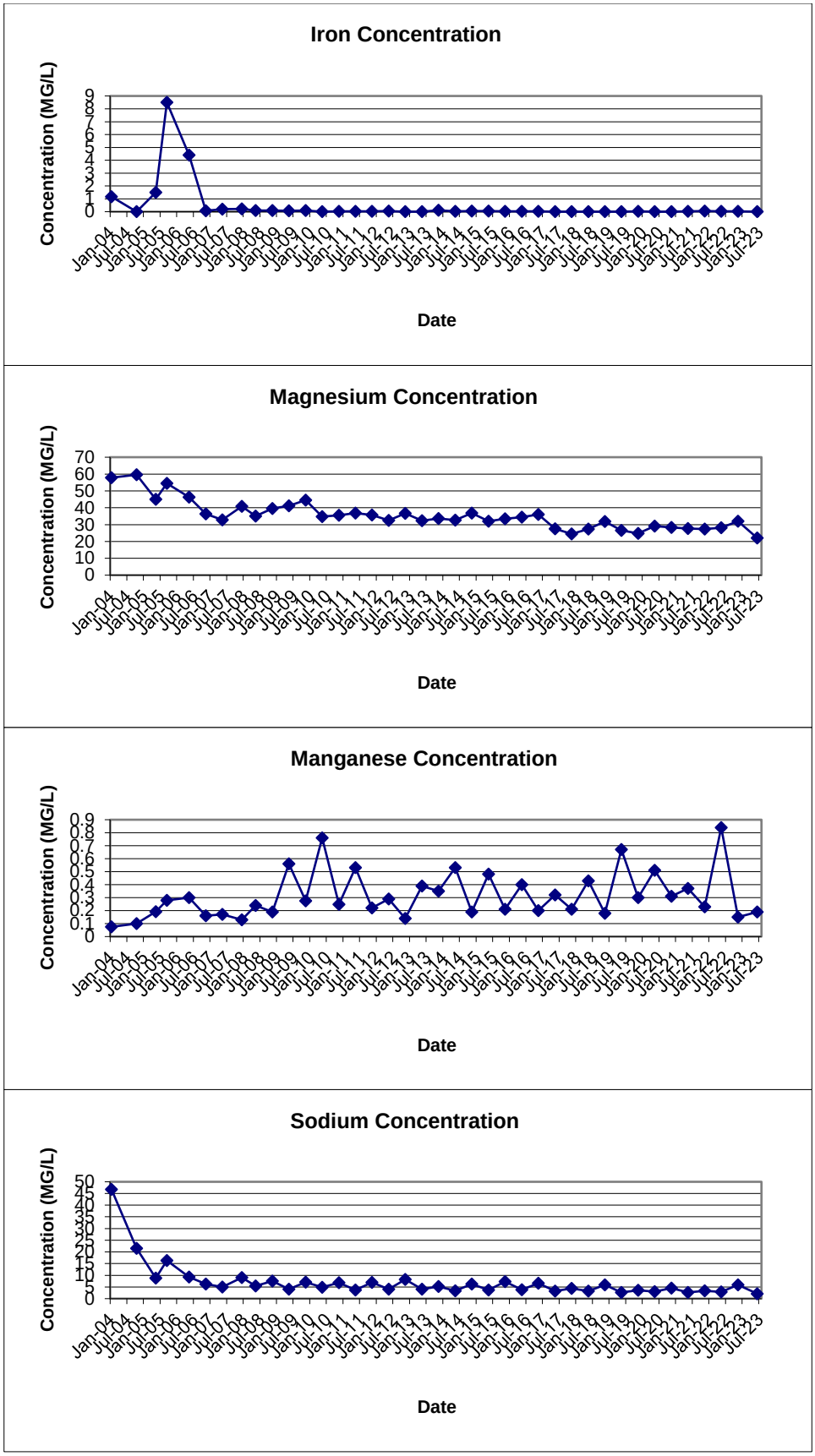


FIGURE E-17
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-33S

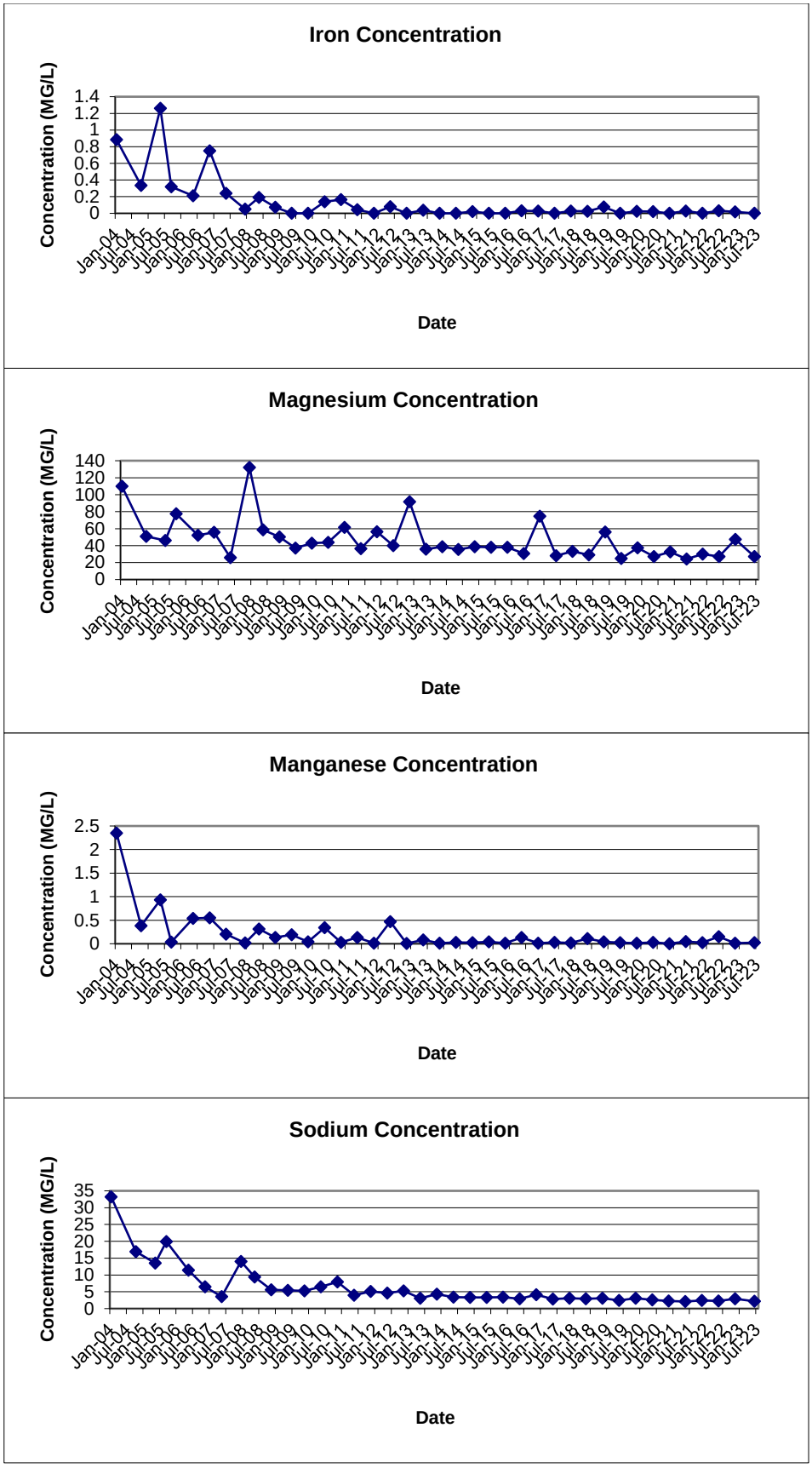


FIGURE E-18
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-34S

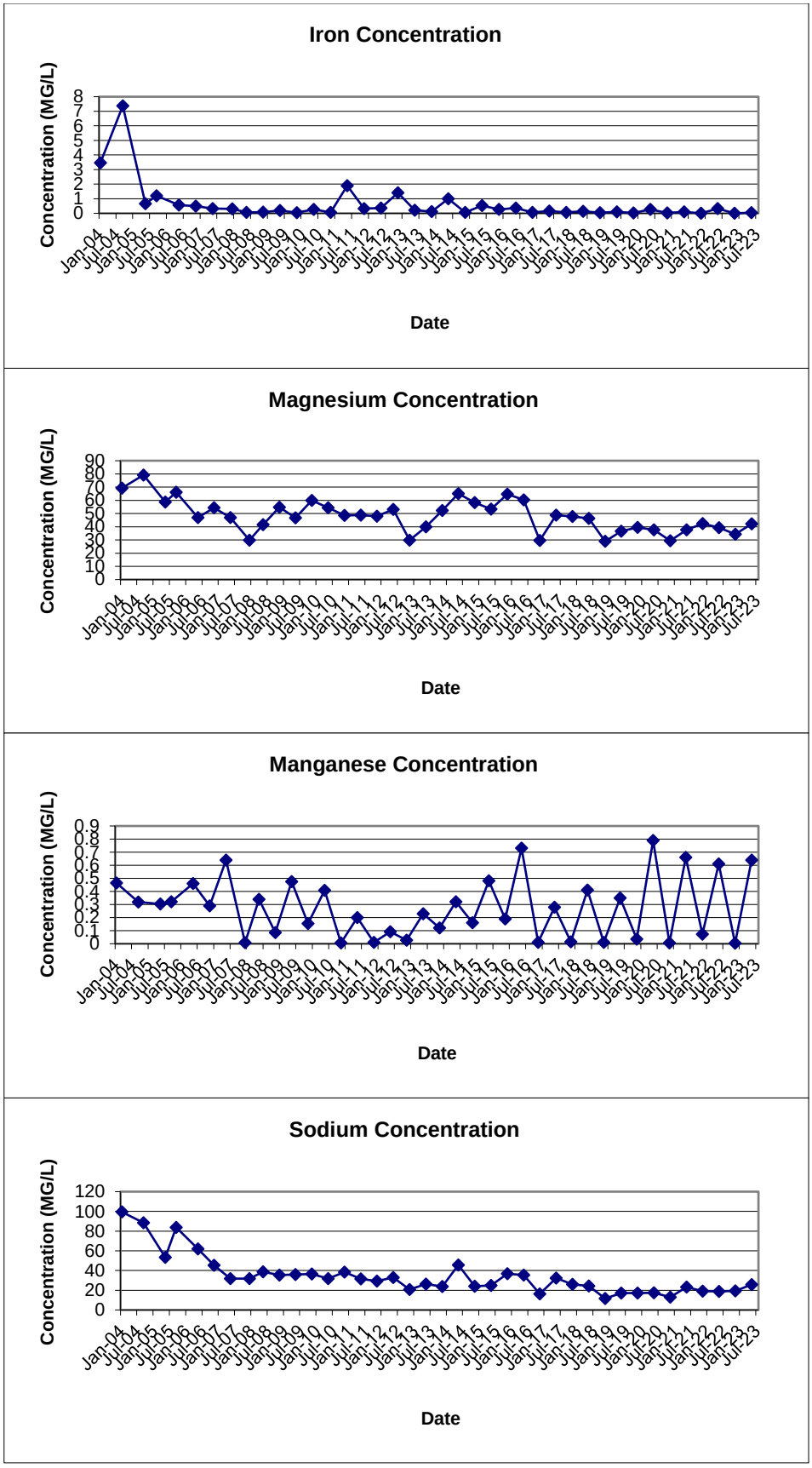
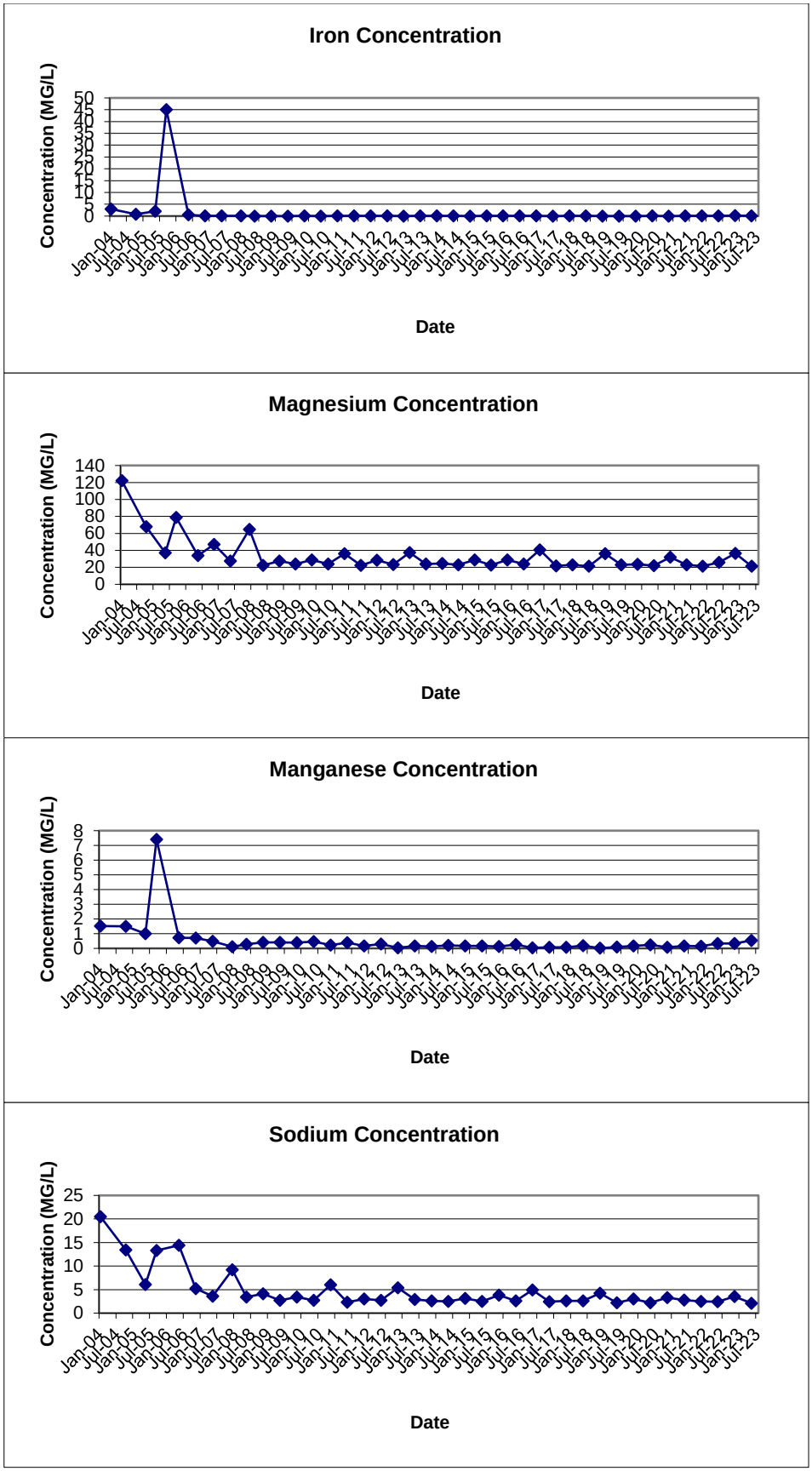


FIGURE E-19
TRENDS OF PARAMETERS HISTORICALLY EXCEEDING GROUNDWATER STANDARDS
IN MONITORING WELL GW-35S



APPENDIX F

BSA PERMIT 22-07-CH016

AUTHORIZATION TO DISCHARGE UNDER THE ERIE COUNTY/BUFFALO POLLUTANT DISCHARGE ELIMINATION SYSTEM

PERMIT NUMBER: 22-07-CH016

USEPA Category: 40 CFR 403

In accordance with the provisions of the Federal Water Pollution Control Act, as amended, 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 **March 21, 2022** 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 July, 2022

To Expire the 30th day of June, 2025

General Manager, Buffalo Sewer Authority

Issued this 22nd day of April, 2022

PART 1: 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(s) (see attached map) shall be limited and monitored **quarterly** by the permittee as specified below:

Sampling for the pollutants below will be conducted at Sample 001.

Sample Point 001 is a sampling port located in meter chamber- effluent from MH-25

Sample Point 001 Local Limits

Regulation		Discharge Limit	Discharge Limit	Discharge Limit	Discharge Limit	M.A.I.D.	Sampling Requirement	Sampling Requirement
	Parameter	Daily	Daily[2]	Monthly	Monthly		Time Period	Type [1]
		Conc. mg/L)	Mass (lbs)	Conc. (mg/L)	Mass (lbs)			
403	pH (s.u.)	5.0-12.0	X	X	X	X	1 Day	Grab
403	Total Cadmium[3]	X	0.23	X	X	X	1 Day	Composite
403	Total Chromium [3]	X	1.17	X	X	X	1 Day	Composite
403	Total Copper [3]	X	3.74	X	X	X	1 Day	Composite
403	Total Lead [3]	X	1.17	X	X	X	1 Day	Composite
403	Total Nickel [3]	X	3.27	X	X	X	1 Day	Composite
403	Total Zinc [3]	X	5.84	X	X	X	1 Day	Composite
403	Total Barium [3]	X	23.4	X	X	X	1 Day	Composite
403	Total Suspended Solids [3] [4]	250	X	X	X	X	1 Day	Composite
403	Discharge Flow [7]	187,898 GPD	X	X	X	X	1 Day	Meter [8]

PART 1: SPECIFIC CONDITIONS

A. DISCHARGE LIMITATIONS & MONITORING REQUIREMENTS (Continued)

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.

403	Total Mercury [3]	X	0.001	X	X	X	1 Day	Composite
403	USEPA Test Method 608 [6]	To be monitored	X	X	X	X	1 Day	Grab [5]
403	USEPA Test Method 624 [6]	To be monitored	X	X	X	X	1 Day	Grab [5]
403	USEPA Test Method 625 [6]	To be monitored	X	X	X	X	1 Day	Grab [5]

PART 1: SPECIFIC CONDITIONS

B. Footnotes:

1. Sampling Requirement, Sampling Type:

    a. Grab sample: A single discreet sample collected over a period that is not to exceed 15 minutes.
    b. Composite sample: The two methods of obtaining a composite sample are flow-proportional composite sampling or time-proportional composite sampling. Please indicate the sampling method utilized.

2. Mass limits based on an average discharge of 28,000 gpd.

3. The Discharge Limitation for these parameters are local discharge limits that the Buffalo Sewer Authority has developed to protect the Bird Island Treatment Plant.

4. Surchargeable over 250 mg/L.

5. 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.

6. 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.

7. 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.

8. The discharge flow meter shall be calibrated by a certified independent contractor on an annual basis.

PART 1: SPECIFIC CONDITIONS

C. DISCHARGE MONITORING REPORTING REQUIREMENTS

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

Sample Point	Parameter	Initial Report	Subsequent Reports	
001	All except USEPA Test Methods 608, 624, 625, & T. Mercury	**June 30, 2022**	**Every March 31st, June30th, September 30th and December 31st**	

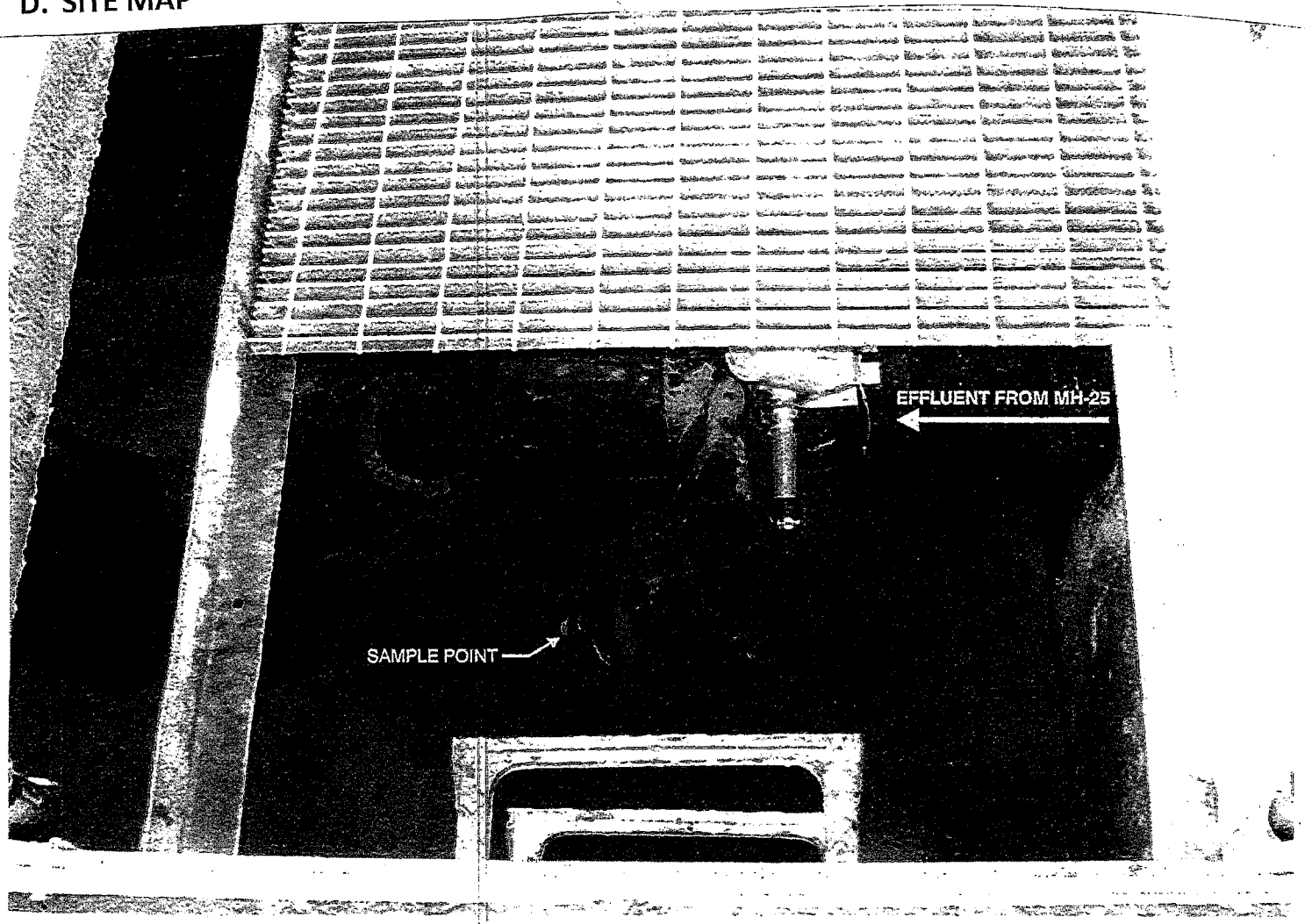
2. During the period beginning the effective date of this Permit and lasting until the expiration date, discharge from the permitted facility outfall (see attached map) shall be limited and monitored **once** by the permittee as specified below.

Sample Point	Parameter	Initial Report	Subsequent Reports	
001	USEPA Test Methods 608, 624, 625, & T. Mercury	**June 30, 2022**		

AG17823-

Part I: SPECIFIC CONDITIONS

D. SITE MAP



URS	PFOHL BROTHERS LANDFILL EFFLUENT SAMPLE POINT	FIGURE 1

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 851-4664 ext 5374 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 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.

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

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: 3/22/23 Crew: R. Murphy, T. Urban

Weather: 56 °F, cloudy

Sampling Device: NA

Time of Installation: 14:00 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: No wells running at the time of sample set-up.
PLC display volumes: WW-01 (202,577 gals), WW-02 (40 gals), WW-03 (-516,221 gals),
WW-04 (2,512,900 gals), WW-05 (599,155 gals), WW-06 (4,294,126 gals) & MH-25 (7,617,237 gals).

Date: 3/23/23 Crew: R. Murphy, T. Urban

Weather: 52 °F, rain

Time of Collection: 14:00

Field Measurements:

14:00/RJM
(time/initial)

pH Calibration: Buffer 7- 7 Buffer 4- 4 Buffer 10- 10

pH Measurement: 7.71 Oakton pH Tester30, s/n 2246401

Temperature: 7.1 °C

Identification: EFF-032323 for TSS and Metals

Physical Observations: Light orange/red tint

Laboratory: Eurofins Buffalo, Amherst, NY

Comments: No wells running at the time of sample collection.
PLC display volumes: WW-01 (202,577 gals), WW-02 (40 gals), WW-03 (-521,887 gals),
WW-04 (2,512,900 gals), WW-05 (599,155 gals), WW-06 (4,301,851 gals) & MH-25 (7,624,962 gals).

Reviewed By: Robert J. Murphy Date: 3/23/23
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS MARCH 2023

Sample ID	EFF-032323			
Matrix	Effluent Water			
Date Sampled	3/23/2023			
Parameter	Result	Mass Loading	Discharge Limitation	Violations
	(mg/L)	(lbs/day)	(lbs/day)	(Yes/No)
Total Barium	0.19	0.01	23.4	No
Total Cadmuim	<[1] 0.0005	< 0.00003	0.23	No
Total Chromium	< 0.0010	< 0.00006	1.17	No
Total Copper	< 0.0016	< 0.0001	3.74	No
Total Lead	< 0.0030	< 0.0002	1.17	No
Total Nickel	< 0.0013	< 0.0001	3.27	No
Total Zinc	0.0066 J	0.0004	5.84	No
Total Suspended Solids	< 4.0	NA[2]	250 [3]	No
pH [4]	7.71	NA	5.0 - 12.0	No
Total Flow [5]	7,725		187,898	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.

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

mg = milligrams
gal = gallons
L = Liters
lb(s) = pound(s)

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: 6/21/23 Crew: R. Murphy, T. Urban

Weather: 75 °F, sunny

Sampling Device: NA

Time of Installation: 08:20 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: No wells running at the time of sample set-up.
PLC display volumes: WW-01 (202,577 gals), WW-02 (40 gals), WW-03 (-744,851 gals),
WW-04 (2,500,160 gals), WW-05 (1,865,924 gals), WW-06 (5,422,712 gals) & MH-25 (10,018,917 gals).

Date: 6/22/23 Crew: R. Murphy, T. Urban

Weather: 72 °F, partly cloudy

Time of Collection: 08:20

Field Measurements:

14:00/RJM (time/initial)

pH Calibration: Buffer 7- 7 Buffer 4- 4 Buffer 10- 10

pH Measurement: 6.80 Oakton pH Tester30, s/n TS311487089

Temperature: 17.6 °C

Identification: EFF-062223 for TSS and Metals

Physical Observations: Light orange/red tint, cloudy

Laboratory: Eurofins Buffalo, Amherst, NY

Comments: No wells running at the time of sample collection.
PLC display volumes: WW-01 (202,577 gals), WW-02 (40 gals), WW-03 (-744,851 gals),
WW-04 (2,499,004 gals), WW-05 (1,872,274 gals), WW-06 (5,422,712 gals) & MH-25 (10,025,207 gals).

Reviewed By: Robert J Murphy Date: 6/22/23
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING
ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS
JUNE 2023

Sample ID	EFF-062223			
Matrix	Effluent Water			
Date Sampled	6/22/2023			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Yes/No)**
Total Barium	0.44	0.02	23.4	No
Total Cadmuim	<[1] 0.00050	< 0.00003	0.23	No
Total Chromium	< 0.0010	< 0.00005	1.17	No
Total Copper	0.0058 J	0.0003	3.74	No
Total Lead	0.0063 J	0.0003	1.17	No
Total Nickel	0.0028 J	0.0001	3.27	No
Total Zinc	0.0067 JB	0.0004	5.84	No
Total Suspended Solids	107	NA[2]	250 [3]	No
pH [4]	6.8	NA	5.0 - 12.0	No
Total Flow [5]	6,290		187,898	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 Compund was found in the blank and sample.

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

mg = milligrams
gal = gallons
L = Liters
lb(s) = pound(s)

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: 9/20/23 Crew: R. Murphy, S.Connelly

Weather: 52 °F, sunny

Sampling Device: NA

Time of Installation: 09:15 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: No wells running at the time of sample set-up.
PLC display volumes: WW-01 (59,126 gals), WW-02 (84 gals), WW-03 (-4054 gals),
WW-04 (0 gals), WW-05 (661,659 gals), WW-06 (475,938 gals) & MH-25 (1,196,825 gals).

Date: 9/21/23 Crew: R. Murphy, S.Connelly

Weather: 56 °F, mostly clear

Time of Collection: 09:15

Field Measurements:

9:15/RJM
(time/initial)

pH Calibration: Buffer 7- 7.01 Buffer 4- 4.01 Buffer 10- 9.99

pH Measurement: 7.70 Oakton pH Tester30, s/n TS311487089

Temperature: 17.5 °C

Identification: EFF-092123 for TSS and Metals

Physical Observations: Light orange/red tint, cloudy

Laboratory: Eurofins Buffalo, Amherst, NY

Comments: No wells running at the time of sample collection.
PLC display volumes: WW-01 (59,126 gals), WW-02 (84 gals), WW-03 (-4054 gals),
WW-04 (0 gals), WW-05 (661,659 gals), WW-06 (484,958 gals) & MH-25 (1,205,834 gals).

Reviewed By: Robert J. Murphy Date: 9/21/23
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS SEPTEMBER 2023

Sample ID	EFF-092123			
Matrix	Effluent Water			
Date Sampled	9/21/2023			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Yes/No)**
Total Barium	0.23	0.02	23.4	No
Total Cadmuim	<(1) 0.00050	< 0.00004	0.23	No
Total Chromium	< 0.0010	< 0.00008	1.17	No
Total Copper	< 0.0016	< 0.0001	3.74	No
Total Lead	< 0.0030	< 0.0002	1.17	No
Total Nickel	< 0.0013	< 0.0001	3.27	No
Total Zinc	0.0081 J	0.0006	5.84	No
Total Suspended Solids	7.2	NA(2)	250 (3)	No
pH (4)	7.7	NA	5.0 - 12.0	No
Total Flow (5)	9,009		187,898	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 Compund was found in the blank and sample.

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

mg = milligrams
gal = gallons
L = Liters
lb(s) = pound(s)

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: 12/19/23 Crew: R. Murphy, T. Urban

Weather: 26 °F, cloudy, light snow

Sampling Device: NA

Time of Installation: 08:45 Type of Sample: Composite

Sample Interval: NA Sample Volume: NA

Comments and Observations: No wells running at the time of sample set-up.
PLC display volumes: WW-01 (59,126 gals), WW-02 (-292 gals), WW-03 (-4054 gals),
WW-04 (163,334 gals), WW-05 (1,505,827 gals), WW-06 (1,640,259 gals) & MH-25 (3,432,907 gals).

Date: 12/20/23 Crew: R. Murphy, T. Urban

Weather: 31 °F, cloudy

Time of Collection: 08:45

Field Measurements:

8:45/RJM
(time/initial)

pH Calibration: Buffer 7- 6.99 Buffer 4- 4.01 Buffer 10- 9.98

pH Measurement: 7.87 Oakton pH Tester30, s/n TS311487089

Temperature: 8.4 °C

Identification: EFF-122023 for TSS and Metals

Physical Observations: Light orange/red tint, cloudy

Laboratory: Eurofins Buffalo, Amherst, NY

Comments: No wells running at the time of sample collection.
PLC display volumes: WW-01 (59,126 gals), WW-02 (-292 gals), WW-03 (-4054 gals),
WW-04 (197,445 gals), WW-05 (1,488,568 gals), WW-06 (1,640,259 gals) & MH-25 (3,467,448 gals).

Reviewed By: Robert J. Murphy Date: 12/20/23
(Supervisor)

TABLE 1

PFOHL BROTHERS LANDFILL - EFFLUENT MONITORING ANALYTICAL RESULTS, TOTAL FLOW, AND MASS LOADINGS DECEMBER 2023

Sample ID	EFF-122023			
Matrix	Effluent Water			
Date Sampled	12/20/2023			
Parameter	**Result**	**Mass Loading**	**Discharge Limitation**	**Violations**
	(mg/L)	**(lbs/day)**	**(lbs/day)**	**(Yes/No)**
Total Barium	0.37	0.11	23.4	No
Total Cadmuim	<(1) 0.00050	< 0.0001	0.23	No
Total Chromium	< 0.0010	< 0.0003	1.17	No
Total Copper	0.0028 J	0.0008	3.74	No
Total Lead	< 0.0030	< 0.0009	1.17	No
Total Nickel	0.0028 J	0.0008	3.27	No
Total Zinc	0.0044 J	0.0013	5.84	No
Total Suspended Solids	26.4	NA(2)	250 (3)	No
pH (4)	7.9	NA	5.0 - 12.0	No
Total Flow (5)	34,541		187,898	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 Compund was found in the blank and sample.

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

mg = milligrams
gal = gallons
L = Liters
lb(s) = pound(s)

APPENDIX H

MONITORING WELL INSPECTION LOGS

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *60411174*

Inspection Crew Members: *R. Murphy, T. Urban, A. Sands* Supervisor: *R. Murphy*

Date(s) of Inspection: *May 30, 2023*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-01S	OK	OK	OK	Bulged	5.03	14.94	
GW-01D	OK	OK	OK	Bulged	3.62	39.65	
GW-03S	OK	OK	OK	OK	4.27	13.22	
GW-03D	OK	OK	OK	OK	2.13	35.70	
GW-04S	OK	OK	OK	OK	5.18	16.23	
GW-04D	OK	OK	OK	OK	12.43	45.57	
GW-07S	OK	OK	OK	OK	5.62	35.33	
GW-07D	OK	OK	OK	Damaged	43.43	60.83	

Additional Comments: _____

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WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *60411174*

Inspection Crew Members: *R. Murphy, T. Urban, A. Sands* Supervisor: *R. Murphy*

Date(s) of Inspection: *May 30, 2023*

Well I.D. Number	*Lock*	*Surface Seal*	*Protective Casing*	*Riser*	*Water Level (ft. BTOC)*	*Well Depth (ft. BTOC)*	*Other Comments*
GW-08SR	OK	OK	OK	OK	5.43	13.02	
GW-08D	OK	OK	OK	OK	6.16	36.54	
GW-26D	OK	OK	OK	OK	6.98	40.70	
GW-28S	OK	OK	OK	OK	9.94	15.52	
GW-29S	OK	OK	OK	OK	9.32	20.04	
GW-30S	OK	OK	OK	OK	8.00	17.97	
GW-31S	OK	OK	OK	OK	5.40	9.57	
GW-32S	OK	OK	OK	OK	5.08	9.93	

Additional Comments: _____

_____

_____

WELL INSPECTION SUMMARY

Project Name: *Pfohl Brothers Landfill* Project Number: *60411174*

Inspection Crew Members: *R. Murphy, T. Urban, A. Sands* Supervisor: *R. Murphy*

Date(s) of Inspection: *May 30, 2023*

Well I.D. Number	***Lock***	***Surface Seal***	***Protective Casing***	***Riser***	***Water Level (ft. BTOC)***	***Well Depth (ft. BTOC)***	***Other Comments***
GW-33S	OK	OK	OK	OK	6.11	8.21	
GW-34S	OK	OK	OK	OK	3.81	10.01	
GW-35S	OK	OK	OK	OK	4.66	7.46	

Additional Comments: _____

_____

_____

ATTACHMENT B

Spring 2023

Data Applicability Report

DATA APPLICABILITY REPORT

SPRING 2023 GROUNDWATER MONITORING

PFOHL BROTHERS LANDFILL SITE

Analyses Performed by:

EUROFINS, BUFFALO
10 HAZELWOOD DRIVE
AMHERST, NY 14228

Prepared for:

TOWN OF CHEEKTOWAGA
CHEEKTOWAGA, NY 14225

Prepared by:

AECOM
50 LAKEFRONT BOULEVARD
SUITE 111
BUFFALO, NEW YORK 14202

AUGUST 2023

TABLE OF CONTENTS

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 Spring 2023 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 30, 2023 – June 1, 2023 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, 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) with the following exception:

Sample TB-06012023 was received with headspace in the vials. The VOC results in this sample have been qualified 'UJ.'

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 05/30/23, while the SVOC/metals aliquots were collected on 05/31/23. For the same reason, sample GW-04S had the VOC aliquots collected at 1520 and the SVOC/metals aliquots collected at 1700 on 05/30/23.

V. NON-CONFORMANCES

Laboratory Method Blanks

Manganese (Mn) and Zinc (Zn) were detected in the laboratory method blank at a concentration less than the reporting limit (RL). The results for Zn in samples GW-01D, GW-01S, GW-04S, GW-03D, GW-07S, GW-08SR, GW-08D, GW-35S, GW-28S, and GW-32S that were below the RL have been qualified 'U' at the RL.

The B qualifier applied by the laboratory for Mn and Zn in those samples greater than the RL was removed.

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' by the laboratory.

A field duplicate was collected at groundwater location GW-03D. 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 results qualified 'UJ' should be considered non-detect with an estimated detection limit. All results qualified 'U' should be considered non-detect. All other sample results are usable as reported. AECOM does not recommend the recollection of any samples.

Prepared By: Ann Marie Kropovitch, Chemist **Date: 07/11/23**

Reviewed by: Peter R. Fairbanks, Senior Chemist **Date: 08/03/23**

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.

TABLE 1
VALIDATED GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		GW-01D	GW-01S	GW-03D	GW-03D	GW-03S
Sample ID		GW-01D-05302023	GW-01S-05302023	FD-05312023	GW-03D-05312023	GW-03S-05312023
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/30/23	05/30/23	05/31/23	05/31/23	05/31/23
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	2.0 U	2.0 U
Acetone	UG/L	10 U	10 U	10 U	10 U	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	11 U	2.3 J	2.7 J	10 U
1,4-Dichlorobenzene	UG/L	10 U	11 U	3.4 J	4.1 J	10 U
bis(2-Ethylhexyl)phthalate	UG/L	5.2 U	5.4 U	20	15	5.2 U
Phenol	UG/L	5.2 U	5.4 U	5.0 U	5.4 U	5.2 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	0.010 U
Barium	MG/L	0.099	0.12	0.083	0.085	0.090
Cadmium	MG/L	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0014
Chromium	MG/L	0.018	0.0040 U	0.0040 U	0.0040 U	0.0026 J
Copper	MG/L	0.0018 J	0.010 U	0.010 U	0.010 U	0.0035 J
Iron	MG/L	1.1	5.2	1.1	1.1	0.35
Lead	MG/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Magnesium	MG/L	38.7	14.8	15.8	16.1	90.9
Manganese	MG/L	0.029	0.61	0.20	0.20	0.64
Mercury	MG/L	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U
Nickel	MG/L	0.0032 J	0.010 U	0.0049 J	0.0049 J	0.064

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		GW-01D	GW-01S	GW-03D	GW-03D	GW-03S
Sample ID		GW-01D-05302023	GW-01S-05302023	FD-05312023	GW-03D-05312023	GW-03S-05312023
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/30/23	05/30/23	05/31/23	05/31/23	05/31/23
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	132	135	185	190	113
Zinc	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.012

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

Advanced Selection: amk-temp
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Printed: 7/11/2023 1:27:29 PM
[LOGDATE] > #5/25/2023# AND [LOCID] <> 'EFFLUENT' AND [LOCID] <> 'FIELDQC'

TABLE 1
VALIDATED GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		GW-04D	GW-04S	GW-07D	GW-07D	GW-07S
Sample ID		GW-04D-05302023	GW-04S-05302023	GW-07D-05302023	GW-07D-05312023	GW-07S-05302023
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/30/23	05/30/23	05/30/23	05/31/23	05/30/23
Parameter	**Units**					
Volatile Organic Compounds						
1,1,2-Trichloroethane	UG/L	1.0 U	1.0 U	1.0 U	NA	1.0 U
1,2-Dichloroethene (total)	UG/L	2.0 U	2.0 U	2.0 U	NA	2.0 U
Acetone	UG/L	10 U	10 U	3.7 J	NA	10 U
Benzene	UG/L	1.0 U	1.0 U	1.0 U	NA	1.0 U
Vinyl chloride	UG/L	1.0 U	1.0 U	1.0 U	NA	1.0 U
Semivolatile Organic Compounds						
1,3-Dichlorobenzene	UG/L	10 U	10 U	NA	10 U	NA
1,4-Dichlorobenzene	UG/L	10 U	10 U	NA	10 U	NA
bis(2-Ethylhexyl)phthalate	UG/L	5.0 U	5.0 U	NA	560	NA
Phenol	UG/L	5.0 U	5.0 U	NA	5.2 U	NA
Metals						
Antimony	MG/L	0.020 U	0.020 U	NA	0.020 U	NA
Arsenic	MG/L	0.010 U	0.010 U	NA	0.010 U	NA
Barium	MG/L	0.10	0.12	NA	0.15	NA
Cadmium	MG/L	0.0010 U	0.0010 U	NA	0.0032	NA
Chromium	MG/L	0.0018 J	0.0032 J	NA	0.50	NA
Copper	MG/L	0.010 U	0.0026 J	NA	0.060	NA
Iron	MG/L	0.17	1.5	NA	32.5	NA
Lead	MG/L	0.0050 U	0.0050 U	NA	0.28	NA
Magnesium	MG/L	83.5	29.9	NA	39.6	NA
Manganese	MG/L	0.023	0.069	NA	0.21	NA
Mercury	MG/L	0.00020 U	0.00020 U	NA	0.00020 U	NA
Nickel	MG/L	0.0017 J	0.0049 J	NA	0.24	NA

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		GW-04D	GW-04S	GW-07D	GW-07D	GW-07S
Sample ID		GW-04D-05302023	GW-04S-05302023	GW-07D-05302023	GW-07D-05312023	GW-07S-05302023
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/30/23	05/30/23	05/30/23	05/31/23	05/30/23
Parameter	Units					
Metals						
Silver	MG/L	0.0030 U	0.0030 U	NA	0.0030 U	NA
Sodium	MG/L	108	32.6	NA	82.6	NA
Zinc	MG/L	0.010 U	0.010 U	NA	0.18	NA

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

Advanced Selection: amk-temp
L:\DCS\Projects\11172700.00000\GIS\dB\Program\EDMS.mde
Printed: 7/11/2023 1:27:30 PM
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TABLE 1
VALIDATED GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		GW-07S	GW-08D	GW-08SR	GW-26D	GW-28S
Sample ID		GW-07S-05312023	GW-08D-05312023	GW-085R-05312023	GW-26D-05312023	GW-28S-06012023
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/31/23	05/31/23	05/31/23	05/31/23	06/01/23
Parameter	Units					
Volatile Organic Compounds						
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	UG/L	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 U
Semivolatile Organic Compounds						
1,3-Dichlorobenzene	UG/L	10 U	10 U	11 U	10 U	10 U
1,4-Dichlorobenzene	UG/L	10 U	10 U	11 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	UG/L	5.2 U	5.0 U	5.4 U	2.3 J	5.2 U
Phenol	UG/L	5.2 U	5.0 U	5.4 U	5.0 U	5.2 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	0.010 U
Barium	MG/L	0.48	0.056	0.14	0.13	0.081
Cadmium	MG/L	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Chromium	MG/L	0.0073	0.010	0.0016 J	0.0040 U	0.0040 U
Copper	MG/L	0.010 U	0.0023 J	0.0018 J	0.0017 J	0.0018 J
Iron	MG/L	0.40	0.20	12.7	2.4	0.16
Lead	MG/L	0.0050 U	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Magnesium	MG/L	50.8	12.7	52.6	20.0	28.0
Manganese	MG/L	0.088	0.045	0.86	0.36	0.77
Mercury	MG/L	0.00020 U	0.00020 U	0.00020 U	4.50E-05 J	0.00020 U
Nickel	MG/L	0.018	0.0062 J	0.0023 J	0.0017 J	0.0015 J

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		GW-07S	GW-08D	GW-08SR	GW-26D	GW-28S
Sample ID		GW-07S-05312023	GW-08D-05312023	GW-085R-05312023	GW-26D-05312023	GW-28S-06012023
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		05/31/23	05/31/23	05/31/23	05/31/23	06/01/23
Parameter	Units					
Metals						
Silver	MG/L	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U
Sodium	MG/L	62.4	190	217	285	7.0
Zinc	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

Advanced Selection: amk-temp
L:\DCS\Projects\11172700.00000\GIS\dB\Program\EDMS.mde
Printed: 7/11/2023 1:27:31 PM
[LOGDATE] > #5/25/2023# AND [LOCID] <> 'EFFLUENT' AND [LOCID] <> 'FIELDQC'

TABLE 1
VALIDATED GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		GW-29S	GW-30S	GW-31S	GW-32S	GW-33S
Sample ID		GW-29S-06012023	GW-30S-06012023	GW-31S-06012023	GW-32S-06012023	GW-3S5-06012023
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		06/01/23	06/01/23	06/01/23	06/01/23	06/01/23
Parameter	**Units**					
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	2.0 U	2.0 U
Acetone	UG/L	10 U	10 U	10 U	10 U	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	5.2 U	5.2 U	5.0 U	5.2 U	5.2 U
Phenol	UG/L	5.2 U	5.2 U	5.0 U	5.2 U	5.2 U
Metals						
Antimony	MG/L	0.020 U	0.020 U	0.020 U	0.020 U	0.020 U
Arsenic	MG/L	0.0060 J	0.010 U	0.010 U	0.010 U	0.010 U
Barium	MG/L	0.16	0.13	0.085	0.045	0.040
Cadmium	MG/L	0.0010 U	0.0010 U	0.0010 U	0.0010 U	0.0010 U
Chromium	MG/L	0.0040 U	0.0040 U	0.0040 U	0.0040 U	0.0040 U
Copper	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U
Iron	MG/L	8.3	9.9	2.6	0.050 U	0.050 U
Lead	MG/L	0.0035 J	0.0050 U	0.0050 U	0.0050 U	0.0050 U
Magnesium	MG/L	54.0	23.5	25.2	22.0	27.1
Manganese	MG/L	0.57	1.6	0.46	0.19	0.021
Mercury	MG/L	0.00020 U	0.00020 U	0.00020 U	0.00020 U	0.00020 U
Nickel	MG/L	0.010 U	0.010 U	0.0016 J	0.010 U	0.010 U

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		GW-29S	GW-30S	GW-31S	GW-32S	GW-33S
Sample ID		GW-29S-06012023	GW-30S-06012023	GW-31S-06012023	GW-32S-06012023	GW-3S5-06012023
Matrix		Groundwater	Groundwater	Groundwater	Groundwater	Groundwater
Depth Interval (ft)		-	-	-	-	-
Date Sampled		06/01/23	06/01/23	06/01/23	06/01/23	06/01/23
Parameter	Units					
Metals						
Silver	MG/L	0.0030 U	0.0030 U	0.0030 U	0.0030 U	0.0030 U
Sodium	MG/L	7.2	142	2.2	2.1	2.2
Zinc	MG/L	0.010 U	0.010 U	0.010 U	0.010 U	0.010 U

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

Advanced Selection: amk-temp
L:\DCS\Projects\11172700.00000\GIS\dB\Program\EDMS.mde
Printed: 7/11/2023 1:27:32 PM
[LOGDATE] > #5/25/2023# AND [LOCID] <> 'EFFLUENT' AND [LOCID] <> 'FIELDQC'

TABLE 1
VALIDATED GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		GW-34S	GW-35S
Sample ID		GW-34S-05312023	GW-35S-05312023
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		05/31/23	05/31/23
Parameter	**Units**		
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 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	5.2 U	5.2 U
Phenol	UG/L	5.2 U	5.2 U
Metals			
Antimony	MG/L	0.020 U	0.020 U
Arsenic	MG/L	0.010 U	0.010 U
Barium	MG/L	0.14	0.080
Cadmium	MG/L	0.0010 U	0.0010 U
Chromium	MG/L	0.0040 U	0.0040 U
Copper	MG/L	0.0016 J	0.010 U
Iron	MG/L	0.053	0.060
Lead	MG/L	0.0050 U	0.0050 U
Magnesium	MG/L	42.1	21.2
Manganese	MG/L	0.64	0.54
Mercury	MG/L	0.00020 U	0.00020 U
Nickel	MG/L	0.0036 J	0.0061 J

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

TABLE 1
VALIDATED GROUNDWATER SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		GW-34S	GW-35S
Sample ID		GW-34S-05312023	GW-35S-05312023
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		05/31/23	05/31/23
Parameter	**Units**		
Metals			
Silver	MG/L	0.0030 U	0.0030 U
Sodium	MG/L	25.7	2.1
Zinc	MG/L	0.010 U	0.010 U

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

Advanced Selection: amk-temp
L:\DCS\Projects\11172700.00000\GIS\dB\Program\EDMS.mde
Printed: 7/11/2023 1:27:33 PM
[LOGDATE] > #5/25/2023# AND [LOCID] <> 'EFFLUENT' AND [LOCID] <> 'FIELDQC'

TABLE 2
VALIDATED FIELDQC SAMPLE RESULTS
PFOHL BROTHERS LANDFILL SITE

Location ID		FIELDQC	FIELDQC
Sample ID		TB-05302023-05312023	TB-06012023
Matrix		Groundwater	Groundwater
Depth Interval (ft)		-	-
Date Sampled		05/31/23	06/01/23
Parameter	Units	Trip Blank (1-1)	Trip Blank (1-1)
Volatile Organic Compounds			
1,1,2-Trichloroethane	UG/L	1.0 U	1.0 UJ
1,2-Dichloroethene (total)	UG/L	2.0 U	2.0 UJ
Acetone	UG/L	10 U	10 UJ
Benzene	UG/L	1.0 U	1.0 UJ
Vinyl chloride	UG/L	1.0 U	1.0 UJ

Flags assigned during chemistry validation are shown.

MADE BY: AMK 7/11/23
CHECKED BY: PRF 8/03/23

Detection Limits shown are PQL

Advanced Selection: AMK-TEMP1
L:\DCS\Projects\11172700.00000\GIS\dB\Program\EDMS.mde
Printed: 7/11/2023 1:29:57 PM
[LOGDATE] > #5/25/2023# AND [LOCID] = 'FIELDQC'

APPENDIX A

VALIDATED SAMPLE REPORTING FORMS

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: GW-07D-05302023
Date Collected: 05/30/23 10:25
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-1
Matrix: Water

Method: SW846 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			06/07/23 16:05	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 16:05	1
Acetone	3.7	J	10	3.0	ug/L			06/07/23 16:05	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 16:05	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 16:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*		*06/07/23 16:05*	*1*
Toluene-d8 (Surr)	*80*		*80 - 120*		*06/07/23 16:05*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*06/07/23 16:05*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*06/07/23 16:05*	*1*

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: GW-07S-05302023
Date Collected: 05/30/23 11:45
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-2
Matrix: Water

Method: SW846 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			06/07/23 16:30	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 16:30	1
Acetone	ND		10	3.0	ug/L			06/07/23 16:30	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 16:30	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 16:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*77 - 120*		*06/07/23 16:30*	*1*
Toluene-d8 (Surr)	*82*		*80 - 120*		*06/07/23 16:30*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*06/07/23 16:30*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*06/07/23 16:30*	*1*

Client Sample ID: GW-01D-05302023

Date Collected: 05/30/23 13:53
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-3

Matrix: Water

Method: SW846 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			06/07/23 16:54	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 16:54	1
Acetone	ND		10	3.0	ug/L			06/07/23 16:54	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 16:54	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*77 - 120*		*06/07/23 16:54*	*1*
Toluene-d8 (Surr)	*82*		*80 - 120*		*06/07/23 16:54*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*06/07/23 16:54*	*1*
Dibromofluoromethane (Surr)	*111*		*75 - 123*		*06/07/23 16:54*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/01/23 09:56	06/01/23 20:18	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/01/23 09:56	06/01/23 20:18	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		06/01/23 09:56	06/01/23 20:18	1
Phenol	ND		5.2	0.41	ug/L		06/01/23 09:56	06/01/23 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*87*		*41 - 120*	*06/01/23 09:56*	*06/01/23 20:18*	*1*
2-Fluorobiphenyl	*74*		*48 - 120*	*06/01/23 09:56*	*06/01/23 20:18*	*1*
2-Fluorophenol	*44*		*35 - 120*	*06/01/23 09:56*	*06/01/23 20:18*	*1*
Nitrobenzene-d5	*58*		*46 - 120*	*06/01/23 09:56*	*06/01/23 20:18*	*1*
Phenol-d5	*33*		*22 - 120*	*06/01/23 09:56*	*06/01/23 20:18*	*1*
p-Terphenyl-d14	*84*		*60 - 148*	*06/01/23 09:56*	*06/01/23 20:18*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 20:18	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 20:18	1
Barium	**0.099**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 20:18	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 20:18	1
Chromium	**0.018**		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 20:18	1
Copper	**0.0018**	**J**	0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 20:18	1
Iron	**1.1**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 20:18	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 20:18	1
Magnesium	**38.7**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 20:18	1
Manganese	**0.029**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 20:18	1
Nickel	**0.0032**	**J**	0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 20:18	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 14:33	1
Sodium	**132**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 20:18	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 20:18	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:08	1

Client Sample ID: GW-01S-05302023
Date Collected: 05/30/23 14:45
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-4
Matrix: Water

Method: SW846 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			06/07/23 17:18	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 17:18	1
Acetone	ND		10	3.0	ug/L			06/07/23 17:18	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 17:18	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*		*06/07/23 17:18*	*1*
Toluene-d8 (Surr)	*83*		*80 - 120*		*06/07/23 17:18*	*1*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*		*06/07/23 17:18*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*06/07/23 17:18*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		11	0.52	ug/L		06/01/23 09:56	06/01/23 20:45	1
1,4-Dichlorobenzene	ND		11	0.50	ug/L		06/01/23 09:56	06/01/23 20:45	1
Bis(2-ethylhexyl) phthalate	ND		5.4	2.4	ug/L		06/01/23 09:56	06/01/23 20:45	1
Phenol	ND		5.4	0.42	ug/L		06/01/23 09:56	06/01/23 20:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*98*		*41 - 120*	*06/01/23 09:56*	*06/01/23 20:45*	*1*
2-Fluorobiphenyl	*99*		*48 - 120*	*06/01/23 09:56*	*06/01/23 20:45*	*1*
2-Fluorophenol	*63*		*35 - 120*	*06/01/23 09:56*	*06/01/23 20:45*	*1*
Nitrobenzene-d5	*77*		*46 - 120*	*06/01/23 09:56*	*06/01/23 20:45*	*1*
Phenol-d5	*45*		*22 - 120*	*06/01/23 09:56*	*06/01/23 20:45*	*1*
p-Terphenyl-d14	*72*		*60 - 148*	*06/01/23 09:56*	*06/01/23 20:45*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 20:22	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 20:22	1
Barium	**0.12**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 20:22	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 20:22	1
Chromium	ND		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 20:22	1
Copper	ND		0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 20:22	1
Iron	**5.2**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 20:22	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 20:22	1
Magnesium	**14.8**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 20:22	1
Manganese	**0.61**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 20:22	1
Nickel	ND		0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 20:22	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 14:48	1
Sodium	**135**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 20:22	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 20:22	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:10	1

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: GW-04S-05302023
Date Collected: 05/30/23 15:20
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-5
Matrix: Water

Method: SW846 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			06/07/23 17:43	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 17:43	1
Acetone	ND		10	3.0	ug/L			06/07/23 17:43	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 17:43	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 17:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*		*06/07/23 17:43*	*1*
Toluene-d8 (Surr)	*81*		*80 - 120*		*06/07/23 17:43*	*1*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*		*06/07/23 17:43*	*1*
Dibromofluoromethane (Surr)	*110*		*75 - 123*		*06/07/23 17:43*	*1*

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: GW-04D-05302023

Date Collected: 05/30/23 16:50
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-6

Matrix: Water

Method: SW846 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			06/07/23 18:07	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 18:07	1
Acetone	ND		10	3.0	ug/L			06/07/23 18:07	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 18:07	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 18:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*77 - 120*		*06/07/23 18:07*	*1*
Toluene-d8 (Surr)	*83*		*80 - 120*		*06/07/23 18:07*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*06/07/23 18:07*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*06/07/23 18:07*	*1*

Method: SW846 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		06/01/23 09:56	06/01/23 21:13	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		06/01/23 09:56	06/01/23 21:13	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		06/01/23 09:56	06/01/23 21:13	1
Phenol	ND		5.0	0.39	ug/L		06/01/23 09:56	06/01/23 21:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*93*		*41 - 120*	*06/01/23 09:56*	*06/01/23 21:13*	*1*
2-Fluorobiphenyl	*83*		*48 - 120*	*06/01/23 09:56*	*06/01/23 21:13*	*1*
2-Fluorophenol	*49*		*35 - 120*	*06/01/23 09:56*	*06/01/23 21:13*	*1*
Nitrobenzene-d5	*64*		*46 - 120*	*06/01/23 09:56*	*06/01/23 21:13*	*1*
Phenol-d5	*37*		*22 - 120*	*06/01/23 09:56*	*06/01/23 21:13*	*1*
p-Terphenyl-d14	*59*	*S1-*	*60 - 148*	*06/01/23 09:56*	*06/01/23 21:13*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 20:26	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 20:26	1
Barium	**0.10**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 20:26	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 20:26	1
Chromium	**0.0018**	**J**	0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 20:26	1
Copper	ND		0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 20:26	1
Iron	**0.17**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 20:26	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 20:26	1
Magnesium	**83.5**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 20:26	1
Manganese	**0.023**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 20:26	1
Nickel	**0.0017**	**J**	0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 20:26	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 14:52	1
Sodium	**108**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 20:26	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 20:26	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:11	1

Client Sample ID: GW-04S-05302023

Date Collected: 05/30/23 17:00
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-7

Matrix: Water

Method: SW846 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		06/01/23 09:56	06/01/23 21:40	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		06/01/23 09:56	06/01/23 21:40	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		06/01/23 09:56	06/01/23 21:40	1
Phenol	ND		5.0	0.39	ug/L		06/01/23 09:56	06/01/23 21:40	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*96*		*41 - 120*	*06/01/23 09:56*	*06/01/23 21:40*	*1*
2-Fluorobiphenyl	*98*		*48 - 120*	*06/01/23 09:56*	*06/01/23 21:40*	*1*
2-Fluorophenol	*60*		*35 - 120*	*06/01/23 09:56*	*06/01/23 21:40*	*1*
Nitrobenzene-d5	*75*		*46 - 120*	*06/01/23 09:56*	*06/01/23 21:40*	*1*
Phenol-d5	*44*		*22 - 120*	*06/01/23 09:56*	*06/01/23 21:40*	*1*
p-Terphenyl-d14	*78*		*60 - 148*	*06/01/23 09:56*	*06/01/23 21:40*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 20:30	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 20:30	1
Barium	**0.12**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 20:30	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 20:30	1
Chromium	**0.0032**	**J**	0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 20:30	1
Copper	**0.0026**	**J**	0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 20:30	1
Iron	**1.5**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 20:30	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 20:30	1
Magnesium	**29.9**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 20:30	1
Manganese	**0.069**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 20:30	1
Nickel	**0.0049**	**J**	0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 20:30	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 14:56	1
Sodium	**32.6**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 20:30	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 20:30	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:12	1

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: GW-03S-05312023

Date Collected: 05/31/23 08:55
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-8

Matrix: Water

Method: SW846 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			06/07/23 18:31	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 18:31	1
Acetone	ND		10	3.0	ug/L			06/07/23 18:31	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 18:31	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 18:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*06/07/23 18:31*	*1*
Toluene-d8 (Surr)	*83*		*80 - 120*		*06/07/23 18:31*	*1*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*		*06/07/23 18:31*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*06/07/23 18:31*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/01/23 09:56	06/01/23 22:07	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/01/23 09:56	06/01/23 22:07	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		06/01/23 09:56	06/01/23 22:07	1
Phenol	ND		5.2	0.41	ug/L		06/01/23 09:56	06/01/23 22:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*92*		*41 - 120*	*06/01/23 09:56*	*06/01/23 22:07*	*1*
2-Fluorobiphenyl	*95*		*48 - 120*	*06/01/23 09:56*	*06/01/23 22:07*	*1*
2-Fluorophenol	*60*		*35 - 120*	*06/01/23 09:56*	*06/01/23 22:07*	*1*
Nitrobenzene-d5	*76*		*46 - 120*	*06/01/23 09:56*	*06/01/23 22:07*	*1*
Phenol-d5	*44*		*22 - 120*	*06/01/23 09:56*	*06/01/23 22:07*	*1*
p-Terphenyl-d14	*71*		*60 - 148*	*06/01/23 09:56*	*06/01/23 22:07*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 20:45	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 20:45	1
Barium	**0.090**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 20:45	1
Cadmium	**0.0014**		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 20:45	1
Chromium	**0.0026**	**J**	0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 20:45	1
Copper	**0.0035**	**J**	0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 20:45	1
Iron	**0.35**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 20:45	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 20:45	1
Magnesium	**90.9**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 20:45	1
Manganese	**0.64**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 20:45	1
Nickel	**0.064**		0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 20:45	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 15:00	1
Sodium	**113**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 20:45	1
Zinc	**0.012**		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 20:45	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:14	1

Client Sample ID: GW-03D-05312023
Date Collected: 05/31/23 10:05
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-9
Matrix: Water

Method: SW846 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			06/07/23 18:55	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 18:55	1
Acetone	ND		10	3.0	ug/L			06/07/23 18:55	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 18:55	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 18:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*77 - 120*		*06/07/23 18:55*	*1*
Toluene-d8 (Surr)	*83*		*80 - 120*		*06/07/23 18:55*	*1*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*		*06/07/23 18:55*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*06/07/23 18:55*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	**2.7**	**J**	11	0.52	ug/L		06/01/23 09:56	06/01/23 22:35	1
1,4-Dichlorobenzene	**4.1**	**J**	11	0.50	ug/L		06/01/23 09:56	06/01/23 22:35	1
Bis(2-ethylhexyl) phthalate	**15**		5.4	2.4	ug/L		06/01/23 09:56	06/01/23 22:35	1
Phenol	ND		5.4	0.42	ug/L		06/01/23 09:56	06/01/23 22:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*112*		*41 - 120*	*06/01/23 09:56*	*06/01/23 22:35*	*1*
2-Fluorobiphenyl	*94*		*48 - 120*	*06/01/23 09:56*	*06/01/23 22:35*	*1*
2-Fluorophenol	*58*		*35 - 120*	*06/01/23 09:56*	*06/01/23 22:35*	*1*
Nitrobenzene-d5	*75*		*46 - 120*	*06/01/23 09:56*	*06/01/23 22:35*	*1*
Phenol-d5	*44*		*22 - 120*	*06/01/23 09:56*	*06/01/23 22:35*	*1*
p-Terphenyl-d14	*75*		*60 - 148*	*06/01/23 09:56*	*06/01/23 22:35*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 20:49	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 20:49	1
Barium	**0.085**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 20:49	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 20:49	1
Chromium	ND		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 20:49	1
Copper	ND		0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 20:49	1
Iron	**1.1**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 20:49	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 20:49	1
Magnesium	**16.1**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 20:49	1
Manganese	**0.20**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 20:49	1
Nickel	**0.0049**	**J**	0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 20:49	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 15:04	1
Sodium	**190**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 20:49	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 20:49	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:15	1

Client Sample ID: FD-05312023
Date Collected: 05/31/23 00:00
Date Received: 05/31/23 18:17

FD of GW-03D

Lab Sample ID: 480-209349-10
Matrix: Water

Method: SW846 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			06/07/23 19:20	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 19:20	1
Acetone	ND		10	3.0	ug/L			06/07/23 19:20	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 19:20	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 19:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*06/07/23 19:20*	*1*
Toluene-d8 (Surr)	*81*		*80 - 120*		*06/07/23 19:20*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*06/07/23 19:20*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*06/07/23 19:20*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	**2.3**	**J**	10	0.48	ug/L		06/01/23 09:56	06/01/23 23:02	1
1,4-Dichlorobenzene	**3.4**	**J**	10	0.46	ug/L		06/01/23 09:56	06/01/23 23:02	1
Bis(2-ethylhexyl) phthalate	**20**		5.0	2.2	ug/L		06/01/23 09:56	06/01/23 23:02	1
Phenol	ND		5.0	0.39	ug/L		06/01/23 09:56	06/01/23 23:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*95*		*41 - 120*	*06/01/23 09:56*	*06/01/23 23:02*	*1*
2-Fluorobiphenyl	*86*		*48 - 120*	*06/01/23 09:56*	*06/01/23 23:02*	*1*
2-Fluorophenol	*51*		*35 - 120*	*06/01/23 09:56*	*06/01/23 23:02*	*1*
Nitrobenzene-d5	*67*		*46 - 120*	*06/01/23 09:56*	*06/01/23 23:02*	*1*
Phenol-d5	*37*		*22 - 120*	*06/01/23 09:56*	*06/01/23 23:02*	*1*
p-Terphenyl-d14	*69*		*60 - 148*	*06/01/23 09:56*	*06/01/23 23:02*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 20:53	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 20:53	1
Barium	**0.083**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 20:53	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 20:53	1
Chromium	ND		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 20:53	1
Copper	ND		0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 20:53	1
Iron	**1.1**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 20:53	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 20:53	1
Magnesium	**15.8**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 20:53	1
Manganese	**0.20**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 20:53	1
Nickel	**0.0049**	**J**	0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 20:53	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 15:08	1
Sodium	**185**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 20:53	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 20:53	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:16	1

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: GW-07D-05312023

Date Collected: 05/31/23 10:35
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-11

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/01/23 09:56	06/01/23 23:29	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/01/23 09:56	06/01/23 23:29	1
Phenol	ND		5.2	0.41	ug/L		06/01/23 09:56	06/01/23 23:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*93*		*41 - 120*	*06/01/23 09:56*	*06/01/23 23:29*	*1*
2-Fluorobiphenyl	*74*		*48 - 120*	*06/01/23 09:56*	*06/01/23 23:29*	*1*
2-Fluorophenol	*46*		*35 - 120*	*06/01/23 09:56*	*06/01/23 23:29*	*1*
Nitrobenzene-d5	*58*		*46 - 120*	*06/01/23 09:56*	*06/01/23 23:29*	*1*
Phenol-d5	*35*		*22 - 120*	*06/01/23 09:56*	*06/01/23 23:29*	*1*
p-Terphenyl-d14	*56*	*S1-*	*60 - 148*	*06/01/23 09:56*	*06/01/23 23:29*	*1*

Method: SW846 8270D - Semivolatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bis(2-ethylhexyl) phthalate	**560**		100	46	ug/L		06/01/23 09:56	06/06/23 20:11	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*78*		*41 - 120*	*06/01/23 09:56*	*06/06/23 20:11*	*20*
2-Fluorobiphenyl	*63*		*48 - 120*	*06/01/23 09:56*	*06/06/23 20:11*	*20*
2-Fluorophenol	*39*		*35 - 120*	*06/01/23 09:56*	*06/06/23 20:11*	*20*
Nitrobenzene-d5	*49*		*46 - 120*	*06/01/23 09:56*	*06/06/23 20:11*	*20*
Phenol-d5	*28*		*22 - 120*	*06/01/23 09:56*	*06/06/23 20:11*	*20*
p-Terphenyl-d14	*47*	*S1-*	*60 - 148*	*06/01/23 09:56*	*06/06/23 20:11*	*20*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 20:57	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 20:57	1
Barium	**0.15**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 20:57	1
Cadmium	**0.0032**		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 20:57	1
Chromium	**0.50**		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 20:57	1
Copper	**0.060**		0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 20:57	1
Iron	**32.5**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 20:57	1
Lead	**0.28**		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 20:57	1
Magnesium	**39.6**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 20:57	1
Manganese	**0.21**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 20:57	1
Nickel	**0.24**		0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 20:57	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 15:12	1
Sodium	**82.6**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 20:57	1
Zinc	**0.18**		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 20:57	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:17	1

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: GW-07S-05312023

Date Collected: 05/31/23 10:55
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-12

Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/01/23 09:56	06/01/23 23:57	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/01/23 09:56	06/01/23 23:57	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		06/01/23 09:56	06/01/23 23:57	1
Phenol	ND		5.2	0.41	ug/L		06/01/23 09:56	06/01/23 23:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*100*		*41 - 120*	*06/01/23 09:56*	*06/01/23 23:57*	*1*
2-Fluorobiphenyl	*96*		*48 - 120*	*06/01/23 09:56*	*06/01/23 23:57*	*1*
2-Fluorophenol	*60*		*35 - 120*	*06/01/23 09:56*	*06/01/23 23:57*	*1*
Nitrobenzene-d5	*76*		*46 - 120*	*06/01/23 09:56*	*06/01/23 23:57*	*1*
Phenol-d5	*44*		*22 - 120*	*06/01/23 09:56*	*06/01/23 23:57*	*1*
p-Terphenyl-d14	*77*		*60 - 148*	*06/01/23 09:56*	*06/01/23 23:57*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 21:01	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 21:01	1
Barium	**0.48**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 21:01	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 21:01	1
Chromium	**0.0073**		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 21:01	1
Copper	ND		0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 21:01	1
Iron	**0.40**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 21:01	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 21:01	1
Magnesium	**50.8**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 21:01	1
Manganese	**0.088**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 21:01	1
Nickel	**0.018**		0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 21:01	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 15:16	1
Sodium	**62.4**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 21:01	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 21:01	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:21	1

Client Sample ID: GW-34S-05312023

Date Collected: 05/31/23 12:38
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-13

Matrix: Water

Method: SW846 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			06/07/23 19:44	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 19:44	1
Acetone	ND		10	3.0	ug/L			06/07/23 19:44	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 19:44	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 19:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*77 - 120*		*06/07/23 19:44*	*1*
Toluene-d8 (Surr)	*80*		*80 - 120*		*06/07/23 19:44*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*06/07/23 19:44*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*06/07/23 19:44*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/01/23 09:56	06/02/23 00:24	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/01/23 09:56	06/02/23 00:24	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		06/01/23 09:56	06/02/23 00:24	1
Phenol	ND		5.2	0.41	ug/L		06/01/23 09:56	06/02/23 00:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*101*		*41 - 120*	*06/01/23 09:56*	*06/02/23 00:24*	*1*
2-Fluorobiphenyl	*94*		*48 - 120*	*06/01/23 09:56*	*06/02/23 00:24*	*1*
2-Fluorophenol	*54*		*35 - 120*	*06/01/23 09:56*	*06/02/23 00:24*	*1*
Nitrobenzene-d5	*69*		*46 - 120*	*06/01/23 09:56*	*06/02/23 00:24*	*1*
Phenol-d5	*41*		*22 - 120*	*06/01/23 09:56*	*06/02/23 00:24*	*1*
p-Terphenyl-d14	*78*		*60 - 148*	*06/01/23 09:56*	*06/02/23 00:24*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 21:05	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 21:05	1
Barium	**0.14**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 21:05	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 21:05	1
Chromium	ND		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 21:05	1
Copper	**0.0016**	**J**	0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 21:05	1
Iron	**0.053**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 21:05	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 21:05	1
Magnesium	**42.1**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 21:05	1
Manganese	**0.64**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 21:05	1
Nickel	**0.0036**	**J**	0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 21:05	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 15:20	1
Sodium	**25.7**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 21:05	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 21:05	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:23	1

Client Sample ID: GW-085R-05312023

Date Collected: 05/31/23 13:54
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-14

Matrix: Water

Method: SW846 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			06/07/23 20:08	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 20:08	1
Acetone	ND		10	3.0	ug/L			06/07/23 20:08	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 20:08	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 20:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*77 - 120*		*06/07/23 20:08*	*1*
Toluene-d8 (Surr)	*81*		*80 - 120*		*06/07/23 20:08*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*06/07/23 20:08*	*1*
Dibromofluoromethane (Surr)	*106*		*75 - 123*		*06/07/23 20:08*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		11	0.52	ug/L		06/01/23 09:56	06/02/23 00:51	1
1,4-Dichlorobenzene	ND		11	0.50	ug/L		06/01/23 09:56	06/02/23 00:51	1
Bis(2-ethylhexyl) phthalate	ND		5.4	2.4	ug/L		06/01/23 09:56	06/02/23 00:51	1
Phenol	ND		5.4	0.42	ug/L		06/01/23 09:56	06/02/23 00:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*108*		*41 - 120*	*06/01/23 09:56*	*06/02/23 00:51*	*1*
2-Fluorobiphenyl	*92*		*48 - 120*	*06/01/23 09:56*	*06/02/23 00:51*	*1*
2-Fluorophenol	*58*		*35 - 120*	*06/01/23 09:56*	*06/02/23 00:51*	*1*
Nitrobenzene-d5	*72*		*46 - 120*	*06/01/23 09:56*	*06/02/23 00:51*	*1*
Phenol-d5	*44*		*22 - 120*	*06/01/23 09:56*	*06/02/23 00:51*	*1*
p-Terphenyl-d14	*76*		*60 - 148*	*06/01/23 09:56*	*06/02/23 00:51*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 21:08	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 21:08	1
Barium	**0.14**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 21:08	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 21:08	1
Chromium	**0.0016**	**J**	0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 21:08	1
Copper	**0.0018**	**J**	0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 21:08	1
Iron	**12.7**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 21:08	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 21:08	1
Magnesium	**52.6**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 21:08	1
Manganese	**0.86**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 21:08	1
Nickel	**0.0023**	**J**	0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 21:08	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 15:36	1
Sodium	**217**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 21:08	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 21:08	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:24	1

Client Sample ID: GW-08D-05312023

Date Collected: 05/31/23 15:08
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-15

Matrix: Water

Method: SW846 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			06/07/23 20:32	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 20:32	1
Acetone	ND		10	3.0	ug/L			06/07/23 20:32	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 20:32	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*91*		*77 - 120*		*06/07/23 20:32*	*1*
Toluene-d8 (Surr)	*81*		*80 - 120*		*06/07/23 20:32*	*1*
4-Bromofluorobenzene (Surr)	*106*		*73 - 120*		*06/07/23 20:32*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 123*		*06/07/23 20:32*	*1*

Method: SW846 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		06/01/23 09:56	06/01/23 18:56	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		06/01/23 09:56	06/01/23 18:56	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		06/01/23 09:56	06/01/23 18:56	1
Phenol	ND		5.0	0.39	ug/L		06/01/23 09:56	06/01/23 18:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*92*		*41 - 120*	*06/01/23 09:56*	*06/01/23 18:56*	*1*
2-Fluorobiphenyl	*84*		*48 - 120*	*06/01/23 09:56*	*06/01/23 18:56*	*1*
2-Fluorophenol	*53*		*35 - 120*	*06/01/23 09:56*	*06/01/23 18:56*	*1*
Nitrobenzene-d5	*66*		*46 - 120*	*06/01/23 09:56*	*06/01/23 18:56*	*1*
Phenol-d5	*38*		*22 - 120*	*06/01/23 09:56*	*06/01/23 18:56*	*1*
p-Terphenyl-d14	*76*		*60 - 148*	*06/01/23 09:56*	*06/01/23 18:56*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 21:12	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 21:12	1
Barium	**0.056**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 21:12	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 21:12	1
Chromium	**0.010**		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 21:12	1
Copper	**0.0023**	**J**	0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 21:12	1
Iron	**0.20**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 21:12	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 21:12	1
Magnesium	**12.7**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 21:12	1
Manganese	**0.045**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 21:12	1
Nickel	**0.0062**	**J**	0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 21:12	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 15:40	1
Sodium	**190**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 21:12	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 21:12	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:25	1

Client Sample ID: GW-26D-05312023

Date Collected: 05/31/23 16:40
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-16

Matrix: Water

Method: SW846 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			06/07/23 20:57	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 20:57	1
Acetone	ND		10	3.0	ug/L			06/07/23 20:57	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 20:57	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 20:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*06/07/23 20:57*	*1*
Toluene-d8 (Surr)	*81*		*80 - 120*		*06/07/23 20:57*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*06/07/23 20:57*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*06/07/23 20:57*	*1*

Method: SW846 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		06/01/23 09:56	06/02/23 01:18	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		06/01/23 09:56	06/02/23 01:18	1
Bis(2-ethylhexyl) phthalate	**2.3**	**J**	5.0	2.2	ug/L		06/01/23 09:56	06/02/23 01:18	1
Phenol	ND		5.0	0.39	ug/L		06/01/23 09:56	06/02/23 01:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*98*		*41 - 120*	*06/01/23 09:56*	*06/02/23 01:18*	*1*
2-Fluorobiphenyl	*92*		*48 - 120*	*06/01/23 09:56*	*06/02/23 01:18*	*1*
2-Fluorophenol	*59*		*35 - 120*	*06/01/23 09:56*	*06/02/23 01:18*	*1*
Nitrobenzene-d5	*74*		*46 - 120*	*06/01/23 09:56*	*06/02/23 01:18*	*1*
Phenol-d5	*42*		*22 - 120*	*06/01/23 09:56*	*06/02/23 01:18*	*1*
p-Terphenyl-d14	*71*		*60 - 148*	*06/01/23 09:56*	*06/02/23 01:18*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 21:43	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 21:43	1
Barium	**0.13**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 21:43	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 21:43	1
Chromium	ND		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 21:43	1
Copper	**0.0017**	**J**	0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 21:43	1
Iron	**2.4**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 21:43	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 21:43	1
Magnesium	**20.0**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 21:43	1
Manganese	**0.36**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 21:43	1
Nickel	**0.0017**	**J**	0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 21:43	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 15:59	1
Sodium	**285**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 21:43	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 21:43	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.000045**	**J**	0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:30	1

Client Sample ID: GW-35S-05312023

Date Collected: 05/31/23 17:13
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-17

Matrix: Water

Method: SW846 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			06/07/23 21:21	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 21:21	1
Acetone	ND		10	3.0	ug/L			06/07/23 21:21	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 21:21	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 21:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*06/07/23 21:21*	*1*
Toluene-d8 (Surr)	*82*		*80 - 120*		*06/07/23 21:21*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*06/07/23 21:21*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*06/07/23 21:21*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/01/23 09:56	06/02/23 01:46	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/01/23 09:56	06/02/23 01:46	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		06/01/23 09:56	06/02/23 01:46	1
Phenol	ND		5.2	0.41	ug/L		06/01/23 09:56	06/02/23 01:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*96*		*41 - 120*	*06/01/23 09:56*	*06/02/23 01:46*	*1*
2-Fluorobiphenyl	*92*		*48 - 120*	*06/01/23 09:56*	*06/02/23 01:46*	*1*
2-Fluorophenol	*56*		*35 - 120*	*06/01/23 09:56*	*06/02/23 01:46*	*1*
Nitrobenzene-d5	*69*		*46 - 120*	*06/01/23 09:56*	*06/02/23 01:46*	*1*
Phenol-d5	*42*		*22 - 120*	*06/01/23 09:56*	*06/02/23 01:46*	*1*
p-Terphenyl-d14	*73*		*60 - 148*	*06/01/23 09:56*	*06/02/23 01:46*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 21:46	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 21:46	1
Barium	**0.080**		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 21:46	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 21:46	1
Chromium	ND		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 21:46	1
Copper	ND		0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 21:46	1
Iron	**0.060**		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 21:46	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 21:46	1
Magnesium	**21.2**		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 21:46	1
Manganese	**0.54**		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 21:46	1
Nickel	**0.0061**	**J**	0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 21:46	1
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 16:03	1
Sodium	**2.1**		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 21:46	1
Zinc	ND		0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 21:46	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 14:32	1

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: TB-05302023-05312023
Date Collected: 05/31/23 00:00
Date Received: 05/31/23 18:17

Lab Sample ID: 480-209349-18
Matrix: Water

Method: SW846 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			06/07/23 21:45	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/07/23 21:45	1
Acetone	ND		10	3.0	ug/L			06/07/23 21:45	1
Benzene	ND		1.0	0.41	ug/L			06/07/23 21:45	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/07/23 21:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*06/07/23 21:45*	*1*
Toluene-d8 (Surr)	*82*		*80 - 120*		*06/07/23 21:45*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*06/07/23 21:45*	*1*
Dibromofluoromethane (Surr)	*109*		*75 - 123*		*06/07/23 21:45*	*1*

Client Sample ID: GW-28S-06012023

Date Collected: 06/01/23 08:54
Date Received: 06/02/23 14:35

Lab Sample ID: 480-209391-1

Matrix: Water

Method: SW846 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			06/08/23 17:12	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/08/23 17:12	1
Acetone	ND		10	3.0	ug/L			06/08/23 17:12	1
Benzene	ND		1.0	0.41	ug/L			06/08/23 17:12	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/23 17:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*06/08/23 17:12*	*1*
Toluene-d8 (Surr)	*81*		*80 - 120*		*06/08/23 17:12*	*1*
4-Bromofluorobenzene (Surr)	*107*		*73 - 120*		*06/08/23 17:12*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*06/08/23 17:12*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/02/23 14:40	06/05/23 15:28	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/02/23 14:40	06/05/23 15:28	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		06/02/23 14:40	06/05/23 15:28	1
Phenol	ND		5.2	0.41	ug/L		06/02/23 14:40	06/05/23 15:28	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*65*		*41 - 120*	*06/02/23 14:40*	*06/05/23 15:28*	*1*
2-Fluorobiphenyl	*67*		*48 - 120*	*06/02/23 14:40*	*06/05/23 15:28*	*1*
2-Fluorophenol	*48*		*35 - 120*	*06/02/23 14:40*	*06/05/23 15:28*	*1*
Nitrobenzene-d5	*62*		*46 - 120*	*06/02/23 14:40*	*06/05/23 15:28*	*1*
Phenol-d5	*37*		*22 - 120*	*06/02/23 14:40*	*06/05/23 15:28*	*1*
p-Terphenyl-d14	*79*		*60 - 148*	*06/02/23 14:40*	*06/05/23 15:28*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/05/23 08:22	06/05/23 22:02	1
Arsenic	ND		0.010	0.0056	mg/L		06/05/23 08:22	06/05/23 22:02	1
Barium	**0.081**		0.0020	0.00070	mg/L		06/05/23 08:22	06/05/23 22:02	1
Cadmium	ND		0.0010	0.00050	mg/L		06/05/23 08:22	06/05/23 22:02	1
Chromium	ND		0.0040	0.0010	mg/L		06/05/23 08:22	06/05/23 22:02	1
Copper	**0.0018**	**J**	0.010	0.0016	mg/L		06/05/23 08:22	06/05/23 22:02	1
Iron	**0.16**		0.050	0.019	mg/L		06/05/23 08:22	06/05/23 22:02	1
Lead	ND		0.0050	0.0030	mg/L		06/05/23 08:22	06/05/23 22:02	1
Magnesium	**28.0**		0.20	0.043	mg/L		06/05/23 08:22	06/10/23 18:51	1
Manganese	**0.77**		0.0030	0.00040	mg/L		06/05/23 08:22	06/05/23 22:02	1
Nickel	**0.0015**	**J**	0.010	0.0013	mg/L		06/05/23 08:22	06/05/23 22:02	1
Silver	ND		0.0030	0.0017	mg/L		06/05/23 08:22	06/05/23 22:02	1
Sodium	**7.0**		1.0	0.32	mg/L		06/05/23 08:22	06/05/23 22:02	1
Zinc	ND		0.010	0.0015	mg/L		06/05/23 08:22	06/05/23 22:02	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 15:11	1

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: GW-29S-06012023

Date Collected: 06/01/23 09:55
Date Received: 06/02/23 14:35

Lab Sample ID: 480-209391-2

Matrix: Water

Method: SW846 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			06/08/23 17:36	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/08/23 17:36	1
Acetone	ND		10	3.0	ug/L			06/08/23 17:36	1
Benzene	ND		1.0	0.41	ug/L			06/08/23 17:36	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/23 17:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*06/08/23 17:36*	*1*
Toluene-d8 (Surr)	*81*		*80 - 120*		*06/08/23 17:36*	*1*
4-Bromofluorobenzene (Surr)	*105*		*73 - 120*		*06/08/23 17:36*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*06/08/23 17:36*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/02/23 14:40	06/05/23 15:56	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/02/23 14:40	06/05/23 15:56	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		06/02/23 14:40	06/05/23 15:56	1
Phenol	ND		5.2	0.41	ug/L		06/02/23 14:40	06/05/23 15:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*66*		*41 - 120*	*06/02/23 14:40*	*06/05/23 15:56*	*1*
2-Fluorobiphenyl	*73*		*48 - 120*	*06/02/23 14:40*	*06/05/23 15:56*	*1*
2-Fluorophenol	*55*		*35 - 120*	*06/02/23 14:40*	*06/05/23 15:56*	*1*
Nitrobenzene-d5	*66*		*46 - 120*	*06/02/23 14:40*	*06/05/23 15:56*	*1*
Phenol-d5	*43*		*22 - 120*	*06/02/23 14:40*	*06/05/23 15:56*	*1*
p-Terphenyl-d14	*74*		*60 - 148*	*06/02/23 14:40*	*06/05/23 15:56*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/05/23 08:22	06/05/23 22:06	1
Arsenic	**0.0060**	**J**	0.010	0.0056	mg/L		06/05/23 08:22	06/05/23 22:06	1
Barium	**0.16**		0.0020	0.00070	mg/L		06/05/23 08:22	06/05/23 22:06	1
Cadmium	ND		0.0010	0.00050	mg/L		06/05/23 08:22	06/05/23 22:06	1
Chromium	ND		0.0040	0.0010	mg/L		06/05/23 08:22	06/05/23 22:06	1
Copper	ND		0.010	0.0016	mg/L		06/05/23 08:22	06/05/23 22:06	1
Iron	**8.3**		0.050	0.019	mg/L		06/05/23 08:22	06/05/23 22:06	1
Lead	**0.0035**	**J**	0.0050	0.0030	mg/L		06/05/23 08:22	06/05/23 22:06	1
Magnesium	**54.0**		0.20	0.043	mg/L		06/05/23 08:22	06/10/23 18:55	1
Manganese	**0.57**		0.0030	0.00040	mg/L		06/05/23 08:22	06/05/23 22:06	1
Nickel	ND		0.010	0.0013	mg/L		06/05/23 08:22	06/05/23 22:06	1
Silver	ND		0.0030	0.0017	mg/L		06/05/23 08:22	06/05/23 22:06	1
Sodium	**7.2**		1.0	0.32	mg/L		06/05/23 08:22	06/05/23 22:06	1
Zinc	ND		0.010	0.0015	mg/L		06/05/23 08:22	06/05/23 22:06	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 15:12	1

Client Sample ID: GW-30S-06012023
Date Collected: 06/01/23 10:52
Date Received: 06/02/23 14:35

Lab Sample ID: 480-209391-3
Matrix: Water

Method: SW846 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			06/08/23 18:00	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/08/23 18:00	1
Acetone	ND		10	3.0	ug/L			06/08/23 18:00	1
Benzene	ND		1.0	0.41	ug/L			06/08/23 18:00	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/23 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*06/08/23 18:00*	*1*
Toluene-d8 (Surr)	*82*		*80 - 120*		*06/08/23 18:00*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*06/08/23 18:00*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*06/08/23 18:00*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/02/23 14:40	06/05/23 16:23	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/02/23 14:40	06/05/23 16:23	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		06/02/23 14:40	06/05/23 16:23	1
Phenol	ND		5.2	0.41	ug/L		06/02/23 14:40	06/05/23 16:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*65*		*41 - 120*	*06/02/23 14:40*	*06/05/23 16:23*	*1*
2-Fluorobiphenyl	*77*		*48 - 120*	*06/02/23 14:40*	*06/05/23 16:23*	*1*
2-Fluorophenol	*57*		*35 - 120*	*06/02/23 14:40*	*06/05/23 16:23*	*1*
Nitrobenzene-d5	*69*		*46 - 120*	*06/02/23 14:40*	*06/05/23 16:23*	*1*
Phenol-d5	*43*		*22 - 120*	*06/02/23 14:40*	*06/05/23 16:23*	*1*
p-Terphenyl-d14	*72*		*60 - 148*	*06/02/23 14:40*	*06/05/23 16:23*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/05/23 08:22	06/05/23 22:10	1
Arsenic	ND		0.010	0.0056	mg/L		06/05/23 08:22	06/05/23 22:10	1
Barium	**0.13**		0.0020	0.00070	mg/L		06/05/23 08:22	06/05/23 22:10	1
Cadmium	ND		0.0010	0.00050	mg/L		06/05/23 08:22	06/05/23 22:10	1
Chromium	ND		0.0040	0.0010	mg/L		06/05/23 08:22	06/05/23 22:10	1
Copper	ND		0.010	0.0016	mg/L		06/05/23 08:22	06/05/23 22:10	1
Iron	**9.9**		0.050	0.019	mg/L		06/05/23 08:22	06/05/23 22:10	1
Lead	ND		0.0050	0.0030	mg/L		06/05/23 08:22	06/05/23 22:10	1
Magnesium	**23.5**		0.20	0.043	mg/L		06/05/23 08:22	06/10/23 18:59	1
Manganese	**1.6**		0.0030	0.00040	mg/L		06/05/23 08:22	06/05/23 22:10	1
Nickel	ND		0.010	0.0013	mg/L		06/05/23 08:22	06/05/23 22:10	1
Silver	ND		0.0030	0.0017	mg/L		06/05/23 08:22	06/05/23 22:10	1
Sodium	**142**		1.0	0.32	mg/L		06/05/23 08:22	06/05/23 22:10	1
Zinc	ND		0.010	0.0015	mg/L		06/05/23 08:22	06/05/23 22:10	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 15:13	1

Client Sample ID: GW-31S-06012023
Date Collected: 06/01/23 11:58
Date Received: 06/02/23 14:35

Lab Sample ID: 480-209391-4
Matrix: Water

Method: SW846 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			06/08/23 18:24	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/08/23 18:24	1
Acetone	ND		10	3.0	ug/L			06/08/23 18:24	1
Benzene	ND		1.0	0.41	ug/L			06/08/23 18:24	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/23 18:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*77 - 120*		*06/08/23 18:24*	*1*
Toluene-d8 (Surr)	*80*		*80 - 120*		*06/08/23 18:24*	*1*
4-Bromofluorobenzene (Surr)	*103*		*73 - 120*		*06/08/23 18:24*	*1*
Dibromofluoromethane (Surr)	*107*		*75 - 123*		*06/08/23 18:24*	*1*

Method: SW846 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		06/02/23 14:40	06/05/23 16:51	1
1,4-Dichlorobenzene	ND		10	0.46	ug/L		06/02/23 14:40	06/05/23 16:51	1
Bis(2-ethylhexyl) phthalate	ND		5.0	2.2	ug/L		06/02/23 14:40	06/05/23 16:51	1
Phenol	ND		5.0	0.39	ug/L		06/02/23 14:40	06/05/23 16:51	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*54*		*41 - 120*	*06/02/23 14:40*	*06/05/23 16:51*	*1*
2-Fluorobiphenyl	*65*		*48 - 120*	*06/02/23 14:40*	*06/05/23 16:51*	*1*
2-Fluorophenol	*46*		*35 - 120*	*06/02/23 14:40*	*06/05/23 16:51*	*1*
Nitrobenzene-d5	*61*		*46 - 120*	*06/02/23 14:40*	*06/05/23 16:51*	*1*
Phenol-d5	*35*		*22 - 120*	*06/02/23 14:40*	*06/05/23 16:51*	*1*
p-Terphenyl-d14	*66*		*60 - 148*	*06/02/23 14:40*	*06/05/23 16:51*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/05/23 08:22	06/05/23 22:25	1
Arsenic	ND		0.010	0.0056	mg/L		06/05/23 08:22	06/05/23 22:25	1
Barium	**0.085**		0.0020	0.00070	mg/L		06/05/23 08:22	06/05/23 22:25	1
Cadmium	ND		0.0010	0.00050	mg/L		06/05/23 08:22	06/05/23 22:25	1
Chromium	ND		0.0040	0.0010	mg/L		06/05/23 08:22	06/05/23 22:25	1
Copper	ND		0.010	0.0016	mg/L		06/05/23 08:22	06/05/23 22:25	1
Iron	**2.6**		0.050	0.019	mg/L		06/05/23 08:22	06/05/23 22:25	1
Lead	ND		0.0050	0.0030	mg/L		06/05/23 08:22	06/05/23 22:25	1
Magnesium	**25.2**		0.20	0.043	mg/L		06/05/23 08:22	06/10/23 19:03	1
Manganese	**0.46**		0.0030	0.00040	mg/L		06/05/23 08:22	06/05/23 22:25	1
Nickel	**0.0016**	**J**	0.010	0.0013	mg/L		06/05/23 08:22	06/05/23 22:25	1
Silver	ND		0.0030	0.0017	mg/L		06/05/23 08:22	06/05/23 22:25	1
Sodium	**2.2**		1.0	0.32	mg/L		06/05/23 08:22	06/05/23 22:25	1
Zinc	ND		0.010	0.0015	mg/L		06/05/23 08:22	06/05/23 22:25	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 15:15	1

Client Sample ID: GW-32S-06012023
Date Collected: 06/01/23 12:49
Date Received: 06/02/23 14:35

Lab Sample ID: 480-209391-5
Matrix: Water

Method: SW846 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			06/08/23 18:49	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/08/23 18:49	1
Acetone	ND		10	3.0	ug/L			06/08/23 18:49	1
Benzene	ND		1.0	0.41	ug/L			06/08/23 18:49	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/23 18:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*94*		*77 - 120*		*06/08/23 18:49*	*1*
Toluene-d8 (Surr)	*82*		*80 - 120*		*06/08/23 18:49*	*1*
4-Bromofluorobenzene (Surr)	*104*		*73 - 120*		*06/08/23 18:49*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 123*		*06/08/23 18:49*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/02/23 14:40	06/05/23 17:19	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/02/23 14:40	06/05/23 17:19	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		06/02/23 14:40	06/05/23 17:19	1
Phenol	ND		5.2	0.41	ug/L		06/02/23 14:40	06/05/23 17:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*58*		*41 - 120*	*06/02/23 14:40*	*06/05/23 17:19*	*1*
2-Fluorobiphenyl	*69*		*48 - 120*	*06/02/23 14:40*	*06/05/23 17:19*	*1*
2-Fluorophenol	*48*		*35 - 120*	*06/02/23 14:40*	*06/05/23 17:19*	*1*
Nitrobenzene-d5	*61*		*46 - 120*	*06/02/23 14:40*	*06/05/23 17:19*	*1*
Phenol-d5	*37*		*22 - 120*	*06/02/23 14:40*	*06/05/23 17:19*	*1*
p-Terphenyl-d14	*75*		*60 - 148*	*06/02/23 14:40*	*06/05/23 17:19*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/05/23 08:22	06/05/23 22:29	1
Arsenic	ND		0.010	0.0056	mg/L		06/05/23 08:22	06/05/23 22:29	1
Barium	**0.045**		0.0020	0.00070	mg/L		06/05/23 08:22	06/05/23 22:29	1
Cadmium	ND		0.0010	0.00050	mg/L		06/05/23 08:22	06/05/23 22:29	1
Chromium	ND		0.0040	0.0010	mg/L		06/05/23 08:22	06/05/23 22:29	1
Copper	ND		0.010	0.0016	mg/L		06/05/23 08:22	06/05/23 22:29	1
Iron	ND		0.050	0.019	mg/L		06/05/23 08:22	06/05/23 22:29	1
Lead	ND		0.0050	0.0030	mg/L		06/05/23 08:22	06/05/23 22:29	1
Magnesium	**22.0**		0.20	0.043	mg/L		06/05/23 08:22	06/10/23 19:07	1
Manganese	**0.19**		0.0030	0.00040	mg/L		06/05/23 08:22	06/05/23 22:29	1
Nickel	ND		0.010	0.0013	mg/L		06/05/23 08:22	06/05/23 22:29	1
Silver	ND		0.0030	0.0017	mg/L		06/05/23 08:22	06/05/23 22:29	1
Sodium	**2.1**		1.0	0.32	mg/L		06/05/23 08:22	06/05/23 22:29	1
Zinc	ND		0.010	0.0015	mg/L		06/05/23 08:22	06/05/23 22:29	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 15:16	1

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: GW-3S5-06012023

Date Collected: 06/01/23 13:33
Date Received: 06/02/23 14:35

Lab Sample ID: 480-209391-6

Matrix: Water

Method: SW846 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			06/08/23 19:13	1
1,2-Dichloroethene, Total	ND		2.0	0.81	ug/L			06/08/23 19:13	1
Acetone	ND		10	3.0	ug/L			06/08/23 19:13	1
Benzene	ND		1.0	0.41	ug/L			06/08/23 19:13	1
Vinyl chloride	ND		1.0	0.90	ug/L			06/08/23 19:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*93*		*77 - 120*		*06/08/23 19:13*	*1*
Toluene-d8 (Surr)	*82*		*80 - 120*		*06/08/23 19:13*	*1*
4-Bromofluorobenzene (Surr)	*108*		*73 - 120*		*06/08/23 19:13*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 123*		*06/08/23 19:13*	*1*

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		10	0.50	ug/L		06/02/23 14:40	06/05/23 17:47	1
1,4-Dichlorobenzene	ND		10	0.48	ug/L		06/02/23 14:40	06/05/23 17:47	1
Bis(2-ethylhexyl) phthalate	ND		5.2	2.3	ug/L		06/02/23 14:40	06/05/23 17:47	1
Phenol	ND		5.2	0.41	ug/L		06/02/23 14:40	06/05/23 17:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
2,4,6-Tribromophenol	*64*		*41 - 120*	*06/02/23 14:40*	*06/05/23 17:47*	*1*
2-Fluorobiphenyl	*79*		*48 - 120*	*06/02/23 14:40*	*06/05/23 17:47*	*1*
2-Fluorophenol	*55*		*35 - 120*	*06/02/23 14:40*	*06/05/23 17:47*	*1*
Nitrobenzene-d5	*71*		*46 - 120*	*06/02/23 14:40*	*06/05/23 17:47*	*1*
Phenol-d5	*44*		*22 - 120*	*06/02/23 14:40*	*06/05/23 17:47*	*1*
p-Terphenyl-d14	*82*		*60 - 148*	*06/02/23 14:40*	*06/05/23 17:47*	*1*

Method: SW846 6010C - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/05/23 08:22	06/05/23 22:33	1
Arsenic	ND		0.010	0.0056	mg/L		06/05/23 08:22	06/05/23 22:33	1
Barium	**0.040**		0.0020	0.00070	mg/L		06/05/23 08:22	06/05/23 22:33	1
Cadmium	ND		0.0010	0.00050	mg/L		06/05/23 08:22	06/05/23 22:33	1
Chromium	ND		0.0040	0.0010	mg/L		06/05/23 08:22	06/05/23 22:33	1
Copper	ND		0.010	0.0016	mg/L		06/05/23 08:22	06/05/23 22:33	1
Iron	ND		0.050	0.019	mg/L		06/05/23 08:22	06/05/23 22:33	1
Lead	ND		0.0050	0.0030	mg/L		06/05/23 08:22	06/05/23 22:33	1
Magnesium	**27.1**		0.20	0.043	mg/L		06/05/23 08:22	06/10/23 19:11	1
Manganese	**0.021**		0.0030	0.00040	mg/L		06/05/23 08:22	06/05/23 22:33	1
Nickel	ND		0.010	0.0013	mg/L		06/05/23 08:22	06/05/23 22:33	1
Silver	ND		0.0030	0.0017	mg/L		06/05/23 08:22	06/05/23 22:33	1
Sodium	**2.2**		1.0	0.32	mg/L		06/05/23 08:22	06/05/23 22:33	1
Zinc	ND		0.010	0.0015	mg/L		06/05/23 08:22	06/05/23 22:33	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.000043	mg/L		06/05/23 11:04	06/05/23 15:17	1

Client: AECOM
Project/Site: Pfohl Brothers Landfill

Job ID: 480-209349-1
SDG: 480-209349-1

Client Sample ID: TB-06012023
Date Collected: 06/01/23 00:00
Date Received: 06/02/23 14:35

Lab Sample ID: 480-209391-7
Matrix: Water

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

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND	UJ	1.0	0.23	ug/L			06/09/23 11:38	1
1,2-Dichloroethene, Total	ND	UJ	2.0	0.81	ug/L			06/09/23 11:38	1
Acetone	ND	UJ	10	3.0	ug/L			06/09/23 11:38	1
Benzene	ND	UJ	1.0	0.41	ug/L			06/09/23 11:38	1
Vinyl chloride	ND	UJ	1.0	0.90	ug/L			06/09/23 11:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*77 - 120*		*06/09/23 11:38*	*1*
Toluene-d8 (Surr)	*101*		*80 - 120*		*06/09/23 11:38*	*1*
4-Bromofluorobenzene (Surr)	*112*		*73 - 120*		*06/09/23 11:38*	*1*
Dibromofluoromethane (Surr)	*115*		*75 - 123*		*06/09/23 11:38*	*1*

APPENDIX B

SUPPORT DOCUMENTATION

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax 716-691-7991

Chain of Custody Record

eurofins
Environment Testing

Client Information	Sampler	Lab PM	Carrier Tracking No(s)	COC No
Client Contact: Ms. Ann Marie Kropovitch	Rob Murphy	Schove, John R		480-184966-13273.1
Company: AECOM	Phone: 716-856-5636	E-Mail: John.Schove@et.eurofinsus.com	State of Origin: NY	Page: Page 1 of 3
Address: One John James Audubon Parkway, Suite 210	PWSID	Due Date Requested:		Job #
City: Amherst		TAT Requested (days): Standard		
State, Zip: NY, 14228		Compliance Project: Δ Yes Δ No		
Phone		PO #: 1586794		
Email: ann.marie.kropovitch@aecom.com		WO #: 60411174.11175616.00000		
Project Name: Pfohl Brothers Landfill GW Monitoring		Project #: 48002609		
Site		SSOW#:		

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, ecahydrate, pecify)

480-209349 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 7470A	8270D - Semivolatiles - Pfohl List	8260C - Volatiles - Pfohl List	Total Number of	Special Instructions/Note:
Preservation Code:							D	N	A		
GW-07D-05302023	5/30/23	1025	G	Water					3	3	
GW-07S-05302023	5/30/23	1145	G	Water					3	3	
GW-01D-05302023	5/30/23	1353	G	Water			1	2	3	6	
GW-01S-05302023	5/30/23	1445	G	Water			1	2	3	6	
GW-04S-05302023	5/30/23	1520	G	Water					3	3	
GW-04D-05302023	5/30/23	1650	G	Water			1	2	3	6	
GW-04S-05302023	5/30/23	1700	G	Water			1	2		3	
GW-03S-05312023	5/31/23	0855	G	Water			1	2	3	6	
GW-03D-05312023	5/31/23	1005	G	Water			1	2	3	6	
FD-05312023	5/31/23	—	G	Water			1	2	3	6	
GW-07D-05312023	5/31/23	1035	G	Water			1	2		3	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:		Date:		Time:		Method of Shipment: Drop off	
Relinquished by:	Date/Time: 5/31/23 1817	Company: AECOM	Received by: LL	Date/Time: 5/31/23 1817	Company: TAD		
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:		
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:		

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.5 3.1 #1 ICE

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax 716-691-7991

Chain of Custody Record

eurofins

Client Information
Client Contact: Ms. Ann Marie Kropovitch
Company: AECOM
Address: One John James Audubon Parkway Suite 210
City: Amherst
State, Zip: NY, 14228
Phone:
Email: ann marie kropovitch@aecom.com
Project Name: Pfohl Brothers Landfill GW Monitoring
Site:

Sampler: Rob Murphy
Phone: 716-856-5636
Lab PM: Schove John R
E-Mail: John Schove@et eurofinsus com
Carrier Tracking No(s):
State of Origin: NY
PWSID:
Due Date Requested:
TAT Requested (days): Standard
Compliance Project: Δ Yes Δ No
PO #: 1586794
WO #: 60411174 11175616 00000
Project #: 48002609
SSOW#:

COC No: 480-184966-13273.2
Page: Page 2 of 3
Job #:

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Y - Trizma, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 7470A (D)	8270D - Semivolatiles - Pfohl List (N)	8260C - Volatiles - Pfohl List (A)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				D	N	A		
GW-075-05312023	5/31/23	1055	G	Water			1	2		3	
GW-345-05312023	5/31/23	1238	G	Water			1	2	3	6	
GW-095R-05312023	5/31/23	1354	G	Water			1	2	3	6	
GW-080-05312023	5/31/23	1508	G	Water			1	2	3	6	
GW-080-05312023-MS	5/31/23	1508	G	Water			1	2	3	6	MATRIX SPIKE
GW-080-05312023-MSD	5/31/23	1508	G	Water			1	2	3	6	MATRIX SPIKE DUPLICATE
GW-260-05312023	5/31/23	1640	G	Water			1	2	3	6	
GW-355-05312023	5/31/23	1713	G	Water			1	2	3	6	
TB-05302023-05312023	5/31/23	—	G	Water					1	1	TRIP BLANK
				Water							
				Water							

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)
Special Instructions/QC Requirements:

Empty Kit Relinquished by:
Date:
Time:
Method of Shipment: Drop off

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
1	[signature]	5/31/23 1817	ATEN	[signature]	5/31/23 18:17	TAB
2	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
3	Relinquished by	Date/Time	Company	Received by	Date/Time	Company

Custody Seals Intact: Δ Yes Δ No
Custody Seal No.:
Cooler Temperature(s) °C and Other Remarks: 3.5 3.1 #1 ICE

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax 716-691-7991

Chain of Custody Record

eurofins

Client Information	Sampler: Rob Murphy	Lab PM: Schove, John R	Carrier Tracking No(s):	COC No: 480-184966-13273 3
Client Contact: Ms. Ann Marie Kropovitch	Phone: 716-856-5636	E-Mail: John Schove@et eurofinsus com	State of Origin: NY	Page: Page 3 of 3
Company: AECOM	PWSID:	Analysis Requested		Job #:
Address: One John James Audubon Parkway Suite 210	Due Date Requested:			
City: Amherst	TAT Requested (days): Standard			
State, Zip: NY, 14228	Compliance Project: Δ Yes Δ No			
Phone:	PO #: 1586794			
Email: ann.marie.kropovitch@aecom.com	WO #: 60411174 11175616 00000			
Project Name: Pfohl Brothers Landfill GW Monitoring	Project #: 48002609			
Site:	SSOW#:			

480-209391 Chain of Custody

Preservation Codes:
A - HCL; B - NaOH; C - Zn Acetate; D - Nitric Acid; M - Hexane; N - None; O - AsNaO2; P - Na2O4S; Q - Na2SO3; R - Na2S2O3; S - H2SO4; T - TSP Dodecahydrate; U - Acetone; V - MCAA; W - pH 4-5; Y - Trizma; Z - other (specify)

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	6010C, 7470A	8270D - Semivolatiles - Pfohl List	8260C - Volatiles - Pfohl List	Total Number of	Special Instructions/Note:
			Preservation Code:				D	N	A		
GW-285-06012023	6/1/23	0854	G	Water			1	2	3	6	
GW-295-06012023	6/1/23	0955	G	Water			1	2	3	6	
~~TRIP BLANK~~ GW-305-06012023	6/1/23	1052	G	Water			1	2	3	6	
~~TRIP BLANK~~ GW-315-06012023	6/1/23	1158	G	Water			1	2	3	6	
GW-325-06012023	6/1/23	1249	G	water			1	2	3	6	
GW-335-06012023	6/1/23	1333	G	water			1	2	3	6	
TB-06012023	6/1/23	~	G	water					1	1	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date	Time	Method of Shipment: Drop off

	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Robert Murphy	6/1/23 1435	AECOM			
	Relinquished by	Date/Time	Company	Received by	Date/Time	Company
	Relinquished by	Date/Time	Company	Received by	Date/Time 6/1/23 1435	Company ~~EAB~~

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: 3.6 # 1 ICE

Ver: 06/08/2021

Job ID: 480-209349-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-209349-1

Comments
No additional comments.

Receipt
The samples were received on 5/31/2023 6:17 PM and 6/2/2023 2:35 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 3 coolers at receipt time were 3.1° C, 3.5° C and 3.6° C.

GC/MS VOA
Method 8260C: The continuing calibration verification (CCV) associated with batch 480-672207 recovered above the upper control limit for Acetone and Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: GW-07D-05302023 (480-209349-1), GW-07S-05302023 (480-209349-2), GW-01D-05302023 (480-209349-3), GW-01S-05302023 (480-209349-4), GW-04S-05302023 (480-209349-5), GW-04D-05302023 (480-209349-6), GW-03S-05312023 (480-209349-8), GW-03D-05312023 (480-209349-9), FD-05312023 (480-209349-10), GW-34S-05312023 (480-209349-13), GW-085R-05312023 (480-209349-14), GW-08D-05312023 (480-209349-15), GW-08D-05312023 (480-209349-15[MS]), GW-08D-05312023 (480-209349-15[MSD]), GW-26D-05312023 (480-209349-16), GW-35S-05312023 (480-209349-17) and TB-05302023-05312023 (480-209349-18).

Method 8260C: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 480-672207 recovered outside control limits for the following analytes: Vinyl chloride. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260C: Surrogate recovery in the continuing calibration verification (CCV) was outside the 20%D recovery but within house limits. The following samples are impacted: GW-07D-05302023 (480-209349-1), GW-07S-05302023 (480-209349-2), GW-01D-05302023 (480-209349-3), GW-01S-05302023 (480-209349-4), GW-04S-05302023 (480-209349-5), GW-04D-05302023 (480-209349-6), GW-03S-05312023 (480-209349-8), GW-03D-05312023 (480-209349-9), FD-05312023 (480-209349-10), GW-34S-05312023 (480-209349-13), GW-085R-05312023 (480-209349-14), GW-08D-05312023 (480-209349-15), GW-26D-05312023 (480-209349-16), GW-35S-05312023 (480-209349-17) and TB-05302023-05312023 (480-209349-18) .

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-672374 recovered above the upper control limit for Acetone and Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: GW-28S-06012023 (480-209391-1), GW-29S-06012023 (480-209391-2), GW-30S-06012023 (480-209391-3), GW-31S-06012023 (480-209391-4), GW-32S-06012023 (480-209391-5) and GW-3S5-06012023 (480-209391-6).

Method 8260C: The method requirement for no headspace was not met. The following volatile sample was analyzed with headspace in the sample container(s): TB-06012023 (480-209391-7).

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

GC/MS Semi VOA
Method 8270D: The continuing calibration verification (CCV) analyzed in batch 480-671635 was outside the method criteria for the following analyte(s): 2,4,6-Tribromophenol. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

Method 8270D: Six surrogates are used for this analysis. The laboratory's SOP allows one acid and one base of these surrogates to be outside acceptance criteria without performing re-extraction/re-analysis. The following samples contained an allowable number of surrogate compounds outside limits: GW-04D-05302023 (480-209349-6) and GW-07D-05312023 (480-209349-11). These results have been reported and qualified.

Method 8270D: The following sample was diluted to bring the concentration of target analytes within the calibration range:

Job ID: 480-209349-1 (Continued)

Laboratory: Eurofins Buffalo (Continued)

GW-07D-05312023 (480-209349-11). Elevated reporting limits (RLs) are provided.

Method 8270D: The following sample required a dilution due to the abundance of target analytes: GW-07D-05312023 (480-209349-11). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

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: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate/sample duplicate (MS/MSD/DUP) associated with preparation batch 480-671773.

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

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

Lab Sample ID: LCSD 480-671773/3-A
Matrix: Water
Analysis Batch: 671849

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 671773

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
2,4,6-Tribromophenol	*80*		*41 - 120*
2-Fluorobiphenyl	*74*		*48 - 120*
2-Fluorophenol	*51*		*35 - 120*
Nitrobenzene-d5	*70*		*46 - 120*
Phenol-d5	*42*		*22 - 120*
p-Terphenyl-d14	*85*		*60 - 148*

Method: 6010C - Metals (ICP)

Lab Sample ID: MB 480-671614/1-A
Matrix: Water
Analysis Batch: 672032

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 671614

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/02/23 07:34	06/04/23 20:11	1
Arsenic	ND		0.010	0.0056	mg/L		06/02/23 07:34	06/04/23 20:11	1
Barium	ND		0.0020	0.00070	mg/L		06/02/23 07:34	06/04/23 20:11	1
Cadmium	ND		0.0010	0.00050	mg/L		06/02/23 07:34	06/04/23 20:11	1
Chromium	ND		0.0040	0.0010	mg/L		06/02/23 07:34	06/04/23 20:11	1
Copper	ND		0.010	0.0016	mg/L		06/02/23 07:34	06/04/23 20:11	1
Iron	ND		0.050	0.019	mg/L		06/02/23 07:34	06/04/23 20:11	1
Lead	ND		0.0050	0.0030	mg/L		06/02/23 07:34	06/04/23 20:11	1
Magnesium	ND		0.20	0.043	mg/L		06/02/23 07:34	06/04/23 20:11	1
Manganese	ND		0.0030	0.00040	mg/L		06/02/23 07:34	06/04/23 20:11	1
Nickel	ND		0.010	0.0013	mg/L		06/02/23 07:34	06/04/23 20:11	1
Sodium	ND		1.0	0.32	mg/L		06/02/23 07:34	06/04/23 20:11	1
Zinc	0.00168	J	0.010	0.0015	mg/L		06/02/23 07:34	06/04/23 20:11	1

Lab Sample ID: MB 480-671614/1-A
Matrix: Water
Analysis Batch: 672684

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 671614

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.0030	0.0017	mg/L		06/02/23 07:34	06/10/23 14:25	1

Lab Sample ID: LCS 480-671614/2-A
Matrix: Water
Analysis Batch: 672032

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 671614

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.223		mg/L		112	80 - 120
Arsenic	0.200	0.205		mg/L		102	80 - 120
Barium	0.200	0.218		mg/L		109	80 - 120
Cadmium	0.200	0.208		mg/L		104	80 - 120
Chromium	0.201	0.206		mg/L		103	80 - 120
Copper	0.200	0.198		mg/L		99	80 - 120
Iron	10.0	10.88		mg/L		109	80 - 120
Lead	0.200	0.201		mg/L		101	80 - 120
Magnesium	10.0	10.16		mg/L		101	80 - 120

Method: 6010C - Metals (ICP) (Continued)

Lab Sample ID: 480-209349-15 MSD
Matrix: Water
Analysis Batch: 672032

Client Sample ID: GW-08D-05312023
Prep Type: Total/NA
Prep Batch: 671614

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lead	ND		0.200	0.212		mg/L		106	75 - 125	2	20
Magnesium	12.7		10.0	22.97		mg/L		103	75 - 125	0	20
Manganese	0.045		0.200	0.263		mg/L		109	75 - 125	1	20
Nickel	0.0062	J	0.200	0.216		mg/L		105	75 - 125	1	20
Sodium	190		10.0	203.3	4	mg/L		137	75 - 125	0	20
Zinc	0.0038	J B	0.200	0.210		mg/L		103	75 - 125	0	20

Lab Sample ID: 480-209349-15 MSD
Matrix: Water
Analysis Batch: 672684

Client Sample ID: GW-08D-05312023
Prep Type: Total/NA
Prep Batch: 671614

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Silver	ND		0.0500	0.0526		mg/L		105	75 - 125	3	20

Lab Sample ID: MB 480-671765/1-A
Matrix: Water
Analysis Batch: 672017

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 671765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.020	0.0068	mg/L		06/05/23 08:22	06/05/23 21:00	1
Arsenic	ND		0.010	0.0056	mg/L		06/05/23 08:22	06/05/23 21:00	1
Barium	ND		0.0020	0.00070	mg/L		06/05/23 08:22	06/05/23 21:00	1
Cadmium	ND		0.0010	0.00050	mg/L		06/05/23 08:22	06/05/23 21:00	1
Chromium	ND		0.0040	0.0010	mg/L		06/05/23 08:22	06/05/23 21:00	1
Copper	ND		0.010	0.0016	mg/L		06/05/23 08:22	06/05/23 21:00	1
Iron	ND		0.050	0.019	mg/L		06/05/23 08:22	06/05/23 21:00	1
Lead	ND		0.0050	0.0030	mg/L		06/05/23 08:22	06/05/23 21:00	1
Manganese	0.000540	J	0.0030	0.00040	mg/L		06/05/23 08:22	06/05/23 21:00	1
Nickel	ND		0.010	0.0013	mg/L		06/05/23 08:22	06/05/23 21:00	1
Silver	ND		0.0030	0.0017	mg/L		06/05/23 08:22	06/05/23 21:00	1
Sodium	ND		1.0	0.32	mg/L		06/05/23 08:22	06/05/23 21:00	1
Zinc	0.00152	J	0.010	0.0015	mg/L		06/05/23 08:22	06/05/23 21:00	1

Lab Sample ID: MB 480-671765/1-A
Matrix: Water
Analysis Batch: 672687

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 671765

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Magnesium	ND		0.20	0.043	mg/L		06/05/23 08:22	06/10/23 18:24	1

Lab Sample ID: LCS 480-671765/2-A
Matrix: Water
Analysis Batch: 672017

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 671765

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Antimony	0.200	0.203		mg/L		102	80 - 120
Arsenic	0.200	0.191		mg/L		96	80 - 120
Barium	0.200	0.205		mg/L		102	80 - 120
Cadmium	0.200	0.199		mg/L		99	80 - 120
Chromium	0.201	0.206		mg/L		103	80 - 120

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 **Box 1**

Site No. **915043**

Site Name Pfohl Brothers Landfill

Site Address: Aero Drive and Transit Road Zip Code: 14225
City/Town: Cheektowaga
County: Erie
Site Acreage: 102.510

Reporting Period: January 12, 2023 to January 01, 2024

	YES	NO
1. Is the information above correct?	☒	☐
If NO, include handwritten above or on a separate sheet.		
2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?	☐	☒
3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?	☐	☒
4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?	☐	☒
If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.		
5. Is the site currently undergoing development?	☐	☒

Box 2

	YES	NO
6. Is the current site use consistent with the use(s) listed below? Closed Landfill	☒	☐
7. Are all ICs in place and functioning as designed?	☒	☐

IF THE ANSWER TO EITHER QUESTION 6 OR 7 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 issues.

Signature of Owner, Remedial Party or Designated Representative Date

SITE NO. 915043 **Box 3**

Description of Institutional Controls

Parcel	Owner	Institutional Control
Portion of 81.04-1-26	William A. Pfohl	Ground Water Use Restriction Soil Management Plan Landuse Restriction Building Use Restriction Surface Water Use Restriction O&M Plan

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 Report, Vol. II, the following Controls are in place:
A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.
B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.
C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Portion of 81.04-1-27	Paul Pfohl	Surface Water Use Restriction O&M Plan Ground Water Use Restriction Landuse Restriction Soil Management Plan

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 Report, Vol. II, the following Controls are in place:
A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.
B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.
C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Portion of 81.04-1-28.1	Paul Pfohl	Ground Water Use Restriction Landuse Restriction Soil Management Plan Surface Water Use Restriction O&M Plan

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 Report, Vol. II, the following Controls are in place:
A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.
B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.
C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Portion of 81.04-2-10.1	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 Report, Vol. II, the following Controls are in place:
A. Entire Site: i) Groundwater use prohibition, ii) Surface water use prohibition.
B. Capped Area: i) Fencing, ii) No Excavation, iii) Planting trees/shrubs prohibited.
C. Cleared Portion within the Perimeter Barrier System: i) Only Commercial/Industrial Development is allowed. Construction restrictions.

Portion of 81.04-2-11 Paul Pfohl

Soil Management Plan
Surface Water Use Restriction
O&M Plan
Ground Water Use Restriction
Landuse Restriction

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Portion of 81.04-2-9.1 Paul Pfohl

Surface Water Use Restriction
O&M Plan
Ground Water Use Restriction
Landuse Restriction
Soil Management Plan

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Portion of 82.03-4-10 Elizabeth L. McBride

Ground Water Use Restriction
Landuse Restriction

Soil Management Plan
Surface Water Use Restriction
O&M Plan

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Portion of 82.03-4-11 Paul Pfohl

Ground Water Use Restriction
Landuse Restriction
Building Use Restriction

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Portion of 82.03-4-5 Paul Pfohl

Ground Water Use Restriction
Landuse Restriction

Soil Management Plan
Surface Water Use Restriction
O&M Plan

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Portion of 82.03-4-6 Paul Pfohl

Soil Management Plan
Surface Water Use Restriction
O&M Plan
Ground Water Use Restriction
Landuse Restriction

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Portion of 82.03-4-8 Paul Pfohl

Ground Water Use Restriction
Landuse Restriction

Soil Management Plan

Surface Water Use Restriction
O&M Plan

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Portion of 82.03-4-9.11 Aero Land, Inc. c/o Jerome Hirsh

Soil Management Plan
Surface Water Use Restriction
O&M Plan
Ground Water Use Restriction
Landuse Restriction

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Portion of 82.03-4-9.12 Stuart Jenkins

Ground Water Use Restriction
Landuse Restriction

Soil Management Plan
Surface Water Use Restriction
O&M Plan

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Portion of 82.03-4-9.2 Aero Land, Inc. c/o Jerome Hirsh

Soil Management Plan
Surface Water Use Restriction
O&M Plan
Ground Water Use Restriction
Landuse Restriction

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Box 4

Description of Engineering Controls

Parcel	Engineering Control
Portion of 81.04-1-26	Vapor Mitigation Fencing/Access Control Cover System Leachate Collection
Portion of 81.04-1-27	Cover System Leachate Collection Fencing/Access Control Vapor Mitigation
For Declaration of Covenants and Restrictions, see Appendix P in the Remedial Action Construction Report, Vol. II	
Portion of 81.04-1-28.1	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	
Portion of 81.04-2-10.1	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	
Portion of 81.04-2-11	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	
Portion of 81.04-2-9.1	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	
Portion of 82.03-4-10	Vapor Mitigation Cover System Leachate Collection Fencing/Access Control
Portion of 82.03-4-11	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	
Portion of 82.03-4-5	Vapor Mitigation

Parcel	Engineering Control
	Cover System Leachate Collection Fencing/Access Control
For Declaration of Covenants and Restrictions, see Appendix P in the Remedial Action Construction Report, Vol. II	
Portion of 82.03-4-6	
	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	
Portion of 82.03-4-8	
	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	
Portion of 82.03-4-9.11	
	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	
Portion of 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	
Portion of 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	

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 direction of, and reviewed by, the party making the Engineering Control certification;

   b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and compete.

YES	NO
☒	☐

2. For each Engineering control listed in Box 4, I certify by checking "YES" below that all of the following statements are true:

   (a) The Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;

   (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;

   (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;

   (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and

   (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES	NO
☒	☐

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 issues.

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 false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Patrick T. Bowen, P.E. (print name) at Town of Cheektowaga Engineering Dept 275 Alexander Ave, Cheektowaga, NY 14211 (print business address),

am certifying as Site O & M Manager ~~(Owner or Remedial Party)~~

for the Site named in the Site Details Section of this form.

Patrick T. Bowen
Signature of ~~Owner, Remedial Party,~~ or Designated Representative Rendering Certification Site O & M Provider/Manager

1-23-24
Date

EC CERTIFICATIONS

Box 7

Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Patrick T. Bowen, P.E. (print name) at Town of Cheektowaga Engineering Dept 275 Alexander Ave, Cheektowaga, NY 14211 (print business address),

am certifying as a Professional Engineer for the Town of Cheektowaga

(~~Owner or Remedial Party~~) (Site O & M Provider/Manager)

Patrick T. Bowen — Signature of Professional Engineer, for the ~~Owner or Remedial Party~~, Rendering Certification
Site O & M Provider/Manager

Stamp (Required for PE)

1-23-24 — Date