Final

Environmental Monitoring Plan
Berlin Sanitary Landfill
Worcester County, Maryland

Prepared for

Worcester County Commissioners
Court House Room 112
Snow Hill, Maryland 20863

Prepared by

EA Engineering, Science, and Technology, Inc., PBC
225 Schilling Circle, Suite 400
Hunt Valley, Maryland 21031
410-584-7000

Version: Final
July 2025
EA Project Number: 10609-32

This page intentionally left blank

CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

LIST OF ACRONYMS AND ABBREVIATIONS

µg/L	microgram(s) per liter
AL	Action Level
ASD	alternate source demonstration
CFR	Code of Federal Regulations
CO_2	carbon dioxide
COMAR	Code of Maryland Regulations
EA	EA Engineering, Science, and Technology, Inc., PBC
EMP	Environmental Monitoring Plan
EPA	U.S. Environmental Protection Agency
GMP	gas monitoring probe
GWMP	Groundwater Monitoring Plan
IMP	Post-Closure Inspections and Maintenance Plan
IRP	Investigation and Remediation Plan
LEL	lower explosive limit
LFG	landfill gas
LFGP	Landfill Gas Monitoring Plan
MCL	Maximum Contaminant Level
MDE	Maryland Department of the Environment
mg/L	milligram(s) per liter
O_2	oxygen
PFAS	per- and polyfluoroalkyl substances
PQL	practical quantitation limit
QA	quality assurance
QC	quality control
RCRA	Resource Conservation and Recovery Act
VOC	volatile organic compound

This page intentionally left blank

1. ENVIRONMENTAL MONITORING PLAN

1.1 REGULATORY COMPLIANCE

This Environmental Monitoring Plan (EMP) was prepared by EA Engineering, Science, and Technology, Inc., PBC (EA) for the Worcester County Berlin Sanitary Landfill (the Landfill) in accordance with Code of Maryland Regulations (COMAR) 26.04.07, federal regulations (40 Code of Federal Regulations [CFR] Parts 257 and 258), Maryland Department of the Environment (MDE) guidelines, and other applicable laws and regulations. The EMP will be renewed every 5 years from the date of approval.

This EMP includes the following plans:

- Groundwater Monitoring Plan **(GWMP)**
- Landfill Gas Monitoring Plan **(LFGP)**
- Post-Closure Inspections and Maintenance Plan (**IMP**) for closed landfills

There is a pre-existing borrow pond at the Landfill; however, surface water monitoring is not performed at this site.

1.2 SITE HISTORY

The Landfill was opened by Worcester County in 1950 and operated for 40 years. Between 1950 and 1983, the Landfill was an open-burning dump. From 1983 until its closure in March 1990, the Landfill accepted domestic and solid wastes of a non-liquid, non-hazardous nature from the northeastern section of Worcester County, until the Worcester County Central Sanitary Landfill became functional in March 1990. After the closure of the solid waste landfill, the rubble fill landfill at Berlin remained open for another 2 years. The Landfill was capped in 1995 with an impermeable liner system and contains a landfill gas (LFG) management system.

The Landfill stopped receiving waste in 1990, prior to the 40 CFR 258 Resource Conservation and Recovery Act (RCRA) compliance date for landfill units that stopped receiving waste after 9 October 1991. COMAR does apply to the Landfill; therefore, additional requirements pursuant to 40 CFR 258 are implemented for the purpose of groundwater monitoring and analysis.

As late as December 1994, the site continued to serve as a homeowner drop-off center for municipal waste, yard waste, and limited construction and demolition debris for transfer to the permitted Worcester County Central Landfill facility. The GWMP includes semi-annual sampling of eight groundwater wells and gauging of three additional wells.

The first groundwater monitoring event was conducted in June 2002. Monitoring well B-MW-03S was added to the groundwater monitoring plan for this site in March 2011. Additionally, water level gauging at monitoring wells B-MW-04S, B-MW-06S, and B-MW-08S was added to the monitoring program to better evaluate groundwater flow conditions for the site.

EA received a letter from MDE dated 2 March 2009 regarding the integrity of monitoring well B-MW-07S. The Maximum Contaminant Level (MCL) for arsenic had been exceeded at B-MW-07S for each of the four sampling events prior to receipt of the letter, and arsenic concentrations had corresponded with increased turbidity. Based on an investigation between filtered and non-filtered sample analytical results from this well, B-MW-07S was redeveloped in September 2009. In accordance with MDE's letter dated 22 April 2013, low flow sampling techniques were utilized beginning with the Fall 2013 sampling event.

The LFGP includes 14 LFG monitoring probes and two on-site structures. The on-site structures consist of two attendant's huts located at the north end of the property line, which are used by employees for rest during work hours.

The first LFG monitoring event was conducted in December 2003. Seven additional temporary steel LFG probes were installed along the western property boundary to monitor the migration of LFG from the site per the MDE letter dated 30 October 2007. Based on the data collected from the installment of the temporary monitoring probes over a 12-month evaluation period, MDE issued a letter on 21 October 2008 stating that the County was required to submit an LFG Remediation Plan. The Remediation Plan was submitted by the County to MDE on 24 December 2008 and approved by MDE in a letter issued 28 May 2009. The County began retrofitting LFG vents in May 2009 per the Remediation Plan. The Interim Status Report was submitted to MDE on 1 July 2010. In a response to the Interim Status Report, a letter dated 30 November 2010 from MDE stated that, if methane levels remain below the lower explosive limit (LEL), the County may discontinue monthly monitoring in 2011. Based on the 2010 monitoring results, monitoring is now performed on a quarterly basis.

Upon review of the October 2022 semi-annual LFG report, MDE notified the County on 17 February 2023 via email that GP-1 and GP-6 require maintenance. During the second quarter of 2022, GP-1 was observed as having LEL exceedance for methane. As requested by MDE, the County removed the wooden pilings and installed new concrete-filled steel bollards around the groundwater monitoring wells on 24 March 2023. During the second and third quarters of 2022, GP-6 was noted as being clogged and/or plugged in the semi-annual report. On 23 February 2023, the County removed and replaced GP-6. Additionally, the temporary steel probes GP-11 through GP-17 were replaced with permanent polyvinyl chloride LFG probes in August 2023.

On behalf of the County, EA provided notification to MDE via email on 11 August 2023 that LEL exceedances were observed for methane at probes GP-15 and GP-17 during the August monitoring event. During the November 2023 monitoring event, two additional LEL exceedances were observed at probes GP-12 and GP-14. EA provided the LEL exceedance notification to MDE via email on 14 November 2023. On behalf of the County, EA prepared an LFG Investigation and Remediation Plan (IRP) to address these probes in accordance with the LFG Monitoring Plan, and it was approved by MDE on 18 June 2024. On behalf of the County, EA submitted an Interim Status Report to MDE as part of the Remediation Plan on 6 February 2025.

1.3 LOCATION

The Landfill is located approximately 0.5 mile east of the town of Berlin in Worcester County, Maryland. The site is located at 9696 Mill Haven Road in Berlin, Maryland, which is just southwest of the junction of Flower Street and Seahawk Road. The Landfill’s coordinates are 38° 20' 2.2884" N, 75° 11' 42.7128" W. The total area of the Landfill is approximately 45 acres, including 27 acres in the northern two-thirds of the property formerly used for municipal solid waste landfilling and 18 acres on the southern side of the property formerly used as a rubble fill landfill. The regional and local location maps are provided on Figures 1 and 2, respectively.

1.4 REGIONAL GEOLOGY AND HYDROGEOLOGY

The Landfill is located approximately 0.5 mile east of the town of Berlin in Worcester County, Maryland. Worcester County is located within the Delmarva Peninsula Region of the Coastal Plain Physiographic Province. The Landfill is located in the Atlantic Bays and Barriers District of the Atlantic Coastal Plain Province. The regional geology of Worcester County is comprised of the unconsolidated sedimentary strata of the Holocene, Pleistocene, and Miocene epochs. These strata dip to the east and are generally alternating layers of silt, sand, and clay. Geology at the site is generally consistent with the regional geology. According to the Geologic map of Worcester County (1968 and 1978), the geologic formations underlying the site are the Omar Formation and the Beaverdam Sand. These formations generally consist of undifferentiated gray to buff sand and gravel, gray to brown lignitic silt and clay, occasional boulders, and rare shell beds. Surficial deposits occur as intercalated fluvial sands and marsh muds, well sorted, stabilized sand dunes, shell-bearing estuarine clays and silts and beach zone sands that are Wisconsin to Holocene in age. Subsurface deposits of pre-Wisconsin age consist of buff to reddish-brown sand and gravel locally incised into Miocene sediments, estuarine to marine white to gray sands, and gray to blue, shell-bearing clays.

Groundwater flows through unconsolidated sand, silt and gravel pores of multiple sedimentary rock aquifers in Worcester County. The aquifer directly underlying the Landfill is a predominantly unconfined, water table aquifer known as the Surficial or Columbia aquifer. The Surficial aquifer flows mainly to the south with a range in elevation from greater than 70 feet above sea level in Cecil County to 199 feet below sea level near Salisbury. The composition of the Surficial aquifer is varying shades of gray, pale yellow, white, and brown loose, very fine to coarse-grained sand and ranges in thickness from 10 feet in the central and northern Eastern Shore to over 230 feet in central Wicomico County. The three major aquifers, which underlie the Surficial aquifer, in Worcester County are the unconfined aquifers known as the Pocomoke, Ocean City, and Manokin aquifers. The Pocomoke aquifer is the shallowest and youngest of the three aquifers, and the Manokin is the deepest and the oldest. The regional geological map is provided on Figure 3.

1.5 LOCAL GEOLOGY

Logs of the subsurface geology were completed during installation of the monitoring well borings. The boring logs show primarily fine to medium-grained sand with some interbedded layers of silt to a depth of 30 feet below surface grade. Generally, coarser grained sand was encountered as depth increased. All groundwater wells are screened into the uppermost aquifer (Surficial aquifer). The local geological map is provided in Figure 4.

2. GROUNDWATER MONITORING PLAN

This GWMP addresses the sampling and analysis that will occur as part of the post-closure monitoring. A semi-annual report on water quality will be submitted to the MDE containing a summary and interpretation of the analytical results of the monitoring locations sampled and analyzed as defined in this plan.

This GWMP has been developed to comply with the regulations set forth in 40 CFR 258, Subpart E, “Groundwater Monitoring and Corrective Action.” This GWMP addresses detection monitoring, as defined in 40 CFR 258.24. Should a statistically significant increase over background of the constituents tested in this program be detected, an assessment monitoring program as outlined in 40 CFR 258.55 will be implemented.

The detailed site history, location, and geology of the Landfill is presented under Sections 1.2, 1.3, and 1.4 of this EMP, respectively.

2.1 HISTORICAL GROUNDWATER RESULTS

Groundwater samples were analyzed for volatile organic compounds (VOCs), total metals, and inorganic parameters quarterly for 1 year in 2002 and 2003 to establish significant data for statistical analysis, and since then semi-annually (40 CFR 258 Appendix I). These parameters are potentially available from waste material from the unlined fill areas. The upgradient wells are B-MW-01S and B-MW-02S, while the downgradient wells are B-MW-03S, B-MW-05S, B-MW-07S, B-MW-09, B-MW-10S, and B-MW-11. The semi-annual analytical results indicate that very few downgradient wells show concentrations elevated above background levels to a significant degree. Very few organic constituents have been detected in upgradient and downgradient wells over the history of this site. Historical analytical results are included in Appendix A.

Historically, arsenic has exceeded the Maximum Contamination Limit (MCL) (0.01 milligram per liter [mg/L]) in B-MW-05S and B-MW-07S since the Spring 2005 and 2007 sampling events, respectively. Additionally, there have been detections of barium below the MCL (2 mg/L) in monitoring wells B-MW-05S and B-MW-11. Nickel has been detected above or below the practical quantitation limit (PQL) in B-MW-09S historically as well. Arsenic, barium, and nickel are naturally occurring elements and historical associated statistical exceedances are not believed to be associated with groundwater contamination caused by the Landfill, but naturally occurring variation in the groundwater.

The results for VOCs detected in the groundwater during the statistical analysis indicate that landfilling operations may have some impact on the groundwater to a slight degree. 1,4-Dichlorobenzene, benzene, and chlorobenzene continue to statistically exceed background concentrations in monitoring well B-MW-05S. 1,4-Dichlorobenzene and benzene were not detected in B-MW-05S during the Spring 2024 event. Chlorobenzene was detected below the MCL (100 micrograms per liter (µg/L) in this well at a concentration of 1.7 µg/L.

2.2 MONITORING NETWORK

The GWMP includes semi-annual sampling of eight groundwater wells and gauging of three additional wells. The groundwater well locations are provided in Figure 5. Table 1 presents wells that are in the monitoring program. Due to the age of the Landfill, groundwater construction documents for B-MW-01S, B-MW-02S, B-MW-03S, B-MW-05S, B-MW-06S, and B-MW-07S could not be located. On behalf of the County, EA contacted MDE's Water and Science Administration requesting assistance with the missing well construction documentation. In response, MDE confirmed in a letter dated 13 November 2024 that the requested documentation was unavailable. All available construction documents as well as the MDE letter are provided in Appendix B.

Table 1. Groundwater Monitoring Well Network[1]

Description	Number	Date of Installation	Coordinates[2]		Well Diameter (inches)	Top of Casing Elevation[3] (feet above MSL)	Total Well Depth (feet)	Screen Interval (feet)	Screened Aquifer
			Northing	Easting					
Upgradient Monitoring Well	B-MW-01S	--[5]	248112.33'	1830046.62'	4	23.61	16.2	--[5]	Surficial
Upgradient Monitoring Well	B-MW-02S	--[5]	247998.80'	1830485.86'	4	33.80	27.1	--[5]	Surficial
Downgradient Monitoring Well	B-MW-03S	--[5]	247303.66'	1830989.99'	4	31.01	24.23	--[5]	Surficial
Downgradient Monitoring Well	B-MW-04S[4]	05/14/1980	245502.85'	1830484.42'	4	10.37	--[5]	--[5]	Surficial
Downgradient Monitoring Well	B-MW-05S	--[5]	246311.38'	1830203.40'	4	26.04	26.1	--[5]	Surficial
Downgradient Monitoring Well	B-MW-06S[4]	--[5]	246172.14'	1829762.57'	4	15.48	--[5]	--[5]	Surficial
Downgradient Monitoring Well	B-MW-07S	--[5]	247374.68'	1829885.49'	4	27.69	21	--[5]	Surficial
Downgradient Monitoring Well	B-MW-08S[4]	05/12/1980	246006.58'	1829467.26'	4	14.82	--[5]	--[5]	Surficial
Downgradient Monitoring Well	B-MW-09	05/14/1980	246242.28'	1830615.69'	4	26.22	65	--[5]	Surficial
Downgradient Monitoring Well	B-MW-10S	05/14/1980	246409.62'	1830979.90'	4	25.56	33.65	--[5]	Surficial
Downgradient Monitoring Well	B-MW-11	05/15/1980	247370.39'	1829714.11'	4	27.52	46.3	--[5]	Surficial

Notes:
1. Low-flow purging and sampling began in Fall 2013.
2. The Landfill is in Maryland State Plane 83 US survey foot coordinates and the National Geodetic Vertical Datum of 1929.
3. Top of casing elevations are presented as determined during a survey in September/October 2010.
4. B-MW-04S, B-MW-06S, and B-MW-08S are only gauged for water levels.
5. Not available. Due to the lack of groundwater well construction documentation available, a few dates of installation and screen intervals for the wells are not included.

MSL = Mean Sea Level

2.3 GROUNDWATER FLOW

Water level gauging at monitoring wells within the network is utilized to prepare a groundwater contour map and to present the groundwater flow direction. The groundwater contour map reflecting the groundwater elevation measurements will be included with the semi-annual report. The most recent groundwater contour map is presented in this plan (Figure 6). Groundwater elevations for monitoring wells B-MW-09 and B-MW-11 are not utilized in the development of the groundwater contour map. Based on a review of historical intermediate well information, it was determined that based on their depth and historic elevation data that monitoring wells B-MW-09 and B-MW-11 should not be included within the shallow monitoring network of the Landfill.

2.4 SEMI-ANNUAL REPORTING REQUIREMENTS

A semi-annual report on water quality for the Landfill will be submitted to MDE containing a summary and interpretation of the analytical results of the monitoring locations sampled and analyzed as defined in this plan. The report will be submitted to MDE within 90 days of the close of every first and third calendar quarters in the preferred format of a searchable electronic PDF, unless otherwise requested. In the report, a qualified groundwater scientist, as defined in 40 CFR 258.50(g), will evaluate the results and advise of any changes in water quality or any exceedance of the state and federal MCL, Action Level (AL), or other health standards. The report will also include the following:

- A site plan with the most current topographic map depicting the monitoring well locations.

- A complete copy of the laboratory data, and the qualified groundwater scientist interpretive findings.

- A discussion of the data, including the identification of those monitoring locations that show influences attributable to the presence of landfill leachate and any results which exceed MCLs.

- Discussion of the quality assessment and quality control procedures and data used to ensure that the data collected are reliable, if those procedures vary from those included in this monitoring plan.

- Historical data presented in a time series format and analysis of the data. Historical data from each well will be presented in a tabular format. The report discussion will include historical data trends.

- As described in Section 2.10.1 of this plan, statistical analysis of the groundwater monitoring network data will be performed and evaluated.

2.5 SAMPLING SCHEDULE

Groundwater sampling will be conducted on a semi-annual basis in accordance with 40 CFR 258. Semi-annual sampling events will occur during the periods of January through March, and July through September of each year. The sampling will be performed by a qualified groundwater scientist or supervised qualified environmental technicians, adhering to the groundwater monitoring frequency specified in this GWMP.

2.6 SAMPLING METHOD

A qualified groundwater scientist shall ensure that a water quality sample is collected from each groundwater monitoring well and/or surface water monitoring point. Each sample must be analyzed using qualified independent laboratories certified for water quality analysis by MDE (Laboratories). The qualified groundwater scientist shall also ensure that Laboratories achieve the desired PQL concentration (with a reporting limit ≤ PQL) using only the most sensitive analytical methods listed in 40 CFR 136, 141, and 143, and SW-846. This applies to each required parameter listed in MDE Monitoring Parameters Tables I and II (Appendix C) and any applicable/required parameters listed in 40 CFR 258 during each environmental monitoring event to meet monitoring requirements.

The groundwater samples from monitoring wells will be collected in accordance with the U.S. Environmental Protection Agency's low stress (low flow) purging and sampling standard operating procedure. Per MDE's letter dated 2 January 2024, samples will be collected and analyzed for per- and polyfluoroalkyl substances (PFAS), including PFOA, PFOS, PFHxS, PFNA, PFBS, and HFPO-DA (commonly referred to as a GenX Chemical), starting on 1 July 2024. PFAS sampling will be conducted in accordance with EA's standard operating procedure for PFAS sampling. EA will ensure that the PFAS sampling equipment, clothing, and personal protective equipment are utilized. This includes wearing synthetic or 100 percent cotton clothing that has been well-laundered without the use of fabric softener, using powderless nitrile gloves, and minimizing the use of sunscreen and bug spray. If spray is necessary for health and safety, its use will be documented in the field sampling logs. Additionally, proper sample handling and transfer procedure will be followed.

2.6.1 Well Inspection

During each semi-annual event, the well condition will be inspected and documented on the low-flow sampling form (Appendix D). The County will be notified of the maintenance needs immediately after the sampling is completed. All repair or maintenance tasks shall be corrected or performed within 30 days of their observance; per COMAR 26.04.07.22C.

2.6.2 Water Level Determination

After the physical inspection has been completed, the static water levels will be determined for all wells to be sampled prior to initiation of any purging and sampling activities. The depth to water and the elevation at the top of well casing reference point will be used to calculate the groundwater elevation at the well. Because these data will be used to construct groundwater contour maps, it is essential that they be as accurate as possible. All water level determinations will be made to the nearest 0.01 foot and recorded on the sampling form presented in Appendix D.

A water level indicator will be used and the depth to water measured by lowering the precleaned probe of the electronic sounder into the well slowly until the indicator (buzzer or meter) is activated. After an indication of water penetration has been achieved, the probe will be slowly raised and lowered until the indicator accurately registers the water surface. The water level will be referenced to the source point on the casing marked when the casing stick-up was measured. The water level will be determined to the nearest 0.01 foot.

2.6.3 Cross-Contamination Prevention

To be sure that cross-contamination via water-level sounding equipment does not occur, it is necessary to decontaminate equipment between each well. This will be done by wiping the sounding device with a paper towel saturated with a non-phosphate detergent as retrieved. Probes are rinsed with a non-phosphate detergent and spray-rinsed with deionized water between samplings.

2.6.4 Purging Process and Protocol

Low-flow purging and sampling methods (less than 0.5 liter per minute) were performed at the Landfill beginning in Fall 2013 and have continued for each event thereafter. The low-flow purging and sampling will be performed in accordance with the EPA 2017 low-flow purging and sampling procedure.

Sampling and purging will be accomplished using a clean, stainless steel submersible pump and discharge hose that is lowered to the screened interval midpoint. Care shall be taken to not disturb the well while lowering the non-dedicated pump and tubing into the well. The portable generator should be placed on level ground approximately 15 feet away from and downwind from the well. All generator maintenance (oil and fueling) is to be performed off-site.

A flow-through cell containing the instrumentation header will be connected to the pump discharge and well purging will begin at a pumping rate of less than 0.5 liter per minute, unless a different purge rate is established for the well. The flow cell will be filled completely, taking care not to cause entrapment of air in the system. The pumping rate will then be adjusted to stabilize the water level within the well, if necessary.

During the purging of the well, water quality parameters will be monitored and recorded every 3 to 5 minutes, as well as purge rate, volume purged, and depth to water. Water quality parameters monitored during purging are listed in Section 2.6.7. Purging of the standing water will be considered complete when three consecutive readings of the water quality indicator parameters agree within the EPA's groundwater purging stabilization criteria (Table 2). EPA's groundwater purging stabilization criteria for each indicator field parameter must be met before water quality sample collection may begin. As no contamination has been detected at the Landfill, no treatment or special disposal is required for purged well water. Information regarding well purging will be recorded on a low-flow sampling record form (Appendix D).

Table 2. Groundwater Purging Stabilization Criteria

Indicator Field Parameters	
Parameter	**Stabilization Criteria**
pH	± 0.1 unit
Specific Conductance	3 percent
Temperature	3 percent
Oxidation/Reduction Potential	± 10 millivolts
Dissolved Oxygen	10 percent for values greater than 0.5 milligram per liter; if three dissolved oxygen values are less than 0.5 milligram per liter, consider the values as stabilized
Turbidity	10 percent for values greater than 5 nephelometric turbidity units; if three consecutive values are less than 5 nephelometric turbidity units, consider the values as stabilized

Note: Stabilization has been achieved once the above criteria have been met for three consecutive readings, taken 5 minutes apart or as appropriate.

2.6.5 Sampling Procedure

Prior to sampling, the discharge tubing will be disconnected from the flow-through cell and it will be made certain that the water being discharged by the pump is not silty and no bubbles are observed in the discharge tubing. Sample containers will be filled by allowing the pump discharge to flow gently down the inside of the containers with as little agitation or aeration as possible. Containers that contain preservative will not be filled to overflowing and will be thoroughly mixed after filling by upending. Samples for volatile organics will be collected in a manner that will minimize aeration and so that containers are free of bubbles and headspace. Each pre-labeled container will be placed in a cooler containing ice and a sample entry will be made on the chain-of-custody form (Appendix E).

Additionally, if needed as a result of mechanical equipment failure, groundwater sample collection will be accomplished with an equivalent low stress groundwater pump for groundwater purging and sampling.

2.6.6 Field Filtration

In accordance with 40 CFR 258, no samples will be field filtered.

2.6.7 Field Analysis

During the purging of the well, water quality parameters will be monitored and recorded every 3 to 5 minutes, as well as purge rate, volume purged, and depth to water. Water quality parameters, including temperature, pH, oxidation-reduction potential, dissolved oxygen, turbidity, and specific conductance, will be determined in the field. These determinations will be made using individual meters or a single unit utilizing multiple probes.

2.6.8 Sample Handling

When sampling has been completed, the qualified environmental technician will maintain strict custody control over the samples and will deliver the samples to the laboratory or a laboratory transport service. The completed chain-of-custody form(s) will accompany the samples to the laboratory, where they will be relinquished from the qualified environmental technician or laboratory transport service and given to appropriate lab personnel. An example chain-of-custody form is included in Appendix E. Other documentation such as field data logs, etc., will be retained by responsible project personnel and will be included in the groundwater monitoring report.

2.7 ANALYTICAL PARAMETERS AND LAB ANALYSIS

2.7.1 Parameters

All samples collected will be analyzed for the constituents identified in MDE Monitoring Parameters Table I and II, which comprise mostly of Appendix I of Subpart E of 40 CFR 258 parameters.

2.7.2 Analytical Laboratory Procedures

All analytical work shall be completed in accordance with standard EPA protocols where such exist. When necessary, cation/anion balance will be calculated as recommended by Section 1030 E Checking Correctness of Analysis of Standard Methods (Clesceri et al. 1999). The anion and cation sums, when expressed as milliequivalents per liter, must balance because all potable waters are electrically neutral. The test is based on the percentage difference defined in the Standard Methods.

A qualified independent laboratory certified for water quality analysis by the MDE will perform all analyses. Quality assurance (QA)/quality control (QC) shall be assured through the accredited laboratory's quality assurance manual.

The laboratory will report analytical results based on the PQLs as defined by MDE Monitoring Parameters Tables I and II, shown in Table 3 in this document. Alternate PQLs are requested for total magnesium, alkalinity, chloride, and turbidity. A PQL variance letter for these analytes was submitted to MDE on 19 July 2024, and MDE approved the request on 26 November 2024. The letter is included in Appendix F of this EMP.

Table 3. Monitoring Parameters and Analytical Method

Monitoring Parameters	Method	Units	PQL
Volatile Organic Compounds			
Acetone	8260D Rev. 4	µg/L	5.0
Acrylonitrile	8260D Rev. 4	µg/L	5.0
Benzene	8260D Rev. 4	µg/L	1.0
Bromochloromethane	8260D Rev. 4	µg/L	1.0
Bromomethane	8260D Rev. 4	µg/L	1.0
2-Butanone	8260D Rev. 4	µg/L	5.0
Carbon disulfide	8260D Rev. 4	µg/L	1.0
Carbon tetrachloride	8260D Rev. 4	µg/L	1.0
Chlorobenzene	8260D Rev. 4	µg/L	1.0
Chloroethane; Ethyl chloride	8260D Rev. 4	µg/L	1.0
Chloromethane	8260D Rev. 4	µg/L	1.0
1,2-Dibromo-3-chloropropane; DBCP	8011 Rev. 0	µg/L	0.04
1,2-Dibromoethane; Ethylene dibromide; EDB	8011 Rev. 0	µg/L	0.04
Dibromomethane	8260D Rev. 4	µg/L	1.0
1,2 – Dichlorobenzene	8260D Rev. 4	µg/L	1.0
1,4 – Dichlorobenzene	8260D Rev. 4	µg/L	1.0
Trans-1,4-dichloro-2-butene	8260D Rev. 4	µg/L	5.0
1,1-Dichloroethane	8260D Rev. 4	µg/L	1.0
1,2-Dichloroethane	8260D Rev. 4	µg/L	1.0
1,1-Dichloroethene	8260D Rev. 4	µg/L	1.0
Cis-1,2-Dichloroethene	8260D Rev. 4	µg/L	1.0
Trans-1,2-Dichloroethene	8260D Rev. 4	µg/L	1.0
Methylene chloride	8260D Rev. 4	µg/L	1.0
Methyl *Tert*-Butyl Ether; (MTBE)	8260D Rev. 4	µg/L	2.0
1,2-Dichloropropane	8260D Rev. 4	µg/L	1.0
Trans-1,3-Dichloropropene	8260D Rev. 4	µg/L	1.0
Cis-1,3-Dichloropropene	8260D Rev. 4	µg/L	1.0
Ethylbenzene	8260D Rev. 4	µg/L	1.0
2-Hexanone	8260D Rev. 4	µg/L	5.0
Iodomethane	8260D Rev. 4	µg/L	1.0
4-Methyl-2-pentanone	8260D Rev. 4	µg/L	5.0
Styrene	8260D Rev. 4	µg/L	1.0
1,1,1,2-Tetrachloroethane	8260D Rev. 4	µg/L	1.0
1,1,2,2-Tetrachloroethane	8260D Rev. 4	µg/L	1.0
Tetrachloroethene; (PCE)	8260D Rev. 4	µg/L	1.0
Toluene	8260D Rev. 4	µg/L	1.0
1,1,1-Trichloroethane	8260D Rev. 4	µg/L	1.0
1,1,2-Trichloroethane	8260D Rev. 4	µg/L	1.0
Trichloroethene; (TCE)	8260D Rev. 4	µg/L	1.0
Trichlorofluoromethane; (CFC-11)	8260D Rev. 4	µg/L	1.0
1,2,3-Trichloropropane	8260D Rev. 4	µg/L	1.0
Vinyl acetate	8260D Rev. 4	µg/L	1.0
Vinyl chloride	8260D Rev. 4	µg/L	1.0
o-Xylene	8260D Rev. 4	µg/L	1.0
m-+*p*-Xylenes	8260D Rev. 4	µg/L	1.0
Bromodichloromethane	8260D Rev. 4	µg/L	1.0
Dibromochloromethane	8260D Rev. 4	µg/L	1.0
Bromoform	8260D Rev. 4	µg/L	1.0

Monitoring Parameters	Method	Units	PQL
Chloroform	8260D Rev. 4	µg/L	1.0
PFAS			
Perfluorooctanoic acid (PFOA)	1633 Rev. A	ng/L	4.0
Perfluorooctanesulfonic acid (PFOS)	1633 Rev. A	ng/L	4.0
Perfluorononanoic acid (PFNA)	1633 Rev. A	ng/L	4.0
Perfluorohexanesulfonic acid (PFHxS)	1633 Rev. A	ng/L	3.0
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	1633 Rev. A	ng/L	5.0
Perfluorobutanesulfonic acid (PFBS)	1633 Rev. A	ng/L	3.0
Elements and Indicator Monitoring Parameters			
Total Antimony	6020B Rev. 2	µg/L	2
Total Arsenic	6020B Rev. 2	µg/L	2
Total Barium	6020B Rev. 2	µg/L	10
Total Beryllium	6020B Rev. 2	µg/L	2
Total Cadmium	6020B Rev. 2	µg/L	4
Total Calcium	6020B Rev. 2	µg/L	80
Total Chromium	6020B Rev. 2	µg/L	10
Total Cobalt	6020B Rev. 2	µg/L	10
Total Copper	6020B Rev. 2	µg/L	10
Total Iron	6020B Rev. 2	µg/L	5
Total Lead	6020B Rev. 2	µg/L	2
Total Magnesium[1]	6020B Rev. 2	µg/L	100
Total Manganese	6020B Rev. 2	µg/L	10
Total Mercury	6020B Rev. 2	µg/L	0.2
Total Nickel	6020B Rev. 2	µg/L	11
Total Potassium	6020B Rev. 2	µg/L	390
Total Selenium	6020B Rev. 2	µg/L	35
Total Silver	6020B Rev. 2	µg/L	10
Total Sodium	6020B Rev. 2	µg/L	200
Total Thallium	6020B Rev. 2	µg/L	2
Total Vanadium	6020B Rev. 2	µg/L	10
Total Zinc	6020B Rev. 2	µg/L	10
Alkalinity[1]	2320 B-2021	mg/L	5.0
Ammonia (as N)	350.1 Rev. 2.0	mg/L	1.0
Chemical oxygen demand	410.4 Rev. 2.0	mg/L	10
Chloride[1]	300.0 Rev. 2.1	mg/L	0.5
Hardness	2340 C-2021	mg/L	0.50
Nitrate (as N)	300.0 Rev. 2.1	mg/L	0.06
pH (Field)	Field measured	S.U.	0.1
pH (Laboratory)	4500-H^+ B-2021	S.U.	0.1
Specific conductance (Field)	Field measured	µS/cm	1.0
Specific conductance (Laboratory)	2510 B-2021	µS/cm	1.0
Sulfate	300.0 Rev. 2.1	mg/L	0.38
Total dissolved solids	2540 C-2020	mg/L	10
Turbidity[1]	180.1 Rev. 2.0	NTU	0.5

Monitoring Parameters	Method	Units	PQL

Notes:

1. MDE approved PQL variances for alkalinity (2320 B-2021), chloride (300.0 Rev. 2.1), total magnesium (6020B Rev. 2), and turbidity (180.1 Rev. 2.0); refer to Appendix F.

µg/L = microgram(s) per liter (parts per billion, ppb)
µS/cm = microsiemen(s) per centimeter
mg/L = milligram(s) per liter
ng/L = nanogram per liter (parts per trillion, ppt)
NTU = nephelometric turbidity units
PFAS = Per- and Polyfluoroalkyl Substances
PQL = Practical Quantitation Limit
S.U. = standard units

All analytical results below the PQL that can be estimated by the laboratory will be reported with a J qualifier. J values must be reported. The PQLs will be reviewed and revised every 5 years. A variance application request will be submitted to MDE before November 2029 to justify continued approval and to determine whether a more sensitive method or a qualified laboratory is necessary, per COMAR 26.04.07.26.

2.8 QUALITY CONTROL MEASURES

QA/QC protocols will be employed during all monitoring events to check the uniformity of the data and to ensure field QC criteria and laboratory QA criteria. Adhering to the sampling and reporting procedures in Section 2.6, Sampling Method, will be important, and the following QA and QC measures below will help ensure quality data collection. Completed chain-of-custody forms will be attached to the semi-annual groundwater report. An example chain-of-custody form is presented in Appendix E.

All instrumentation will be calibrated per the manufacturer's instructions prior to transport to the field and, where provided for, recalibrated during usage. All equipment shall be properly decontaminated prior to each use. The instrument calibration logs can be found in Appendix G.

All equipment used to collect samples and any equipment that might contact the sample will be decontaminated to avoid cross-contamination and/or the introduction of outside contaminants into the sample. All non-dedicated equipment shall be decontaminated utilizing a non-phosphate detergent and grade de-ionized water prior to use in monitoring wells.

A qualified groundwater scientist will oversee qualified environmental technicians who will sample monitoring wells identified within this plan on a semi-annual basis.

Duplicate samples for precision will also be collected at a frequency of one per site per event.

2.8.1 Field Quality Control Samples/Blanks

Trip blanks, a field blank, and a rinsate (equipment) blank will be collected at the Landfill and analyzed as field quality control measures in accordance with MDE requirements and industry standards as follows:

- Trip Blank: 1 per sample cooler with volatiles
- Field Blank: 1 per day per matrix (1 per 20 water samples)
- Equipment Blank: 1 per day per matrix (1 per 20 water samples)

Trip blanks will be prepared during each sampling event by the laboratory and will be delivered to the laboratory accompanying the field samples with the purpose of evaluating if VOC contamination from ambient air is introduced into the samples during sample handling or transportation. Each trip blank will be analyzed for volatile organics and will be prepared prior to field sampling. Trip blanks will be sealed and labeled and will never be opened during any sampling activities.

The field blank will be prepared by pouring deionized water provided by the laboratory directly into the sample containers while on-site and will be used to determine if there was ambient contamination in the field or in the laboratory. Field blanks will be collected and analyzed for the same groundwater parameters as the groundwater monitoring wells as field quality control measures.

The rinsate (equipment) blank will be prepared by running deionized water through and/or over decontaminated equipment and into the sample containers. The rinsate (equipment) blank will accompany the groundwater samples to the laboratory for analytical testing and will be used to determine the effectiveness of the decontamination process and procedures.

The field quality control samples will not be shared between two or more landfill facilities. All samples, blanks, and duplicates, along with their corresponding data, will be landfill site-specific. The semi-annual monitoring report will only contain laboratory data that pertains to that landfill's environmental monitoring event and data.

2.9 ACTION PLAN – GROUNDWATER EXCEEDANCES

If analytical results from water quality samples collected from any sources associated with the landfill or surrounding properties exceed MCL, numerical criteria for toxic substances, AL, or other health standard screening levels persistently (≥2) and/or for the first time, then the landfill owner, operator, or permittee must notify MDE in writing by email within 24 hours of receipt of the analytical data detecting this occurrence. The notification should include details for each exceedance, specifying first-time exceedances, the expected resampling date or the acceptance of the exceedance results, and the optional submission of an alternate source demonstration (ASD) report. Within 30 days, resample each water monitoring point that had an exceedance, notify MDE in writing by email of the resampling results, and submit to MDE an ASD report (optional). First-time or persistent exceedances necessitate the development of an IRP. If MDE determines that an IRP is warranted, then within 60 days of the original exceedance detection or confirmation/verification, an IRP will be submitted to MDE, outlining the exceedance detection frequency, the lateral and vertical extent of contamination, potential causes of increased contaminant concentrations, and remedial and corrective actions to be taken based on the cause, nature, and extent of the contaminant plume migration; also include a schedule for the implementation of the remedial measures. The MDE-approved IRP must be implemented within 90 days of approval.

The standards for VOC monitoring parameters and inorganic parameters are provided in Tables 4 and 5, respectively.

Table 4. Monitoring Criteria for VOC Parameters

VOC Monitoring Parameters	Units	MCL	Cleanup STD
Acetone	µg/L		1,400
Acrylonitrile	µg/L		
Benzene	µg/L	5.0	5.0
Bromochloromethane	µg/L		
Bromomethane	µg/L		0.75
2-Butanone	µg/L		560
Carbon disulfide	µg/L		81
Carbon tetrachloride	µg/L	5.0	5.0
Chlorobenzene	µg/L	100	100
Chloroethane	µg/L		
Chloromethane	µg/L		19
1,2-Dibromo-3-chloropropane; (DBCP)[1]	µg/L	0.20	0.20
1,2 – Dibromoethane; (EDB)[1]	µg/L	0.05	0.050
Dibromomethane	µg/L		
1,2 – Dichlorobenzene	µg/L	600	
1,4 – Dichlorobenzene	µg/L	75	
Trans-1,4-dichloro-2-butene	µg/L		
1,1-Dichloroethane	µg/L		2.8
1,2-Dichloroethane	µg/L	5.0	5.0
1,1-Dichloroethene	µg/L	7.0	7.0
Cis-1,2-Dichloroethene	µg/L	70	70
Trans-1,2-Dichloroethene	µg/L	100	100
Methylene chloride	µg/L	5.0	5.0
Methyl *Tert*-Butyl Ether; (MTBE)	µg/L		20
1,2-Dichloropropane	µg/L	5.0	5.0
Trans-1,3-Dichloropropene	µg/L		
Cis-1,3-Dichloropropene	µg/L		
Ethylbenzene	µg/L	700	700
2-Hexanone	µg/L		
Iodomethane	µg/L		
4-Methyl-2-pentanone	µg/L		630
Styrene	µg/L	100	100
1,1,1,2-Tetrachloroethane	µg/L		
1,1,2,2-Tetrachloroethane	µg/L		0.076
Tetrachloroethene; (PCE)	µg/L	5.0	5.0
Toluene	µg/L	1,000	1,000
1,1,1-Trichloroethane	µg/L	200	200
1,1,2-Trichloroethane	µg/L	5.0	5.0
Trichloroethene; (TCE)	µg/L	5.0	5.0
Trichlorofluoromethane; (CFC-11)	µg/L		
1,2,3-Trichloropropane	µg/L		
Vinyl acetate	µg/L		
Vinyl chloride	µg/L	2.0	2.0

<table>
<tr><th>VOC Monitoring Parameters</th><th>Units</th><th colspan="2">MCL</th><th>Cleanup STD</th></tr>
<tr><td>o-Xylene</td><td>µg/L</td><td colspan="2" rowspan="2">10,000 (total)</td><td rowspan="2">10,000</td></tr>
<tr><td>m-+p-Xylenes</td><td>µg/L</td></tr>
<tr><td>Bromodichloromethane</td><td>µg/L</td><td colspan="2" rowspan="4">80 (total)</td><td>80</td></tr>
<tr><td>Dibromochloromethane</td><td>µg/L</td><td>80</td></tr>
<tr><td>Bromoform</td><td>µg/L</td><td>80</td></tr>
<tr><td>Chloroform</td><td>µg/L</td><td>80</td></tr>
<tr><th>PFAS</th><th>Units</th><th>MCL</th><th>HI MCL</th><th>HBWC</th></tr>
<tr><td>Perfluorooctanoic acid (PFOA)</td><td>ng/L</td><td>4.0</td><td></td><td></td></tr>
<tr><td>Perfluorooctanesulfonic acid (PFOS)</td><td>ng/L</td><td>4.0</td><td></td><td></td></tr>
<tr><td>Perfluorononanoic acid (PFNA)</td><td>ng/L</td><td>10</td><td rowspan="4">1.0
(unitless)</td><td>10</td></tr>
<tr><td>Perfluorohexanesulfonic acid (PFHxS)</td><td>ng/L</td><td>10</td><td>10</td></tr>
<tr><td>Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)</td><td>ng/L</td><td>10</td><td>10</td></tr>
<tr><td>Perfluorobutanesulfonic acid (PFBS)</td><td>ng/L</td><td></td><td>2000</td></tr>
</table>

Notes:
µg/L = microgram per liter (parts per billion, ppb)
Cleanup STD = MDE Cleanup Standards for Groundwater (for Assessment Monitoring)
HBWC = Health-Based Water Concentrations
HI MCL = Hazard Index MCL (Mixture of two or more: PFNA, PFHxS, HFPO-DA, and PFBS)
MCL = Maximum Contaminant Level
ng/L = nanogram per liter (parts per trillion, ppt)
PFAS = Per- and Polyfluoroalkyl Substances
VOC = Volatile Organic Compound

Table 5. Monitoring Criteria for Elements and Indicator Parameters

Parameters	Units	MCL/SMCL	Cleanup STD
Total Antimony	µg/L	6	6.0
Total Arsenic	µg/L	10	10
Total Barium	µg/L	2,000	2,000
Total Beryllium	µg/L	4	4.0
Total Cadmium	µg/L	5	5.0
Total Calcium*	µg/L		
Total Chromium	µg/L	100	100
Total Cobalt*	µg/L		
Total Copper[+]	µg/L	1,300 (AL)	1,300
Total Iron**	µg/L	300	1,400
Total Lead	µg/L	15 (AL)	15
Total Magnesium*	µg/L		
Total Manganese**	µg/L	50	43
Total Mercury	µg/L	2	2.0
Total Nickel[+]	µg/L	100	39
Total Potassium*	µg/L		
Total Selenium	µg/L	50	50
Total Silver**	µg/L	100	9.4
Total Sodium*	µg/L		
Total Thallium	µg/L	2	2.0
Total Vanadium*	µg/L		8.6
Total Zinc**	µg/L	5,000	600
Alkalinity*	mg/L		
Ammonia (as N)*	mg/L		
Chemical oxygen demand*	mg/L		
Chloride**	mg/L	250	
Hardness*	mg/L		
Nitrate (as N)	mg/L	10	

Parameters	Units	MCL/SMCL	Cleanup STD
pH**	S.U.	6.5-8.5	
Specific conductance*	µS/cm		
Sulfate**	mg/L	250	
Total dissolved solids**	mg/L	500	
Turbidity	NTU	5	

Notes:
* = No MCL
** = Secondary MCL
+ = No MCL but recommended level by the U.S. Environmental Protection Agency

µg/L = microgram per liter (parts per billion, ppb)
µS/cm = Microsiemen(s) per centimeter
AL = Action Level
Cleanup STD = MDE Cleanup Standards for Groundwater (for Assessment Monitoring)
MCL = Maximum Contaminant Level
mg/L = milligram per liter (parts per million, ppm)
NTU = Nephelometric turbidity unit(s)
SMCL = Secondary Maximum Contaminant Level
S.U. = Standard unit(s)

Based on EA's evaluation, the County will notify MDE of a first-time exceedance of an MCL, AL, or other health standard in writing within 24 hours of receipt and subsequent review of the analytical data. Upon detection of the exceedance for the first time, the location will be re-sampled within 30 days and analyzed for the exceedance by the same analytical laboratory.

If Worcester County determines, pursuant to Section 2.10, Data Analysis and Reporting, that there is a new statistically significant increase over background for one or more of the constituents listed in Tables 4 and 5 of this EMP at any monitoring well, Worcester County will place notice to this effect in the operating record of the Landfill and notify MDE within the semi-annual report.

Worcester County would then establish an assessment monitoring program meeting the requirements of 40 CFR 258.55 within 90 days, unless the County demonstrates that a source other than the Landfill caused the contamination, or that the statistically significant increase resulted from an error in sampling, analysis, statistical evaluation, or variation in groundwater quality. If it is determined that a source other than the Landfill caused contamination or there was some other aforementioned error, a report documenting this demonstration will be certified by a qualified groundwater scientist, or approved by MDE, and be placed in the operating record within 60 days of verification. If a successful demonstration is made and documented, Worcester County will continue detection monitoring in accordance with this plan, and not institute the assessment monitoring program.

2.10 DATA ANALYSIS AND REPORTING

The data analysis in the semi-annual groundwater report will include a summary table of all of the current monitoring event data, a copy of the complete laboratory data, time series analysis, and historical data.

2.10.1 Statistical Analysis

The objective of the analysis is to determine if there is a statistically significant increase over background values for each parameter at each downgradient well. This goal is met by statistically analyzing the groundwater data that have been collected on the site. The analysis will determine if the Landfill may be impacting groundwater. Low-flow sampling techniques were utilized beginning with the Spring 2016 sampling event. Since sufficient sampling data have been obtained, the statistical analysis dataset was updated to exclude historical data collected prior to the Spring 2016 event.

The concentrations observed in the downgradient wells are compared to the concentrations observed in the upgradient wells. If the downgradient samples show significantly higher concentrations than the upgradient samples, statistically, it can be said the Landfill is affecting the groundwater quality.

The groundwater data will be analyzed to identify statistically significant increases in accordance with 2009 Unified Guidance. The Mann-Whitney U Test (also known as the Wilcoxon rank sum test) will be utilized to evaluate the null hypothesis that the downgradient samples are consistent with the upgradient samples, against the one-sided alternative hypothesis that the downgradient samples exceed the upgradient. The Mann-Whitney U test is a nonparametric test that does not assume a data distribution (e.g., normal distribution), and compares the mean ranks of two groups of data and tests the null hypothesis that both groups come from the same population.

Hypothesis tests, such as the Mann-Whitney U test, are evaluated at a specified Type I error rate that represents the probability of falsely concluding that downgradient well concentrations exceed upgradient well concentrations (i.e., a false positive error). When multiple tests are conducted (from different wells and different constituents), the probability of a Type I error is compounded. The Bonferroni correction compensates for that increase by testing each individual hypothesis at a significance level of α / n, where α is the network-wide significance level, and n is the number of individual tests being conducted. A maximum network-wide Type I (i.e., false positive) error rate of 5 percent is required by 40 CFR 258.53(h)(2); however, a Type I error rate no less than 1 percent shall be applied to any single test.

Statistical analyses are performed for over 60 parameters at each downgradient well. Using the Bonferroni adjustment to account for multiple statistical comparisons, a Type I error rate of much less than 1 percent per analysis would result, so a Type I error rate of 1 percent was used as the minimum allowable under 40 CFR 258.52(h)(2).

For each sampling event, an average concentration from the upgradient wells will be calculated. The collection of average upgradient concentrations for all sampling events is then compared to the concentrations for all sampling events at each of the downgradient wells. For each downgradient well, the upgradient and downgradient concentrations are combined and ranked (the lowest concentration is assigned a rank of one). Tied concentrations are ranked equally by averaging the ranks that would be assigned to the tied group if they were not tied.

The sum of the ranks, the number of upgradient observations, and the number of downgradient observations are used to calculate the Mann-Whitney Test Statistic (U). The calculated U for each well/analyte pair is compared to a critical U value which is published in tables in statistical texts. Critical U values are based on the number of samples in the upgradient group and at each downgradient well. Therefore, the critical U values vary from analyte-to-analyte and from well-to-well. If the calculated U is greater than the critical U, there is no exceedance at 99 percent confidence (a 1 percent Type I error rate for each analysis). Likewise, if the calculated U is less than the critical U, there is an exceedance.

Should a new statistically significant increase over background of the constituents tested in this program be detected, an assessment monitoring program as outlined in 40 CFR 258.55 will be implemented if an alternate source cannot be determined.

3. LANDFILL GAS MONITORING PLAN

3.1 SITE DESCRIPTION

The detailed site history, location, and geology of the Landfill is presented under Sections 1.2, 1.3, and 1.4 of this EMP, respectively. The LFG probes are positioned evenly around the southern perimeter of the cap and along the site entrance road where the existing homeowner's drop-off facility is located.

This LFGP has been developed to comply with the regulations set forth in 40 CFR 258.23, "Explosive Gases Control," and COMAR 26.04.07.03(9), "Explosive Gases." Per a letter from MDE dated 31 May 2017, the Landfill's LFGP is to be updated every 5 years.

This LFGP addresses routine methane monitoring, as defined in 40 CFR 258.23. Should a gas level exceed the maximum limit, a remedial action program must be established and implemented as defined in 40 CFR 258.23.

3.2 HISTORICAL LFG RESULTS

Since 2006, LEL exceedances of methane have been observed in gas monitoring probes GP-1, GP-8, GP-12, GP-13, GP-14, GP-15, and GP-17. Historical methane results are included in Appendix H.

Probes GP-15 and GP-17 exceeded the LEL for the first time during the August 2023 event. MDE was notified on 11 August 2023 via email regarding the exceedances. Probes GP-12 and GP-14 exceeded the LEL for the first time during the November 2023 event. MDE was notified on 15 November 2023 via email regarding the new exceedances.

Per MDE's response, EA prepared and submitted an IRP on behalf of the County to address the methane exceedances. The IRP was submitted via email to MDE on 15 November 2023 and was approved on 18 June 2024. The County is currently performing the activities outlined in the IRP.

3.3 GAS MONITORING PROBE (GMP) LOCATION, SCHEDULE, AND FREQUENCIES

In accordance with the aforementioned regulations, the concentration of methane gas generated by the Landfill cannot exceed 25 percent of the LEL for methane (1.25 percent by volume) at any of the Landfill facility structures. In addition, concentrations of methane gas cannot exceed the LEL (5 percent by volume) for methane at the Landfill's property boundary.

3.3.1 GMP Installation and Location

There are 14 LFG monitoring probes and two on-site structures at the Landfill (Figure 7) that will be sampled for LFG. The probes were installed during the Landfill closure construction. The probe details are provided in Table 6. A typical LFG probe construction diagram is presented on Figure 8.

Due to the age of the Landfill, LFG monitoring probe construction documents for GP-11, GP-12, GP-13, GP-14. GP-15, GP-16, GP-17, AH-1, and AH-2 could not be located. On behalf of the County, EA contacted MDE's Water and Science Administration requesting assistance with the missing well construction documentation. In response, MDE confirmed in a letter dated 13 November 2024, that the requested documentation was unavailable. All available construction documents as well as the MDE letter are provided in Appendix I. The LFG monitoring points listed in Table 6 shall be sampled on a quarterly basis and reported on a semi-annual frequency.

Table 6. LFG Monitoring Probe Locations

Description	Number	Date of Installation	Coordinates[1]	
			(Northing)	(Easting)
Gas Monitoring Probe	GP-1	11/10/1995	248091.76'	1830060.25'
Gas Monitoring Probe	GP-3	11/10/1995	247957.15'	1830343.57'
Gas Monitoring Probe	GP-4	11/10/1995	247796.79'	1830359.89'
Gas Monitoring Probe	GP-5	11/10/1995	247924.20'	1830224.40'
Gas Monitoring Probe	GP-6	11/10/1995	248003.02'	1830069.49'
Gas Monitoring Probe	GP-7	11/10/1995	248046.68'	1829858.43'
Gas Monitoring Probe	GP-8	11/10/1995	248137.74'	1829970.88'
Gas Monitoring Probe	GP-11	9/2007[3]	247847.24'	1829873.31'
Gas Monitoring Probe	GP-12	9/2007[3]	247647.32'	1829879.12'
Gas Monitoring Probe	GP-13	9/2007[3]	247447.87'	1829893.93'
Gas Monitoring Probe	GP-14	9/2007[3]	247251.42'	1829931.42'
Gas Monitoring Probe	GP-15	9/2007[3]	247054.05'	1829963.74'
Gas Monitoring Probe	GP-16	9/2007[3]	246857.08'	1829998.46'
Gas Monitoring Probe	GP-17	9/2007[3]	246659.08'	1830026.64'
Attendant's Hut - 1 [2]	AH-1			
Attendant's Hut - 2 [2]	AH-2			

Notes:
1. The Landfill is in Maryland State Plane 83 US survey foot coordinates and the National Geodetic Vertical Datum of 1929.
2. Gas measurements are to be taken at the various locations within and exterior to each building. Locations along the floor and confined areas within the structure are to be monitored.
3. Based on historical data, it was estimated that probes GP-11 through GP-17 were installed in September 2007.

3.3.2 Other Structures Monitored

In addition to sampling the 14 LFG monitoring probes, gas monitoring will take place at two on-site structures. The two on-site building structures are attendant's huts that consist of above-grade sheds with no conduits to the building.

Gas monitoring activities will be conducted in a similar manner as the gas monitoring of the LFG monitoring probes. However, the monitoring activities within the building structure are intended to monitor the LFG amounts as a non-point source rather than as a point source such as the LFG probes. Gas monitoring samples at the aforementioned building structure are to be taken at various locations within and exterior to each building. Locations along the floor and confined areas within each structure are to be monitored.

3.3.3 Monitoring Frequency

Quarterly monitoring will occur at a minimum at the Landfill and in conjunction with quarterly monitoring at other Worcester County solid waste facilities. Quarterly LFG monitoring shall occur every third month, consistently within the same four designated months annually (e.g., February, May, August, and November), with each monitoring event conducted during the respective month. It is most desirable to sample LFG when the atmospheric pressure is falling or at its lowest, which typically occurs in mid-afternoon. Barometric pressure affects LFG and probes because it is the lowest in the afternoon and directly causes the probe methane concentration and static pressure to be at their highest levels. High or positive static pressures can indicate the potential of LFG migration due to the lack of vacuum or draw influence on the probe.

3.3.4 Gas Monitoring Parameters and Methods

All LFG samples will be collected and analyzed for the constituents listed in Table 7, which comprise general measurements of gas monitoring at probes and structures.

Table 7. LFG Monitoring Parameters and Methods

Parameter	Method
Static Pressure (inches of water)	Field measured
Methane (percent by volume and lower explosive limit)	Field measured
Oxygen (percent by volume)	Field measured
Carbon Dioxide (percent by volume)	Field measured
Barometric Pressure (inches of water)	Field measured

Quarterly monitoring of 14 LFG monitoring probes will be performed for the parameters described in Table 7. These parameters are to include LEL and percent methane, static pressure, and percent of oxygen (O_2) and carbon dioxide (CO_2). An LFG Probe Monitoring Form example is attached in Appendix J.

3.4 ACTION PLAN – LFG LEL EXCEEDANCES

If a concentration of methane gas generated by the Landfill facility is detected and exceeds the LEL for methane at a landfill facility property boundary or 25 percent LEL in facility structures, then the owner, operator, or permittee must:

- Immediately take all necessary steps/actions to ensure protection of human health and safety (e.g., evacuation and ventilation), and notify MDE.

- Notify MDE in writing by email within 24 hours of the detected exceedance. The notification should provide details for each LEL exceedance, describe the protective actions taken, the expected resampling date, and the optional submission date of an LFG ASD report.

- Within 30 days of the occurrence of the LEL exceedance, resample each LFG monitoring point that detected an LEL exceedance, notify MDE in writing by email of the LFG resampling results, and also submit to MDE an LFG ASD report (optional).

- Persistent (≥2) LEL exceedances necessitate the development of an LFG IRP.

- Within 60 days of the original LEL exceedance detection, an LFG IRP report shall be submitted to MDE, outlining the methane detection frequency, the lateral and vertical extent of methane migration, a nature and extent study, potential causes of increased gas concentrations, the remedial and corrective actions to be taken based on the cause and remedy, and include a schedule for the implementation of the remedial measures.

- The MDE-approved LFG IRP report shall be implemented within 90 days of approval. MDE may require public notification for nearby residents within 1,000 feet of the property boundary.

3.5 GMP MAINTENANCE AND EQUIPMENT

During each quarterly monitoring event, the LFG probes will be inspected, and maintenance requirements will be noted in the field log. EA will inform Worcester County about the repair needs. All repair or maintenance tasks shall be corrected or performed within 30 days of their observance; per COMAR 26.04.07.22C.

3.5.1 Physical Inspection and Observation of Gas Monitoring Probes

Upon arrival at each gas monitoring probe, the condition of the probe and surrounding area will be noted, using Appendix J, LFG Probe Monitoring Form. This will include, but should not be limited to security, evidence of tampering, evidence of physical damage, probe integrity, evidence of breakage or heaving of the concrete pad, if present, and evidence of surface infiltration. Information and evidence of tampering, breakage, damage, and ignition failure for the LFG probes shall also be noted on the inspection form, as well as pertinent information relating to the operation and appearance of the LFG probes.

3.5.2 LFG Monitoring Equipment

LFG will be monitored with portable hand-held instruments. Common instruments include, but are not limited to, the GEM 2000. These instruments were specifically designed by Landtec for use on landfills to monitor LFG control systems, extraction systems, perimeter probes, and structures.

The GEM 2000 will be utilized at the Landfill in performing the LFG monitoring. This instrument is an all-weather, self-contained portable monitor, which has an infrared gas analyzer and an internal sample pump capable of drawing a gas sample at up to 80 inches of vacuum. This monitoring device automatically samples and analyzes methane, CO_2, O_2, and static pressure.

3.5.3 LFG Monitoring Procedures

LFG sampling will be accomplished with a certified and calibrated LFG-monitoring instrument. It is imperative that before any monitoring occurs, the sampling instrument be calibrated. Calibration is a critical process that needs to be performed to ensure that LFG measurements are accurate, and the calibration procedure is specified by the instrument's manufacturer. The calibration form is attached in Appendix K.

Gas monitoring at the probes and structures will occur once calibration is complete. First, the probe pressure will be obtained by attaching one end of a rubber hose or Teflon tubing to the monitoring instrument sampling port and the other end of the hose or tubing to the probe quick connect or sampling fitting. Static pressure should always be recorded prior to any purging or sampling of LFG at the desired sampling point. It is strongly recommended prior to any monitoring or purging that manufacturer's instructions of the selected instrument be followed and understood. This process will ensure that the recorded data are accurate.

The probe or structure will then be purged using the monitoring instrument. The objective of purging is to remove soil gas from voids surrounding the gas monitoring probe screened interval as shown on Figure 8. This is performed to make certain that the methane gas is present in the probe perforated zone and the gravel pack encasing the perforated probe pipe. The purging process usually occurs for two probe volumes and is complete once stabilized readings are shown on the instrument screen. While evaluating methane, it is desirable to record and observe both maximum and stabilized readings.

Concentrations of measured gases including methane, %LEL, CO_2, and O_2 can be recorded on Appendix J, LFG Probe Monitoring Form. All measured readings, notes, or any observations observed while monitoring each sampling point should be placed and recorded on the form presented in Appendix J.

After monitoring occurs at each gas probe, the probe should be resealed and should always remain sealed until monitoring occurs again.

This page intentionally left blank

4. POST-CLOSURE INSPECTIONS AND MAINTENANCE PLAN

In accordance with COMAR 26.04.07.22, closed landfills are required to conduct post-closure inspections at least semi-annually unless an alternative schedule is approved. A blank Landfill Post-Closure Inspections and Maintenance Plan (IMP) is attached in Appendix L. The IMP requires both visual inspections of vegetation, final cover, drainage, and LFG wells, as well as monitoring of surface water and groundwater. Each completed IMP will be included with the corresponding semi-annual groundwater report.

This page intentionally left blank

REFERENCES

Clesceri, L.S., A.E. Greenberg, and A.D. Eaton. 1999. *Standard Methods for the Examination of Water and Wastewater*. 20th Edition. American Public Health Association, American Water Works Association, Water Environment Federation.

Code of Federal Regulations Title 40 Chapter I *Environmental Protection Agency* Subchapter I *Solid Wastes* Part 258 Appendix I

U.S. Environmental Protection Agency (EPA). 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Office of Resource Conservation and Recovery. March.

U.S. Environmental Protection Agency (EPA). Region I. 2017. *Low Stress (Low Flow) Purging and Sampling. Procedure for the Collection of Groundwater Samples from Monitoring Wells*. EQASOP-GW4. Quality Assurance Unit, North Chelmsford, Massachusetts. 30 July 1996. Revised 19 September 2017.

REFERENCES

Clesceri, L.S., A.E. Greenberg, and A.D. Eaton. 1999. *Standard Methods for the Examination of Water and Wastewater*. 20th Edition. American Public Health Association, American Water Works Association, Water Environment Federation.

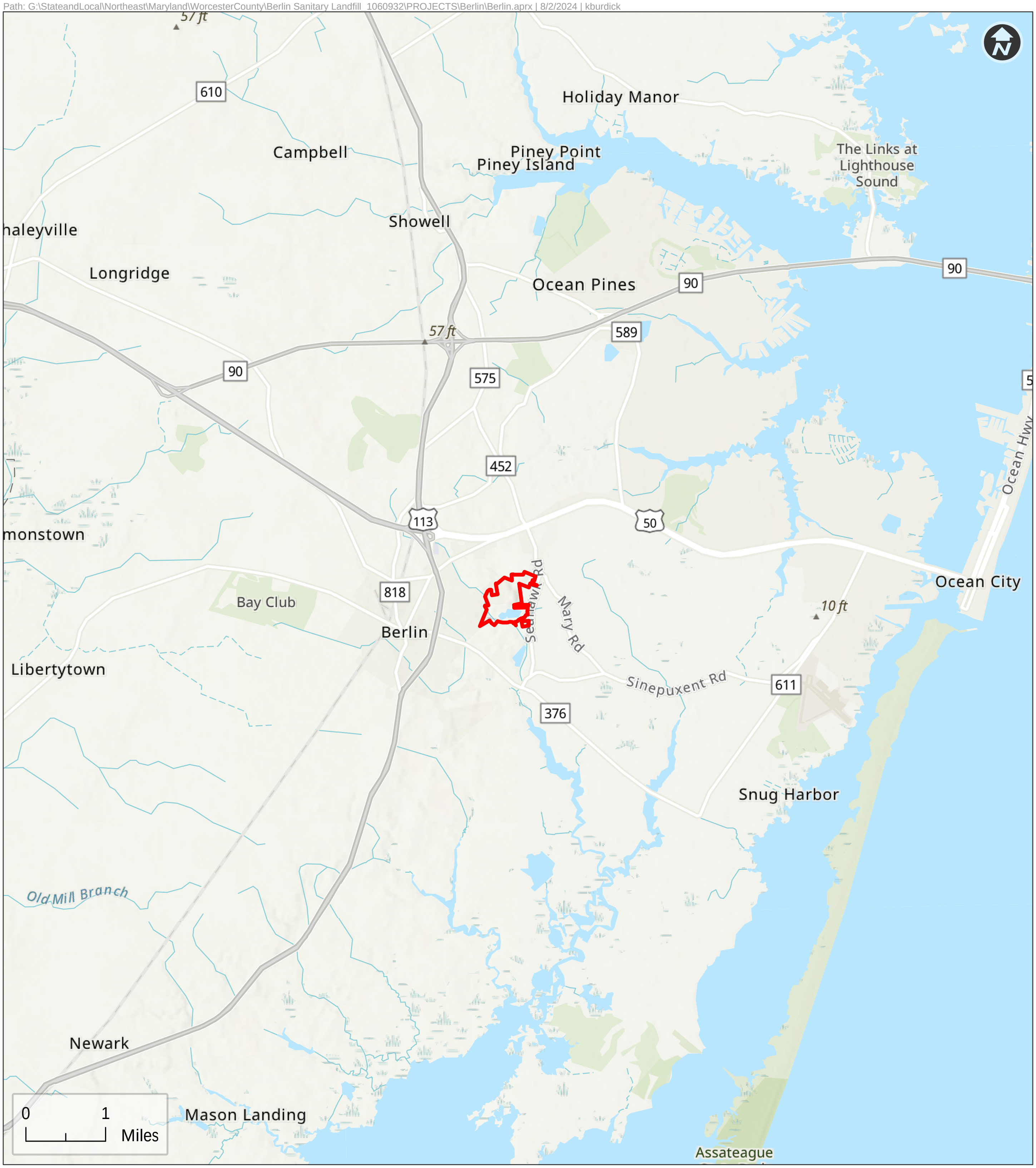
U.S. Environmental Protection Agency (EPA). 2009. *Statistical Analysis of Groundwater Monitoring Data at RCRA Facilities Unified Guidance*. EPA 530/R-09-007. Office of Resource Conservation and Recovery. March.

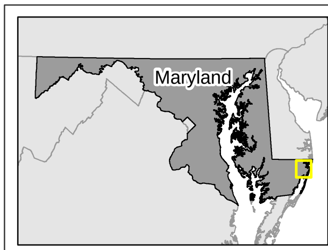
U.S. Environmental Protection Agency (EPA). Region I. 2017. *Low Stress (Low Flow) Purging and Sampling. Procedure for the Collection of Groundwater Samples from Monitoring Wells*. EQASOP-GW4. Quality Assurance Unit, North Chelmsford, Massachusetts. 30 July 1996. Revised 19 September 2017.

This page intentionally left blank

Figures

Path: G:\StateandLocal\Northeast\Maryland\WorcesterCounty\Berlin Sanitary Landfill_1060932\PROJECTS\Berlin\Berlin.aprx | 8/2/2024 | kburdick





Legend

Berlin Sanitary Landfill Property Boundary

Berlin Sanitary Landfill

Worcester County, Maryland

Berlin Sanitary Landfill Location Map (Regional)

Figure 1

Map Date: 8/2/2024: Data Source: ESRI, 2023: Projection: NAD 1983 State Plane Maryland US Foot

Path: G:\StateandLocal\Northeast\Maryland\WorcesterCounty\Berlin Sanitary Landfill_1060932\PROJECTS\Berlin\Berlin.aprx | 6/11/2025 | kburdick

Legend

Berlin Sanitary Landfll Property Boundary

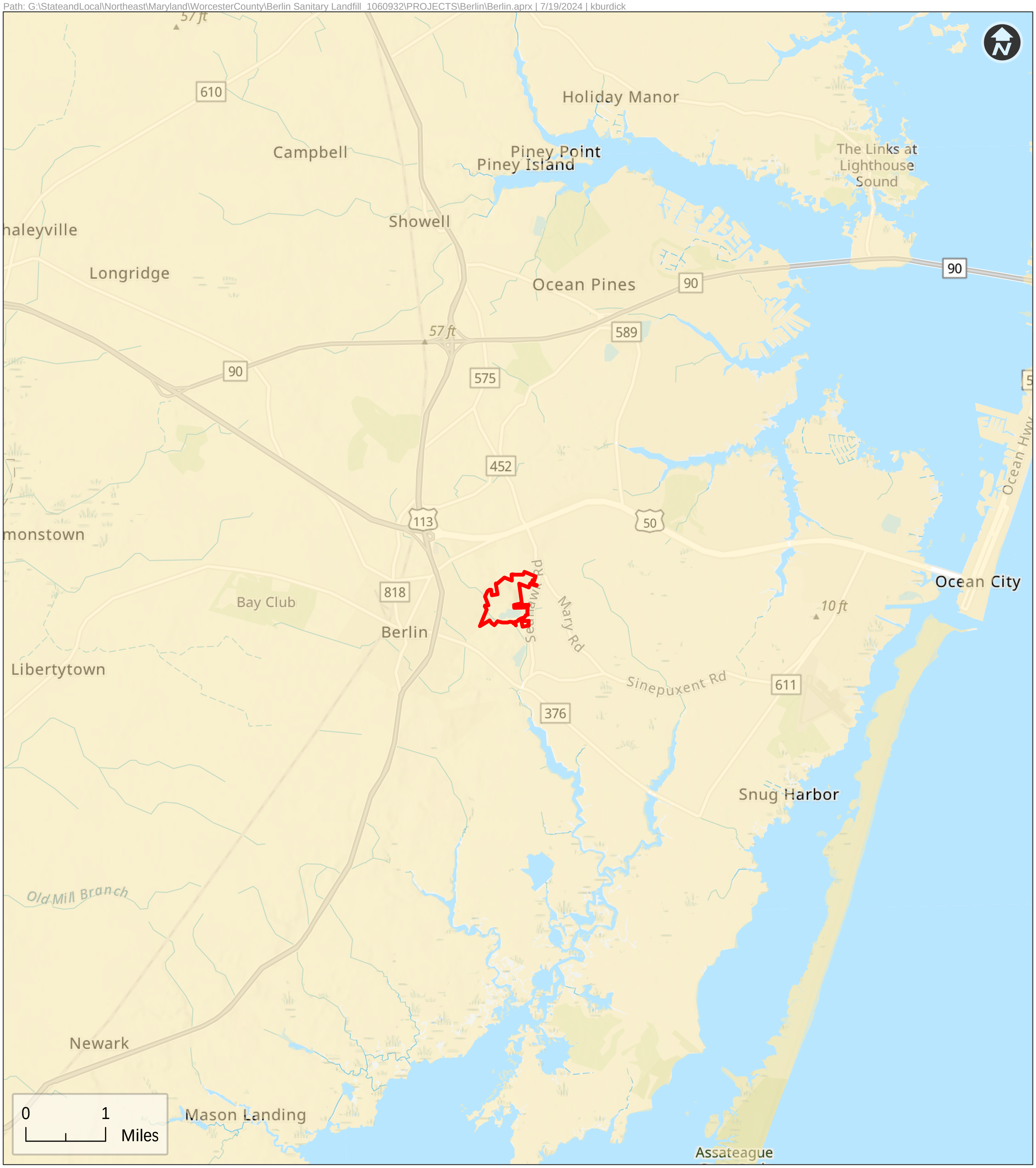
Berlin Sanitary Landfll

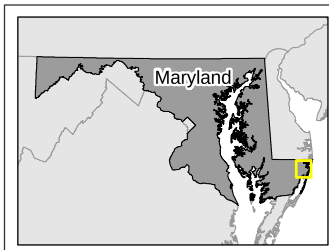
Worcester County, Maryland

Berlin Sanitary Landfll Locaton Map (Local)

Figure 2

Map Date: 6/11/2025: Data Source: ESRI, 2023: Projecton: NAD 1983 State Plane Maryland US Foot





Legend

Quarternary Deposits – Undiferentated gray to buf sand and gravel, gray to brown lignitc silt and clay, occasional boulders, and rare shell beds

Berlin Sanitary Landfll

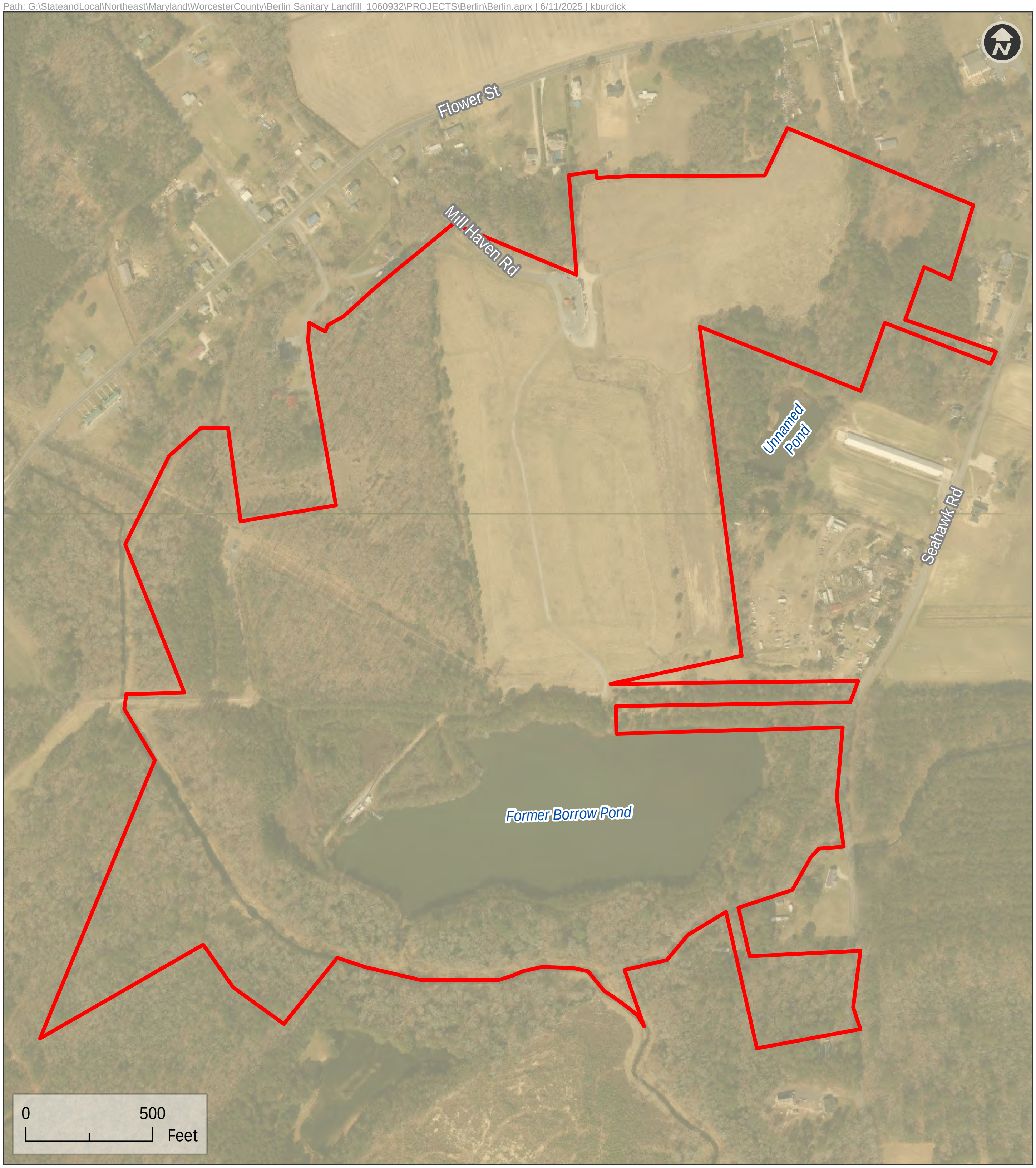
Berlin Sanitary Landfll
Worcester County, Maryland

Berlin Sanitary Landfll Geological Map (Regional)

Figure 3

Map Date: 7/19/2024: Data Source: ESRI, 2023, USGS: Projecton: NAD 1983 State Plane Maryland US Foot

Path: G:\StateandLocal\Northeast\Maryland\WorcesterCounty\Berlin Sanitary Landfill_1060932\PROJECTS\Berlin\Berlin.aprx | 6/11/2025 | kburdick



Legend

Quarternary Deposits – Undiferentated gray to buf sand and gravel, gray to brown lignitc silt and clay, occasional boulders, and rare shell beds

Berlin Sanitary Landfll

Berlin Sanitary Landfll
Worcester County, Maryland

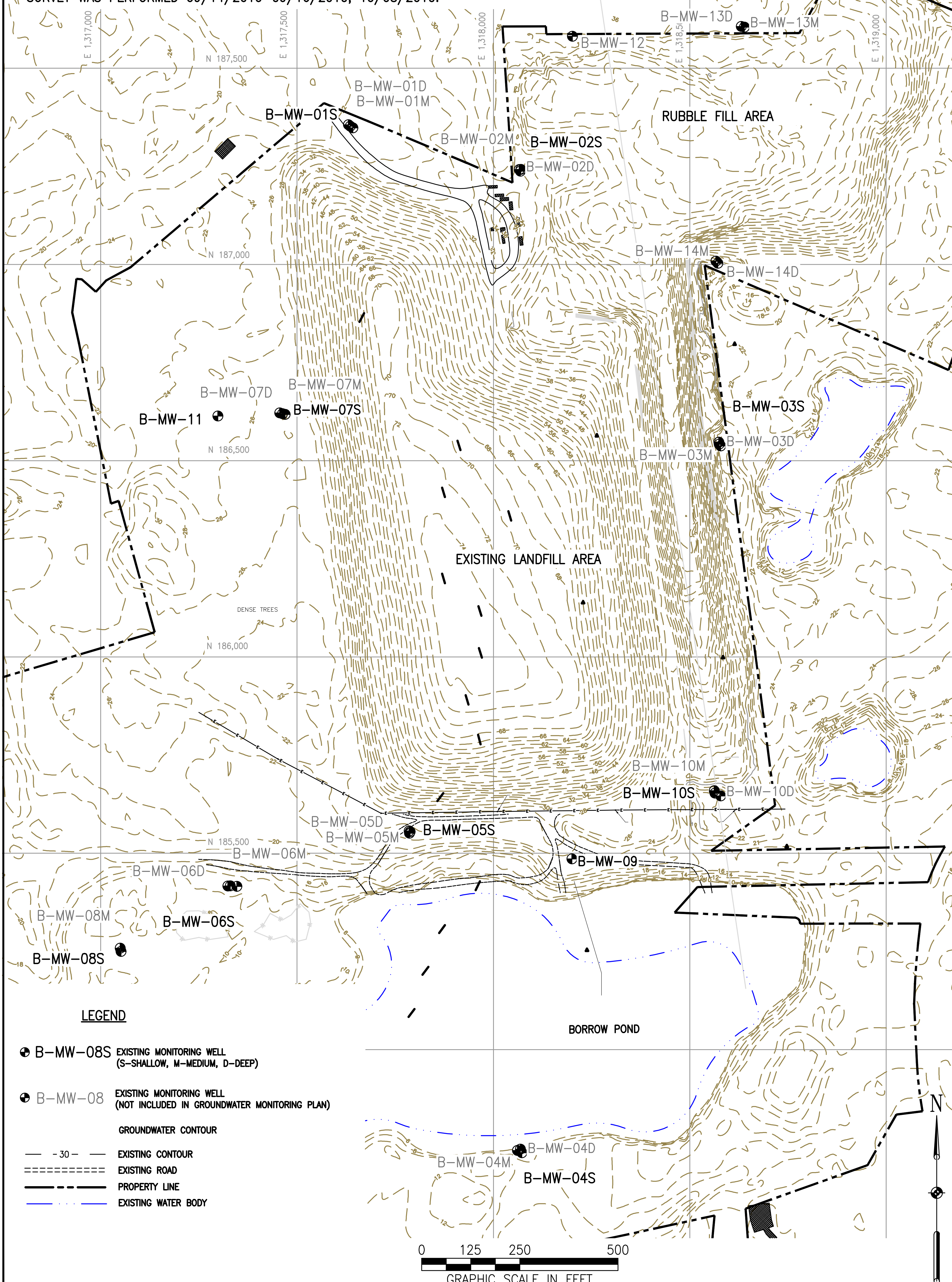
Berlin Sanitary Landfll Geological Map (Local)

Figure 4

Map Date: 6/11/2025: Data Source: ESRI, 2023, USGS: Projecton: NAD 1983 State Plane Maryland US Foot

FILE PATH: (LOVETON) Q:\PROJECTS\6250906 – WORCESTER CLOSED GW 16-19\2022 GWMP FIGURES\FIGURE 5 EMP BERLIN EXISTING GW WELL LOCATIONS.DWG [2-3] 7/15/24

NOTE: RUBBLE FILL TOPOGRAPHY IS PRESENTED AS DETERMINED DURING A FIELD SURVEY DURING 11/20/2008–12/18/2008. REMAINING TOPOGRAPHY WAS PROVIDED VIA AERIAL PHOTOGRAMMETRY BY HARFORD AERIAL SURVEYS INC. IN MARCH 1991. MONITORING WELL SURVEY WAS PERFORMED 09/14/2010–09/16/2010, 10/08/2010.



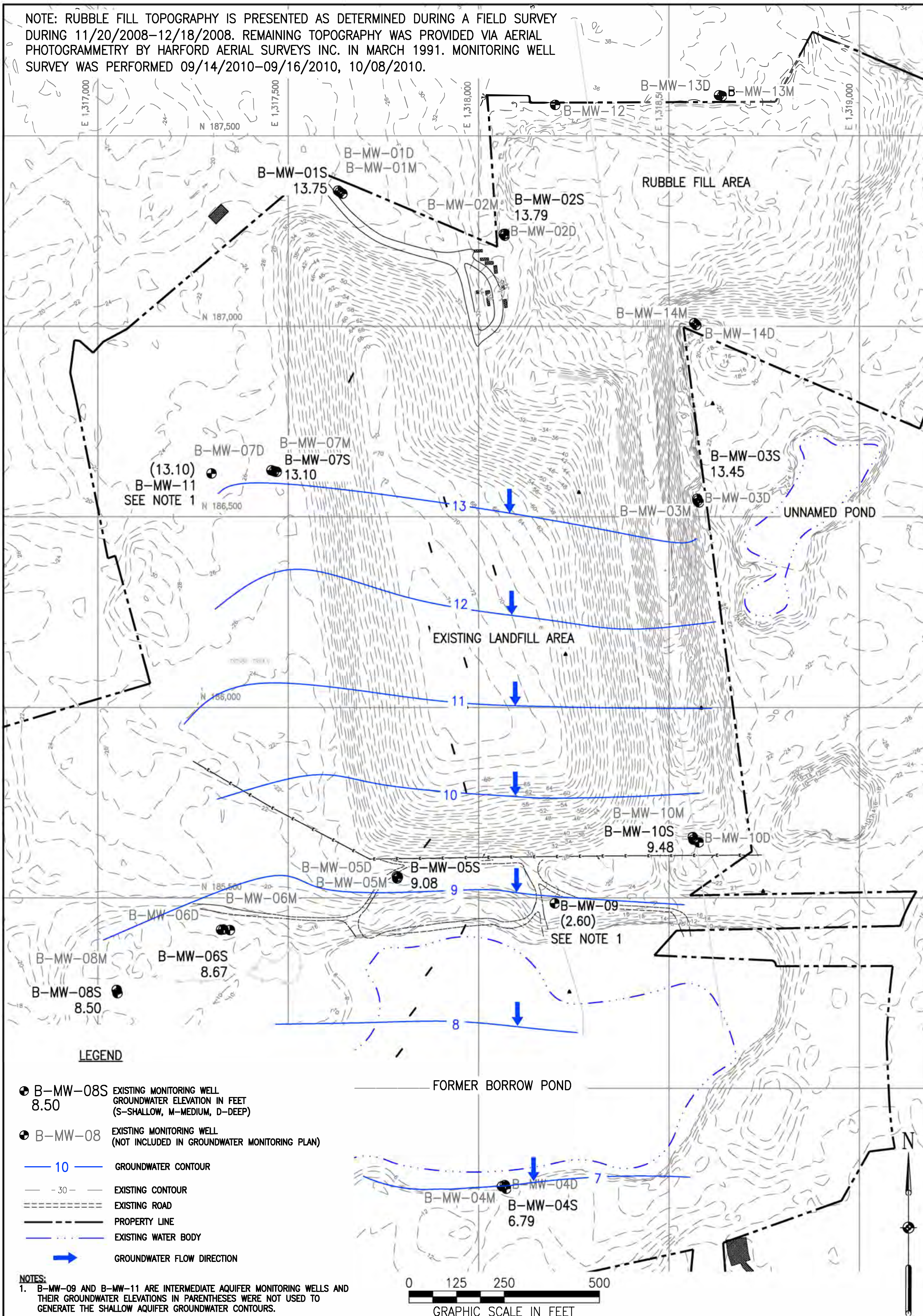
EA ENGINEERING, SCIENCE, AND TECHNOLOGY

BERLIN SANITARY LANDFILL
ENVIRONMENTAL MONITORING PROGRAM
WORCESTER COUNTY, MARYLAND

BERLIN SANITARY LANDFILL
EXISTING GROUNDWATER WELL LOCATIONS

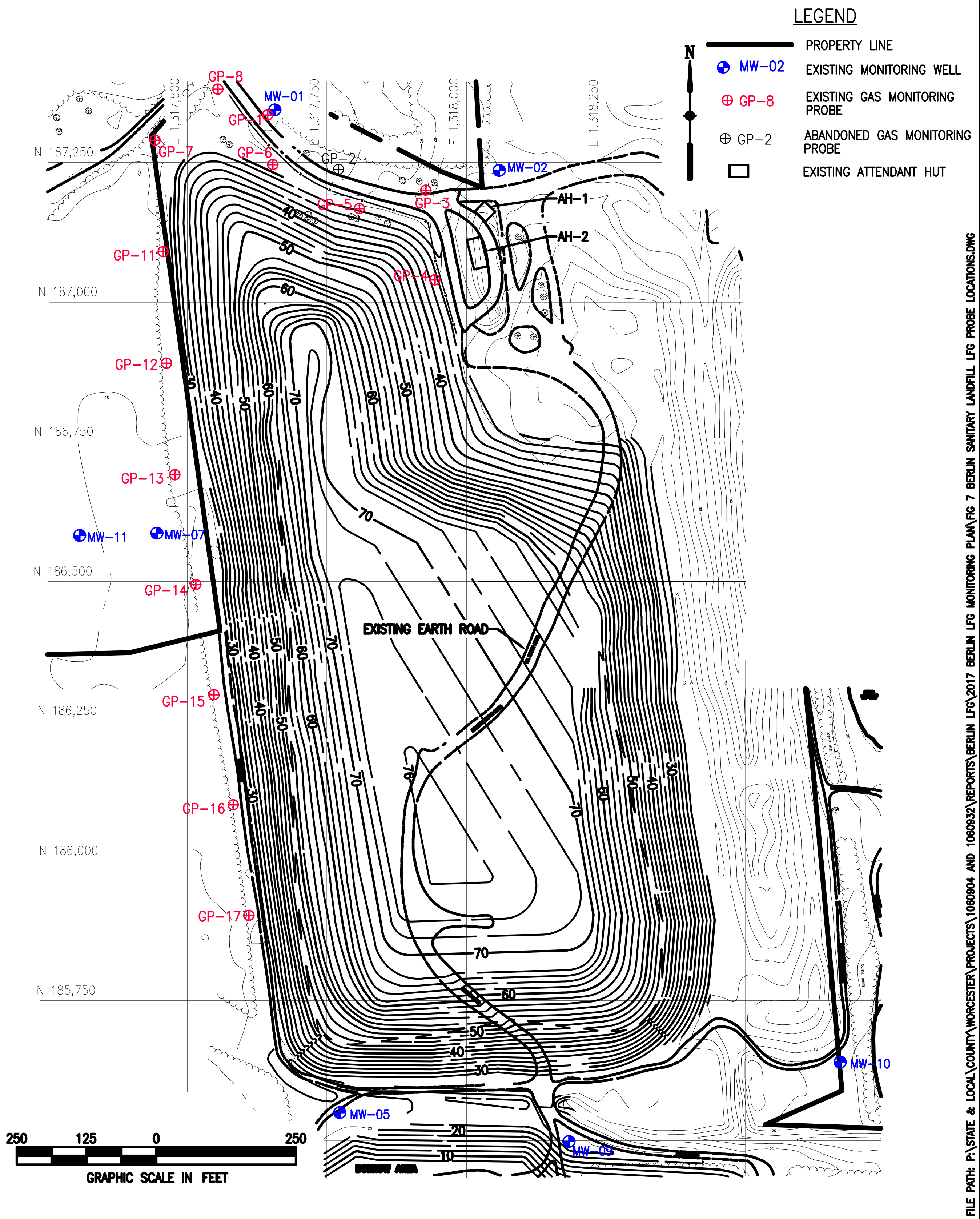
PROJECT MGR.	DESIGNED BY	DRAWN BY	CHECKED BY	DATE	SCALE	PROJECT NO.	FILE NAME	DRAWING NO.	FIGURE
DK	LJO/SS	MP/CVH/JS	LJO	JULY 2024	AS SHOWN	10609.32	--	--	5

FILE PATH: (LOVETON) Q:\PROJECTS\6250906 – WORCESTER CLOSED GW 16-19\2025 SPRING\BERLIN SPRING 2025.DWG [2-4] 4/7/25



EA ENGINEERING, SCIENCE, AND TECHNOLOGY, INC., PBC	BERLIN SANITARY LANDFILL WORCESTER COUNTY, MARYLAND	GROUNDWATER CONTOUR MAP SHALLOW WELLS MARCH 2025 SAMPLING EVENT

PROJECT MGR.	DESIGNED BY	DRAWN BY	CHECKED BY	DATE	SCALE	PROJECT NO.	FILE NAME	DRAWING NO.	FIGURE
DOK	LJO	AW	PL	APRIL 2025	AS SHOWN	62509.15	--	--	6

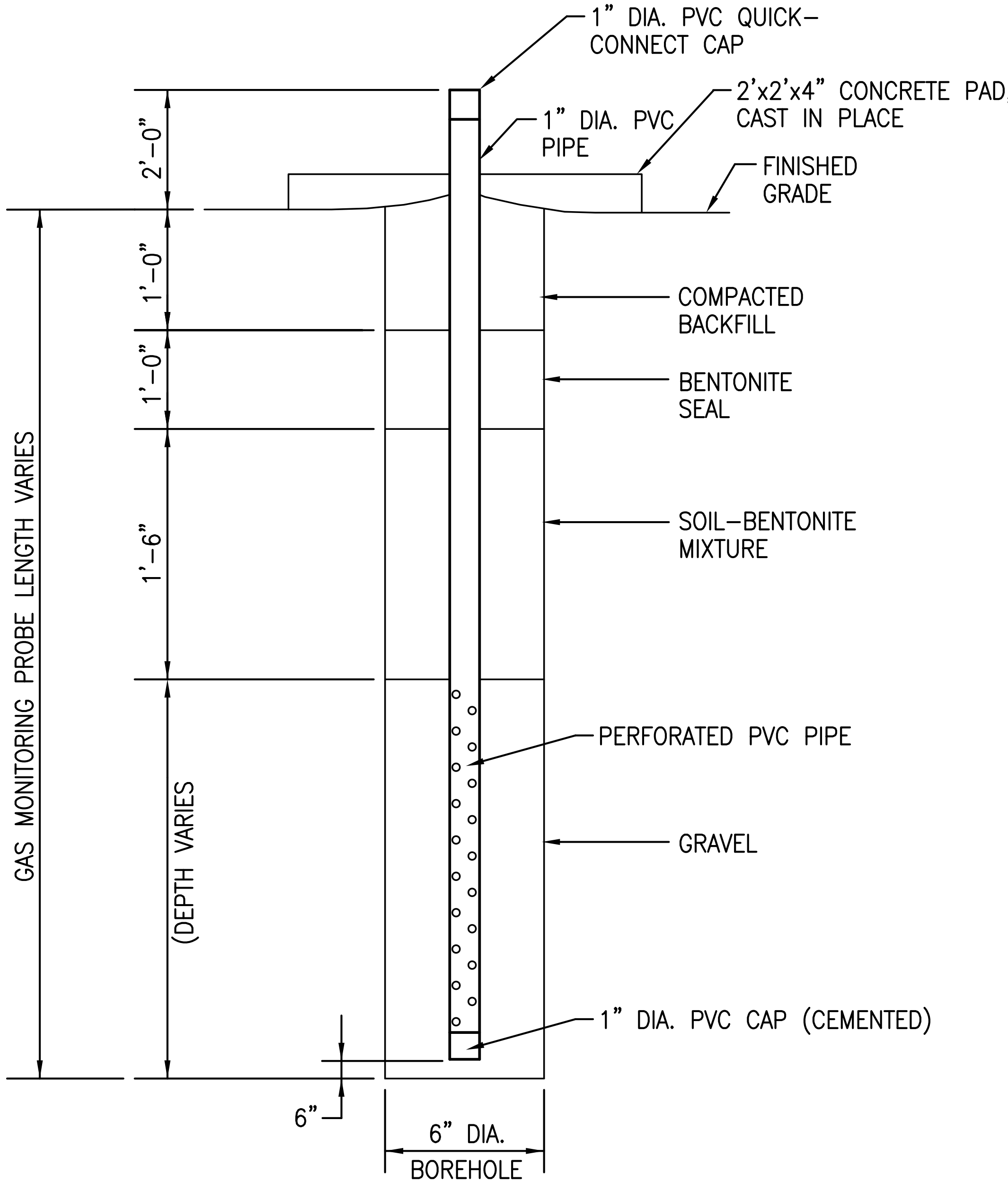


EA ENGINEERING, SCIENCE, AND TECHNOLOGY INC., PBC

BERLIN SANITARY LANDFILL
ENVIRONMENTAL MONITORING PLAN
WORCESTER COUNTY, MARYLAND

LFG PROBE LOCATIONS

PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT NO	FIGURE
GAT	GBL	NWH	LJO	AS SHOWN	JULY 2024	1060932	7



TYPICAL GAS MONITORING PROBE DETAIL

NOT TO SCALE
(TYPICAL OF 14)

FILE PATH: P:\State & Local\County\Worcester\Projects\1060904 and 1060932\REPORTS\Berlin LFG\2017 Berlin LFG Monitoring Plan\Figure 8 Gas Monitoring Probe Detail.dwg

EA ENGINEERING, SCIENCE, AND TECHNOLOGY

BERLIN SANITARY LANDFILL
ENVIRONMENTAL MONITORING PLAN
WORCESTER COUNTY, MARYLAND

GAS MONITORING PROBE DETAIL

PROJECT MGR	DESIGNED BY	DRAWN BY	CHECKED BY	SCALE	DATE	PROJECT NO	FIGURE
GAT	GBL	NWH	LJO	NONE	JULY 2024	1060932	8

This page intentionally left blank

Appendix A

Historical Groundwater Analytical Results

This page intentionally left blank

Historical Groundwater Analytical Results
2002 – 2016

This page intentionally left blank

Berlin Landfill
Monitoring Location B-MW-01S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
06/02	10	0.5 U	4	11.8	--	62	8.63	--	6.00	--	--	227	--	--	32	15.1	194	2	--
10/02	10	0.5 U	8	8.3	--	54	8.44	--	5.90	--	--	191	--	--	22	14.5	128	1.2	--
01/03	43	0.5 U	5 U	0.4 U	--	100	5.11	--	6.00	--	--	206	--	--	32	13.8	122	1.5	--
05/03	20	0.5 U	5 U	15.1	--	68	7.1	--	5.60	--	--	203	--	--	29.2	14.1	150	3.1	--
09/03	37	0.2 U	10 U	42.5	--	110	5.59	--	5.74	--	--	344	--	--	34	16.6	211	0.9	--
04/04	26	0.2 U	10 U	67.6	--	128.7	5.74	--	6.13	--	--	396	--	--	33.3	14	262	0.24	--
11/04	19	0.2 U	10 U	60.1	--	103	6.15	--	6.11	--	--	390	--	--	40	15.3	231	0.53	--
06/05	196	0.2 U	22	38.8	--	243	0.15	--	6.93	--	--	564	--	--	40	17.7	350	8.4	--
02/06	11	0.2 U	65	114	--	197	1	--	5.92	--	--	304	--	--	82.6	11.9	393	13	--
10/06	13	0.2 U	10 U	17	--	49.9	5.1	--	5.54	--	--	201	--	--	40.8	--	148	0.42	--
04/07	127	0.2 U	19	219	--	294	0.09	--	6.37	--	--	945	--	--	66.2	--	613	13	--
11/07	92	0.2 U	26	219	--	255	0.06 U	--	5.88	--	--	1820	--	--	63.8	--	625	26	--
04/08	85	0.2 U	21	148	--	230	0.42	--	5.64	--	--	861	--	--	67	--	480	8.8	--
10/08	113	0.2 U	56	204	--	256	0.07	--	5.93	--	--	871	--	--	--	--	639	210	--
05/09	213	0.2 U	16	41.8	--	240	0.22	--	6.24	--	--	614	--	--	28.2	--	361	27	--

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-01S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
11/09	248	0.14 J	20	29.9	--	232	0.54	--	7.02	--	--	525	--	--	26.4	--	349	25.7	--
04/10	278	0.32 J	21	59.4	--	315	0.018 U	--	6.98	--	--	580	--	--	21.9	--	465	18.7	--
10/10	135	0.24 J	21	118	--	243	0.008 U	--	--	5.88	6.26	--	--	719	60	--	448	19.4	--
03/11	76	0.04 J	2 U	106	--	218	0.66	--	--	6.27	6.36	--	703	581	65	--	416	25.1	--
09/11	119	0.13 J	2 U	78	--	178	0.07	--	--	5.09	6.91	--	469	652	43.5	17.29	403	21.1	--
03/12	127	0.101 J	8 J	65.4	--	233	0.42	--	--	5.27	6.74	--	611	641	75.5	13.86	372	36.9	--
09/12	146	0.04 U	9 J	44.5	--	180	0.38	--	--	5.74	6.59	--	496	540	49.4	20.87	311	5.64	--
04/13	239	0.04 U	2 U	8.2	0	266	0.12	125	--	6.40	7.51	--	379	467	3.6	12.46	306	3.29	2.2
10/13	91	0.097 J	12	31.6	1.73	125	0.08	139.1	--	5.88	6.75	--	431	411	59.3	19.78	260	2.34	21.2
04/14	108	0.06 J	3 J	7.8	4.53	142	0.6	103.3	--	6.02	7.57	--	327	230	5.3	9.65	173	13.5	14.5
08/14	117	0.201 J	14	30	10.89	158	0.024 U	1033.5	--	5.89	6.65	--	400	440	51.7	18.05	276	4.02	14.9
04/15	90	1 U	15	3.6	6.27	85	0.24	107.9	7.49	6.44	--	168	160	--	2.8	--	140	10.3	24
08/15	94.2	0.2 U	16	32.9	1.14	141	0.081	140	--	6.07	5.77	--	407	462	54.8	21.36	259	1.41	1
03/16	153	0.2 U	11	20.6	2.52	179	0.487	141.5	--	6.75	6.01	--	617	421	4.12	11.47	229	2.3	37.4
09/16	80	0.2 U	12	38.7	1.6	103	0.0754	182.4	--	5.65	5.55	--	439.6	434	54.5	23.5	229	3.88	10.5

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
06/02	0.002 U	0.005 U	0.085	0.002 U	0.004 U	12	0.005 U	0.007	0.014	0.07	0.005 U	7.8	0.005 U	0.001 U
10/02	0.002 U	0.005 U	0.14	0.002 U	0.004 U	10	0.011	0.005 U	0.005 U	0.099	0.005 U	8.2	0.005 U	0.001 U
01/03	0.0021	0.005 U	0.14	0.002 U	0.004 U	25	0.005 U	0.005 U	0.005 U	0.072	0.005 U	10	0.024	0.001 U
05/03	0.002 U	0.005 U	0.11	0.002 U	0.004 U	14	0.0065	0.005 U	0.0096	0.29	0.005 U	8.3	0.039	0.001 U
09/03	0.002 U	0.002 U	0.124	0.002 U	0.004 U	24.6	0.008 U	0.006 U	0.011	0.032	0.002 U	11.9	0.157	0.0002 U
04/04	0.002 U	0.002 U	0.158	0.002 U	0.004 U	27.1	0.008 U	0.006 U	0.003 U	0.009 U	0.002 U	14.8	0.109	0.0002 U
11/04	0.002 U	0.002 U	0.114	0.002	0.004 U	21.7	0.008 U	0.006 U	0.003 U	0.009 U	0.002 U	11.9	0.124	--
06/05	0.002 U	0.002 U	0.059	0.002 U	0.004 U	70.2	0.008 U	0.006 U	0.011	0.362	0.002	16.6	0.031	0.0002 U
02/06	0.002 U	0.002 U	0.061	0.002 U	0.004 U	49.9	0.008 U	0.006 U	0.004	0.407	0.002	17.5	0.03	0.0002 U
10/06	0.002 U	0.002 U	0.082	0.002 U	0.004 U	10.2	0.008 U	0.006 U	0.003 U	0.02	0.002 U	5.93	0.016	0.0002 U
04/07	0.002 U	0.004	0.135	0.0005 U	0.004 U	80.8	0.005 U	0.005 U	0.005 U	0.278	0.002 U	22.4	0.037	0.0002 U
11/07	0.002 U	0.006	0.131	0.0005 U	0.004 U	66.6	0.007	0.005 U	0.007	6.53	0.005	19.9	0.59	0.0002 U
04/08	0.002 U	0.002	0.095	0.0005 U	0.004 U	60.5	0.005 U	0.005 U	0.005 U	0.346	0.002 U	19.1	0.019	0.0002 U
10/08	0.002 U	0.005	0.136	0.0005 U	0.004 U	72.9	0.015	0.006	0.005	4.22	0.014	17.9	0.304	0.0002 U
05/09	0.0022 U	0.004	0.049	0.0005 U	0.004 U	70.1	0.005 U	0.005 U	0.011	1.06	0.005	15.7	0.305	0.0002 U
11/09	0.0011 J	0.0012 J	0.048	0.0003 U	0.00045 J	69.8	0.0041 J	0.0019 U	0.0076 J	0.56	0.0013 J	17.1	0.011	0.0000300 U
04/10	0.00077 U	0.001 U	0.061	0.0003 U	0.00037 U	86.2	0.0019 J	0.0019 U	0.0023 J	1.2	0.00077 U	22	0.95	0.0000320 J
10/10	0.00074 U	0.004	0.089	0.00043 J	0.00038 J	60.7	0.0021 J	0.0025 J	0.0027 J	6.8	0.0015 J	17.5	0.58	0.0000300 U
03/11	0.00074 U	0.001 U	0.076	0.0003 U	0.00037 U	47.8	0.0054 J	0.0019 U	0.0045 J	0.56	0.0016 J	15.6	0.013	0.00017 U
09/11	0.00074 U	0.0011 J	0.073	0.0003 U	0.00038 J	47.5	0.0053 J	0.0019 U	0.0067 J	0.74	0.00088 J	13.8	0.079	0.00017 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
03/12	0.00074 U	0.001 U	0.074	0.0003 U	0.00037 U	49.8	0.0029 J	0.0019 U	0.0037 J	0.59	0.0014 J	16.7	0.019	0.00017 U
09/12	0.0009 J	0.001 U	0.053	0.0003 U	0.00037 U	49	0.0012 J	0.0019 U	0.0059 J	0.24	0.00074 U	14	0.056	0.00017 U
04/13	0.00074 U	0.001 U	0.055	0.0003 U	0.00037 U	72.1	0.00093 J	0.0019 U	0.0074 J	0.12	0.00074 U	16.8	0.028	0.00017 U
10/13	0.00074 U	0.001 J	0.046	0.0003 U	0.00037 U	29.1	0.00074 U	0.0019 U	0.0038 J	0.35	0.00092 J	9.1	0.15	0.00017 U
04/14	0.00074 U	0.001 J	0.026	0.0003 U	0.00037 U	34	0.0016 J	0.0019 U	0.0096 J	0.54	0.0029	7.4	0.078	0.00017 U
08/14	0.00074 U	0.002 U	0.046	0.0003 U	0.00037 U	36.9	0.00074 U	0.0019 U	0.0019 U	0.83	0.00074 U	10.9	0.36	0.00017 U
04/15	0.002 U	0.002 U	0.018	0.002 U	0.004 U	28.2	0.0017 J	0.01 U	0.011	0.38	0.0018 J	6.9	0.014	0.0002 U
08/15	0.000324 J	0.000981 J	0.0531	0.0005 U	0.000257 J	36.9	0.000781 J	0.0012 J	0.0115	0.584	0.000635 J	11.8	0.221	0.0002 U
03/16	0.00059 J	0.00054 J	0.0236	0.0005 U	0.0005 U	49.1	0.00082 J	0.00048 J	0.0052	0.148	0.00038 J	13.6	0.0407	0.0002 U
09/16	0.002 U	0.0011 J	0.0504	0.001 U	0.001 U	25.8	0.0011 J	0.00031 J	0.0035 J	0.47	0.0011 J	9.47	0.0514	0.0002 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
06/02	0.005 U	0.37	0.005 U	0.005 U	16	0.002 U	0.005 U	0.11
10/02	0.005 U	3.2	0.005 U	0.005 U	13	0.002 U	0.005 U	0.093
01/03	0.005 U	3.6	0.005 U	0.005 U	21	0.002 U	0.005 U	0.082
05/03	0.005 U	2.6	0.005 U	0.005 U	13	0.002 U	0.005 U	0.072
09/03	0.011 U	3.38	0.002 U	0.001 U	22.1	0.002 U	0.005 U	0.034
04/04	0.011 U	2.8	0.002 U	0.001 U	28.3	0.002 U	0.005 U	0.022
11/04	0.011 U	3.94	0.002 U	0.001 U	28.1	0.002 U	0.005 U	0.034
06/05	0.011 U	3.3	0.002 U	0.001 U	26.7	0.002 U	0.005 U	0.022
02/06	0.011 U	2.28	0.003	0.001 U	45.8	0.002 U	0.005 U	0.011
10/06	0.011 U	3.41	0.002 U	0.001 U	13.9	0.002 U	0.005 U	0.023
04/07	0.005 U	5.67	0.002	0.001 U	79.6	0.002 U	0.01 U	0.057
11/07	0.005 U	4.69	0.002	0.001 U	86.7	0.002 U	0.01 U	0.1
04/08	0.005 U	2.93	0.003	0.001 U	66.8	0.002 U	0.01 U	0.108
10/08	0.011	6.35	0.002	0.001 U	74.3	0.002 U	0.012	0.064
05/09	0.005 U	2.1	0.05 U	0.001 U	26.5	0.002 U	0.01 U	0.031
11/09	0.0032 J	3.2	0.011 J	0.00077 U	22.2	0.00086 J	0.0044 J	0.012
04/10	0.0042 J	4.1	0.0024 J	0.00077 U	24.9	0.0003 U	0.0027 J	0.023
10/10	0.0053 J	4.2	0.0049 J	0.00074 U	58.4	0.0003 U	0.00074 U	0.034
03/11	0.0044 J	2	0.0056 J	0.00074 U	54.3	0.0003 U	0.00074 U	0.03
09/11	0.0038 J	2.9	0.0019 U	0.00074 U	43.5	0.0003 U	0.0025 J	0.023

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
03/12	0.0019 U	2.2	0.0041 J	0.00074 U	43.8	0.0003 U	0.0027 J	0.02
09/12	0.0019 U	2.7	0.004 J	0.00074 U	39.6	0.0003 U	0.0015 J	0.019
04/13	0.0019 U	2.1	0.0019 U	0.00074 U	9.1	0.0003 U	0.0013 J	0.035
10/13	0.0019 U	2.3	0.0019 U	0.00074 U	41.1	0.0003 U	0.00099 J	0.024
04/14	0.0019 U	2.7	0.0019 U	0.00074 U	5.2	0.0003 U	0.0024 J	0.02
08/14	0.0019 U	2.4	0.0019 U	0.00074 U	28.7	0.0003 U	0.00074 U	0.043
04/15	0.011 U	2.3	0.35 U	0.01 U	5.1	0.002 U	0.0018 J	0.018
08/15	0.0014 J	2.51	0.000482 J	0.001 U	33	0.002 U	0.000697 J	0.0631
03/16	0.002 U	2.3	0.00065 J	0.0005 U	7.98	0.0005 U	0.0012	0.0163
09/16	0.004 U	2.08	0.004 U	0.001 U	37.8	0.001 U	0.0023	0.0118 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-01S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	2.1 J	5 U	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
10/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
11/09	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
04/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
10/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
03/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
09/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
03/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
09/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
10/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
08/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	3.6 J	5 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
03/16	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U	1 U	1 U	5 U	10 U	10 U	10 U	20 U	20 U	1 U	5 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-01S - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
06/02	1 U	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	--	1 U	1 U	--
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
10/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--	1 U	1 U	--
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-01S - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
11/09	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
04/10	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
10/10	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
03/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
03/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
10/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/14	0.27 U	0.4 U	0.52 JB	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
08/14	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.39 U	0.45 U	--
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.42 JB	1 U	1 U	1 U	1 U	--	1 U	2 U	1 U	1 U	--
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	1 U	4 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
06/02	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	3 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
10/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
11/09	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
04/10	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
10/10	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
03/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
03/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
10/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
08/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/15	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1.6 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	5 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U	10 U	1 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-02S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
06/02	34	0.5 U	23	20.8	--	100	0.95	--	5.90	--	--	370	--	--	62	16.8	248	5	--
10/02	14	0.5 U	6	8.9	--	39	2.82	--	6.00	--	--	272	--	--	12	15.5	84	1.5	--
01/03	25	0.5 U	5 U	15.4	--	60	2.04	--	6.10	--	--	274	--	--	30	14.6	176	1	--
05/03	35	0.5 U	5 U	12.9	--	49	1.6	--	5.60	--	--	189	--	--	22.3	14.7	104	3	--
09/03	23	0.2 U	10 U	17.2	--	44.4	1.05	--	5.71	--	--	158	--	--	14.3	16.9	76	0.48	--
04/04	81	0.2 U	26	23.1	--	145.2	0.989	--	6.87	--	--	407	--	--	55	14.1	276	29	--
11/04	88	0.25	33	8.15	--	85.8	0.19	--	6.91	--	--	269	--	--	18.6	15.8	173	160	--
06/05	107	0.23	29	4.85	--	119	0.21	--	6.74	--	--	277	--	--	21.6	16.5	181	42	--
02/06	91	0.38	83	17.4	--	111	0.17	--	6.25	--	--	302	--	--	32.1	14.6	210	337	--
10/06	98.5	0.31	34	20	--	123	0.44	--	6.05	--	--	308	--	--	34.9	--	269	303	--
04/07	53	0.2 U	32	26.7	--	165	0.84	--	6.09	--	--	425	--	--	136	--	259	0.68	--
11/07	25	0.2 U	10 U	28.1	--	65.8	1.04	--	5.70	--	--	253	--	--	37.6	--	135	0.47	--
04/08	40.9	0.2 U	10 U	26.3	--	113	2.27	--	5.72	--	--	361	--	--	61.9	--	205	2.4	--
11/09	34	0.13 J	2 U	13.3	--	54	1.4	--	6.21	--	--	180	--	--	42.5	--	120	1.61	--
04/10	27	0.22 J	9 J	16.1	--	48	1.6	--	6.90	--	--	158.8	--	--	26.7	--	125	1.45	--

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
10/10	18	0.03 J	2 U	9.5	--	38	0.62	--	--	7.10	5.94	--	--	129	25.6	--	117	0.26	--
03/11	57	0.06 J	2 U	12.7	--	91	1.2	--	--	6.37	6.36	--	192	215	34	--	159	1.68	--
09/11	33	0.09 J	2 U	12.4	--	67	1.8	--	--	4.45	6.61	--	168	195	29	18.32	172	3.54	--
03/12	27	0.04 U	9 J	56.1	--	135	3.1	--	--	5.82	6.20	--	450	428	73.2	15.79	268	0.39	--
09/12	13	0.04 U	2 U	24.3	--	77.1	5.9	--	--	5.69	6.32	--	227	227	31.2	20.43	164	1.21	--
04/13	55	0.04 U	12	22.4	1.55	151	7.9	173.7	--	5.80	6.38	--	322	307	41.3	16.28	220	0.23	1.3
10/13	29	0.066 J	3 J	17.4	6.01	93	6.2	181.2	--	6.02	6.89	--	251	226	30.7	18.21	118	0.2	17.4
04/14	109	0.055 J	4 J	23.9	3.84	221	6.1	138	--	5.77	6.60	--	547	477	55.4	12.72	295	0.75	0.05 J
08/14	38	0.128 J	7 J	14.6	9.67	131	3.6	111.7	--	6.58	7.14	--	301	291	74	17.78	241	0.42	11.7
04/15	139	1 U	10	31.7	4.1	222	6.6	160.3	6.64	5.82	--	531	471	--	71.1	--	334	0.2	11.7
08/15	88.6	0.2 U	24	25.2	10.12	204	2.42	119.6	--	7.63	6.01	--	460	571	111	18.42	334	0.197	3
03/16	115	0.2 U	9 J	17.7	3.83	176	3.44	177.1	--	5.95	6.46	--	679	464	52.1	14.89	233	0.67	36.4
09/16	66.3	0.2 U	7 J	18	2.92	122	4.86	149.2	--	5.81	5.60	--	325	342	39.9	20.5	194	1.22	15.8

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
06/02	0.002 U	0.005 U	0.09	0.002 U	0.004 U	30	0.005 U	0.016	0.021	0.21	0.005 U	7.3	0.091	0.001 U
10/02	0.002 U	0.005 U	0.04	0.002 U	0.004 U	8.6	0.005 U	0.005 U	0.007	0.061	0.005 U	2.5	0.005 U	0.001 U
01/03	0.002 U	0.005 U	0.064	0.002 U	0.004 U	17	0.005 U	0.005 U	0.012	0.071	0.005 U	4.4	0.014	0.001 U
05/03	0.002 U	0.005 U	0.034	0.002 U	0.004 U	14	0.0057	0.005 U	0.0094	0.38	0.005 U	3.4	0.011	0.001 U
09/03	0.002 U	0.002 U	0.031	0.002 U	0.004 U	12.6	0.008 U	0.006 U	0.013	0.348	0.002 U	3.14	0.014	0.0002 U
04/04	0.002 U	0.002 U	0.053	0.002 U	0.004 U	42.1	0.008 U	0.006 U	0.021	0.143	0.002	9.7	0.033	0.0002 U
11/04	0.002 U	0.005	0.059	0.002	0.004 U	25.8	0.008 U	0.006 U	0.014	4.18	0.007	5.2	0.054	--
06/05	0.002 U	0.005	0.061	0.002 U	0.004 U	37	0.009	0.006 U	0.014	6.75	0.01	6.57	0.109	0.0002 U
02/06	0.002 U	0.008	0.08	0.002 U	0.004 U	32	0.018	0.008	0.018	12.5	0.02	7.48	0.135	0.0002 U
10/06	0.002 U	0.005	0.096	0.002 U	0.004 U	36.1	0.009	0.006 U	0.004	8.05	0.011	8.04	0.136	0.0002 U
04/07	0.002 U	0.002	0.066	0.0005 U	0.004 U	43.9	0.005 U	0.005 U	0.005 U	0.102	0.002 U	13.4	0.01 U	0.0002 U
11/07	0.002 U	0.002 U	0.067	0.0005 U	0.004 U	15.6	0.005 U	0.005 U	0.005 U	0.181	0.002 U	5.95	0.019	0.0002 U
04/08	0.002 U	0.002 U	0.066	0.0005 U	0.004 U	30.1	0.005 U	0.005 U	0.006	0.314	0.002 U	9.22	0.01 U	0.0002 U
11/09	0.00077 U	0.001 U	0.047	0.0003 U	0.00037 U	15.3	0.0047 J	0.0019 U	0.0019 U	0.22	0.00077 U	4.8	0.013	0.0000300 U
04/10	0.00077 U	0.001 U	0.043	0.0003 U	0.00037 U	12.2	0.00077 U	0.0019 U	0.0019 U	0.14	0.00077 U	4.9	0.0093 J	0.0000300 U
10/10	0.00074 U	0.001 U	0.035	0.00052 J	0.00038 J	8.7	0.0014 J	0.0019 U	0.0021 J	0.092	0.00074 U	3	0.0092 J	0.0000300 U
03/11	0.00074 U	0.001 U	0.069	0.0003 U	0.00037 U	21.3	0.0019 J	0.0019 U	0.0019 U	0.18	0.00074 U	8.1	0.033	0.00017 U
09/11	0.00074 U	0.001 U	0.099	0.0003 U	0.00037 U	15.7	0.0028 J	0.0019 U	0.0019 U	0.64	0.00074 U	6.4	0.076	0.00017 U
03/12	0.00074 U	0.001 U	0.18	0.0003 U	0.00037 U	34	0.00092 J	0.0019 U	0.0019 U	0.1	0.00074 U	13.1	0.017	0.00017 U
09/12	0.00074 U	0.001 U	0.11	0.0003 U	0.00037 U	19.2	0.0017 J	0.0019 U	0.0019 U	0.27	0.00074 U	7.1	0.05	0.00017 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
04/13	0.00074 U	0.001 U	0.083	0.0003 U	0.00037 U	32.5	0.001 J	0.0019 U	0.0019 U	0.46	0.00074 U	10.6	0.034	0.00017 U
10/13	0.00074 U	0.001 U	0.078	0.0003 U	0.00037 U	19	0.00074 U	0.0019 U	0.0019 U	0.081	0.00074 U	7.3	0.018	0.00017 U
04/14	0.00074 U	0.001 U	0.092	0.0003 U	0.00037 U	53.6	0.00091 J	0.0019 U	0.0019 U	0.14	0.00074 U	15.8	0.029	0.00017 U
08/14	0.00074 U	0.002 U	0.063	0.0003 U	0.00037 U	28.3	0.00074 U	0.0019 U	0.0019 U	0.1	0.00074 U	9.9	0.03	0.00017 U
04/15	0.002 U	0.002 U	0.089	0.002 U	0.004 U	66.4	0.0014 J	0.01 U	0.01 U	0.028	0.002 U	20.6	0.01 U	0.0002 U
08/15	0.002 U	0.000265 J	0.0901	0.0005 U	0.004 U	54.1	0.00039 J	0.000104 J	0.0011 J	0.036 J	0.002 U	16.8	0.0013 J	0.0002 U
03/16	0.001 U	0.002 U	0.0772	0.0005 U	0.0005 U	49.1	0.00095 J	0.0008	0.00042 J	0.1 U	0.001 U	12.9	0.0062	0.0002 U
09/16	0.002 U	0.004 U	0.0913	0.001 U	0.001 U	34.5	0.00061 J	0.001 U	0.00091 J	0.139 J	0.00018 J	8.73	0.0401	0.0002 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
06/02	0.005	0.22	0.005 U	0.005 U	15	0.002 U	0.005 U	0.18
10/02	0.005 U	1.4	0.005 U	0.005 U	11	0.002 U	0.005 U	0.16
01/03	0.005 U	1.7	0.005 U	0.005 U	15	0.002 U	0.005 U	0.27
05/03	0.005 U	1.3	0.005 U	0.005 U	11	0.002 U	0.005 U	0.14
09/03	0.011 U	1.3	0.002 U	0.001 U	12.2	0.002 U	0.005 U	0.117
04/04	0.011 U	11.9	0.002 U	0.001 U	22.9	0.002 U	0.005 U	0.185
11/04	0.011 U	20	0.002 U	0.001 U	10.2	0.002 U	0.015	0.245
06/05	0.015	10.2	0.002 U	0.001 U	9.6	0.002 U	0.013	0.34
02/06	0.011 U	10.8	0.004	0.001 U	15.7	0.002 U	0.019	0.72
10/06	0.011 U	11.8	0.002 U	0.001 U	18.8	0.002 U	0.016	0.337
04/07	0.005 U	2.36	0.002 U	0.001 U	24.8	0.002 U	0.01 U	0.005 U
11/07	0.005 U	1.45	0.002 U	0.001 U	15.6	0.002 U	0.01 U	0.005 U
04/08	0.005 U	2.14	0.002 U	0.001 U	17.6	0.002 U	0.01 U	0.005 U
11/09	0.0019 U	1.6	0.0071 J	0.00077 U	12.3	0.00035 J	0.00077 U	0.0019 U
04/10	0.0019 U	1.6	0.0019 U	0.00077 U	10.5	0.0003 U	0.00077 U	0.0019 U
10/10	0.0019 U	1.7	0.0033 J	0.00074 U	10	0.0003 U	0.00074 U	0.0074 J
03/11	0.0019 U	2.2	0.0019 U	0.00074 U	10.6	0.0003 U	0.00074 U	0.0028 J
09/11	0.0019 U	3.1	0.0019 U	0.00074 U	8.1	0.0003 U	0.0011 J	0.0019 U
03/12	0.0019 U	3.4	0.0019 U	0.00074 U	19.3	0.0003 U	0.00074 U	0.0076 J
09/12	0.0019 U	3.1	0.0032 J	0.00074 U	13.2	0.0003 U	0.00074 U	0.0056 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
04/13	0.0019 U	2	0.0019 U	0.00074 U	13.9	0.0003 U	0.00074 U	0.0033 J
10/13	0.0019 U	3	0.0019 U	0.00074 U	12.5	0.0003 U	0.00074 U	0.0042 J
04/14	0.0019 U	3.1	0.0019 U	0.00074 U	15.7	0.0003 U	0.00074 U	0.0034 J
08/14	0.0019 U	2.6	0.0019 U	0.00074 U	12.5	0.0003 U	0.00074 U	0.0019 U
04/15	0.011 U	3.9	0.35 U	0.01 U	20.1	0.002 U	0.01 U	0.0062 J
08/15	0.000293 J	8.12	0.000654 J	0.001 U	21.5	0.002 U	0.005 U	0.0069
03/16	0.002 U	3.61	0.00067 J	0.0005 U	13.8	0.0005 U	0.0005 U	0.015 U
09/16	0.004 U	5.06	0.004 U	0.001 U	14.3	0.001 U	0.001 U	0.03 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
10/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
11/09	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U
04/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5
10/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U
03/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U
09/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U
03/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U
09/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U
04/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U
10/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U
04/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U
08/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	1.04 JB	5 U	1 U
03/16	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U	1 U	1 U	5 U	10 U	10 U	10 U	20 U	20 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Volatile Organic Compounds

	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)
MCL		80	80			5	100		80		70		80	700	10000				5
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	--	1 U	1 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
10/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--	1 U	1 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
11/09	0.33 U	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U
04/10	0.33 U	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-02S - Volatile Organic Compounds

	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)
MCL		80	80			5	100		80		70		80	700	10000				5
10/10	0.33 U	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U
03/11	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U
09/11	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U
03/12	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U
09/12	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U
04/13	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U
10/13	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U
04/14	0.32 U	0.27 U	0.4 U	0.42 JB	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U
08/14	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.39 U	0.45 U
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.39 JB	1 U	1 U	1 U	1 U	--	1 U	2 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	5 U	1 U	4 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Volatile Organic Compounds

	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	10000	100	5	1000	100			5			2	10000
06/02	--	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	3 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
10/06	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/09	--	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
04/10	--	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Volatile Organic Compounds

	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	10000	100	5	1000	100			5			2	10000
10/10	--	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
03/11	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/11	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
03/12	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/12	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/13	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
10/13	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/14	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
08/14	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/15	--	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1.6 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	1 U	5 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U	10 U	1 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
03/11	317	0.99 J	2 U	30	--	471	1.5	--	--	6.98	7.31	--	690	808	136	--	603	54.8	--
09/11	184	0.09 J	4 J	16.3	--	190	0.32	--	--	6.19	6.95	--	477	443	34.2	23.42	235	49.6	--
03/12	187	0.04 U	8 J	17.2	--	233	0.86	--	--	6.60	7.02	--	489	520	39.1	16.98	326	22.2	--
09/12	69	0.239 J	2 U	3.9	--	77.2	0.22	--	--	5.62	7.15	--	153	159	11.3	20.63	109	822	--
04/13	235	0.04 U	17	13.5	1.85	292	0.34	134.2	--	6.46	7.24	--	351	513	15.4	15	313	39.3	55.5
10/13	224	0.126 J	20	37.5	0.22	307	1.1	113.1	--	6.49	7.18	--	651	674	54.6	17.16	370	0.57	18.3
04/14	381	0.093 J	2 U	17.8	8	434	0.66	111.8	--	6.12	7.33	--	870	861	36.2	11.84	492	4.37	4.7
08/14	236	0.147 J	15	32.6	0.29	345	0.024 U	92.4	--	6.12	6.90	--	634	711	67.8	16.93	415	1.29	10.4
04/15	273	1 U	10 U	13.2	9.98	324	0.88	145	7.24	6.55	--	641	540	--	66.8	--	376	2.94	15.4
08/15	202	0.2 U	14	27.7	1.1	302	0.874	185.1	--	6.03	6.06	--	520	724	80.3	15.93	405	7.98	3.5
03/16	220	0.2 U	13	17.8	9.31	329	0.282	152.8	--	6.68	6.82	--	1053	716	90.3	11.87	404	5.06	42

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)	Nickel, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002	
03/11	0.00074 U	0.001 U	0.068	0.0003 U	0.00037 U	131	0.002 J	0.0019 U	0.0026 J	5.7	0.00074 U	24.7	0.17	0.00017 U	0.0043 J
09/11	0.00074 U	0.001 U	0.052	0.0003 U	0.00037 U	63.2	0.0018 J	0.0019 U	0.0038 J	7.1	0.00074 U	9.8	0.31	0.00017 U	0.0019 U
03/12	0.00074 U	0.001 U	0.049	0.0003 U	0.00037 U	71	0.0014 J	0.0019 U	0.0019 J	4	0.00074 U	10.8	0.13	0.00017 U	0.0019 U
09/12	0.00074 U	0.001 U	0.06	0.0003 U	0.00037 U	24.7	0.003 J	0.0019 U	0.0046 J	16.4	0.00074 U	3.8	0.83	0.00017 U	0.0025 J
04/13	0.00074 U	0.001 U	0.054	0.0003 U	0.00037 U	77.4	0.0017 J	0.0019 U	0.0033 J	4.7	0.00074 U	12.7	0.21	0.00017 U	0.0019 U
10/13	0.00074 U	0.001 U	0.072	0.0003 U	0.00037 U	73.9	0.0008 J	0.0019 U	0.0036 J	1.6	0.00074 U	20.1	0.87	0.00017 U	0.0019 U
04/14	0.0018 J	0.001 U	0.059	0.0003 U	0.00037 U	137	0.002 J	0.0019 U	0.0026 J	1	0.00074 U	22.8	0.18	0.00017 U	0.0019 U
08/14	0.00074 U	0.002 U	0.049	0.0003 U	0.00037 U	65.8	0.0027 J	0.0019 U	0.0019 U	0.3	0.00074 U	29.8	0.1	0.00017 U	0.0019 U
04/15	0.002 U	0.002 U	0.044	0.002 U	0.004 U	112	0.0021 J	0.01 U	0.0028 J	0.56	0.002 U	16.9	0.096	0.0002 U	0.011 U
08/15	0.002 U	0.000214 J	0.0629	0.0005 U	0.004 U	81.2	0.00073 J	0.000318 J	0.0034 J	1.1	0.002 U	24.2	0.124	0.0002 U	0.000415 J
03/16	0.001 U	0.002 U	0.0539	0.0005 U	0.0005 U	107	0.0071	0.0028	0.0014 J	1.06	0.001 U	15.1	0.107	0.0002 U	0.0077

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - Total Metals

	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL		0.05			0.002		
03/11	8.2	0.0019 U	0.00074 U	27.6	0.0003 U	0.00074 U	0.0031 J
09/11	8.8	0.0019 U	0.00074 U	12.4	0.0003 U	0.00074 U	0.0044 J
03/12	6.7	0.0019 U	0.00074 U	13	0.0003 U	0.00074 U	0.004 J
09/12	4.3	0.003 J	0.00074 U	4.6	0.0003 U	0.00074 U	0.0067 J
04/13	7.3	0.0019 U	0.00074 U	12.3	0.0003 U	0.00074 U	0.0023 J
10/13	12.8	0.0019 U	0.00074 U	28	0.0003 U	0.00074 U	0.0051 J
04/14	6.7	0.0019 U	0.00074 U	14.7	0.0003 U	0.00074 U	0.0019 U
08/14	5.2	0.0019 U	0.00074 U	27.7	0.0003 U	0.00074 U	0.007 J
04/15	6.5	0.35 U	0.01 U	10.9	0.002 U	0.01 U	0.0035 J
08/15	6.61	0.002 U	0.001 U	22.2	0.002 U	0.005 U	0.0091
03/16	7.78	0.002 U	0.0005 U	11.8	0.0005 U	0.0005 U	0.015 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-03S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
03/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
09/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
03/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
09/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
10/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
08/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
03/16	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U	1 U	1 U	5 U	10 U	10 U	10 U	20 U	20 U	1 U	5 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
03/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.56 J	--
03/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
10/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/14	0.27 U	0.4 U	0.61 JB	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
08/14	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.39 U	0.45 U	--
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	1 U	1 U	--
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	1 U	4 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
03/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
03/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
10/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
08/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/15	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1.6 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	5 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U	10 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-05S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
06/02	100	2.48	45	159.3	--	301	0.05 U	--	6.40	--	--	251	--	--	185	16.8	734	10	--
10/02	142	4.27	37	172	--	335	0.05 U	--	6.30	--	--	1936	--	--	175	15.8	708	7.5	--
01/03	138	4.59	21	167	--	320	0.05 U	--	6.40	--	--	2065	--	--	275	14.6	722	12	--
05/03	310	7.9	47.7	202	--	340	0.05 U	--	6.30	--	--	2070	--	--	144	16.1	867	6.7	--
09/03	334	9.7	39	202	--	382	0.103	--	6.24	--	--	1591	--	--	126	16.8	847	15	--
04/04	722	71.5	72	26.4	--	401.6	0.328	--	6.69	--	--	2390	--	--	4.82	15.7	1068	32	--
11/04	704	64	69	291	--	389	0.06 U	--	6.81	--	--	2400	--	--	61.4	15.8	1058	272	--
06/05	671	66	64	292	--	364	0.06 U	--	6.59	--	--	2.3	--	--	56	18	1041	350	--
02/06	707	66	71	293	--	463	0.06 U	--	8.16	--	--	2380	--	--	51.8	15.1	1073	243	--
10/06	487	53.9	57	160	--	288	0.06 U	--	6.50	--	--	1272	--	--	55.1	--	676	89	--
04/07	429	11.5	44	83.6	--	234	0.06 U	--	6.77	--	--	1152	--	--	40.5	--	460	94	--
11/07	464	50.8	41	61.8	--	219	0.06 U	--	6.51	--	--	1293	--	--	35.5	--	452	40	--
04/08	456	47.6	39	68.1	--	233	0.06 U	--	6.40	--	--	1200	--	--	33.1	--	463	24	--
10/08	15	0.26	56	13	--	19.8	0.08	--	5.61	--	--	147	--	--	--	--	145	140	--
05/09	239	1.83	15	149	--	209	1.32	--	6.16	--	--	1026	--	--	55.3	--	564	0.85	--

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
11/09	514	1.47	22	105	--	246	0.32	--	7.00	--	--	1150	--	--	31.1	--	655	3.44	--
04/10	354	34.9	24	35.6	--	188	0.018 U	--	6.95	--	--	822	--	--	23.7	--	367	119	--
10/10	379	37.5	28	46.2	--	203	0.008 U	--	--	6.86	6.57	--	--	897	24.5	--	389	152	--
03/11	418	41.5	20	69.1	--	257	0.07 U	--	--	6.86	6.64	--	886	923	22.5	--	476	202	--
09/11	412	44.7	24	74.9	--	233	0.07 U	--	--	6.01	6.47	--	850	1200	24	17.64	460	139	--
03/12	367	0.04 U	15	43.8	--	208	0.057 U	--	--	6.52	6.95	--	1033	998	22.8	17.1	336	99.7	--
09/12	361	34	11	42.4	--	185	0.057 U	--	--	6.43	6.88	--	838	909	15.9	19.55	315	233	--
04/13	351	41	15	29.8	6.67	189	0.2 U	-50	--	6.97	6.98	--	740	824	14.5	18.16	800	123	95.5
10/13	360	40.3	27	36	0.3	198	0.057 U	-87.2	--	6.50	7.14	--	923	887	13	18.22	313	123	20
04/14	426	45.9	32	60.4	0.11	225	0.057 U	-82.8	--	6.25	6.87	--	1146	1020	12	14.89	361	147	19.4
08/14	390	40.6	21	58.4	0.12	233	0.024 U	-68.2	--	6.40	7.05	--	974	1070	14.3	16.72	402	84.2	10.4
04/15	402	50.6	14	55.2	0.3	206	0.06 U	73.5	7.06	6.27	--	957	918	--	12	--	355	132	20
08/15	384	50.7	29	76.4	0.45	236	0.05 U	-81.9	--	6.22	6.37	--	882	1200	8.84	17.66	393	75.2	1.9
03/16	367	47.2	29	57.1	0.29	185	0.05 U	-86	--	6.37	6.36	--	1596	1022	6.48	15.82	295	150	49.4
09/16	349	50	20	6.01	0.13	184	0.147	-129.9	--	6.47	6.21	--	953	985	7.57	19.5	312	147	5 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
06/02	0.002 U	0.005 U	0.037	0.002 U	0.004 U	77	0.005 U	0.15	0.024	3.5	0.005 U	30	0.57	0.001 U
10/02	0.002 U	0.005 U	0.041	0.002 U	0.004 U	69	0.005 U	0.14	0.005 U	7	0.005 U	28	0.53	0.001 U
01/03	0.002 U	0.005 U	0.043	0.002 U	0.004 U	78	0.005 U	0.15	0.0053	6.3	0.005 U	31	0.59	0.001 U
05/03	0.002 U	0.005 U	0.052	0.002 U	0.004 U	75	0.0066	0.097	0.016	3.2	0.005 U	36	0.49	0.001 U
09/03	0.002 U	0.003	0.058	0.002 U	0.004 U	87.9	0.009	0.106	0.013	2.75	0.003	39.4	0.578	0.0002 U
04/04	0.002 U	0.003	0.14	0.002 U	0.004 U	78.9	0.008 U	0.044	0.003 U	6.58	0.002 U	49.7	0.492	0.0002 U
11/04	0.002 U	0.01	0.138	0.002 U	0.004 U	74.8	0.008 U	0.043	0.003 U	29.5	0.002 U	49.2	0.498	--
06/05	0.002 U	0.011	0.146	0.002 U	0.004 U	67	0.008 U	0.04	0.003	27.6	0.002 U	47.9	0.461	0.0002 U
02/06	0.002 U	0.015	0.139	0.002 U	0.004 U	85.1	0.008 U	0.046	0.003 U	33.3	0.002 U	60.7	0.507	0.0002 U
10/06	0.002 U	0.002	0.157	0.002 U	0.004 U	43.9	0.008 U	0.006 U	0.003 U	18	0.002 U	43.2	0.42	0.0002 U
04/07	0.002 U	0.003	0.13	0.0005 U	0.004 U	35.2	0.005 U	0.005 U	0.005 U	17.1	0.002 U	35.5	0.342	0.0002 U
11/07	0.002 U	0.004	0.147	0.0005 U	0.004 U	35.5	0.005 U	0.005 U	0.005 U	15.2	0.002 U	31.7	0.336	0.0002 U
04/08	0.002 U	0.002 U	0.152	0.0005 U	0.004 U	36.6	0.005 U	0.005 U	0.005 U	15.9	0.002 U	35.7	0.372	0.0002 U
10/08	0.002 U	0.003	0.036	0.0005 U	0.004 U	4.75	0.014	0.005 U	0.005 U	10.5	0.005	1.94	0.066	0.0002 U
05/09	0.0022 U	0.003	0.068	0.0005 U	0.004 U	51.2	0.005 U	0.031	0.006	0.267	0.002 U	19.7	0.259	0.0002 U
11/09	0.00077 U	0.001 U	0.39	0.0003 U	0.00037 U	194	0.00077 U	0.0084 J	0.0028 J	1.1	0.00077 U	41.1	0.91	0.0000300 U
04/10	0.00077 U	0.0015 J	0.19	0.0003 U	0.00047 J	25.8	0.00077 U	0.0019 U	0.0052 J	20.5	0.00077 U	26.2	0.41	0.0000360 J
10/10	0.00074 U	0.0026	0.24	0.00035 J	0.00042 J	29.8	0.0014 J	0.0019 U	0.0019 U	23	0.00074 U	29.2	0.37	0.0000300 U
03/11	0.00074 U	0.0034	0.3	0.0003 U	0.00037 U	36.1	0.00074 J	0.0019 U	0.0019 U	25.7	0.00074 U	33	0.53	0.00017 U
09/11	0.00074 U	0.0023	0.29	0.0003 U	0.00037 U	34.7	0.0013 J	0.0019 U	0.0019 U	30	0.00074 U	34.5	0.48	0.00017 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
03/12	0.00074 U	0.0022	0.28	0.0003 U	0.00037 U	26.5	0.00083 J	0.0019 U	0.0019 U	22.8	0.0016 J	26.7	0.41	0.00017 U
09/12	0.00074 U	0.0023	0.22	0.0003 U	0.00037 U	29.3	0.0055 J	0.0019 U	0.0019 U	28.7	0.00074 U	27.1	0.42	0.00017 U
04/13	0.0022 U	0.003 U	0.26	0.001 U	0.0011 U	23.2	0.0029 J	0.0056 U	0.0056 U	21.3	0.0022 U	26	0.37	0.0005 U
10/13	0.00074 U	0.0016 J	0.3	0.0003 U	0.00037 U	24.9	0.0018 J	0.0019 U	0.0019 U	18.9	0.00074 U	26	0.39	0.00017 U
04/14	0.00074 U	0.0024	0.39	0.0003 U	0.00037 U	32.9	0.00092 J	0.0019 U	0.0019 U	28.4	0.00074 U	34.1	0.49	0.00017 U
08/14	0.00074 U	0.002 U	0.31	0.0003 U	0.00037 U	29.1	0.00074 U	0.0019 U	0.0019 U	15.7	0.00074 U	33.2	0.4	0.00017 U
04/15	0.002 U	0.0016 J	0.36	0.002 U	0.004 U	31.9	0.0017 J	0.01 U	0.01 U	21.3	0.002 U	35.9	0.42	0.0002 U
08/15	0.002 U	0.0016 J	0.462	0.0005 U	0.004 U	35.7	0.000759 J	0.0000990 J	0.005 U	21.8	0.002 U	35.8	0.464	0.0002 U
03/16	0.001 U	0.0016 J	0.417	0.0005 U	0.0005 U	27.2	0.0035	0.00077	0.00056 J	22.9	0.001 U	28.5	0.437	0.0002 U
09/16	0.002 U	0.004 U	0.407	0.001 U	0.001 U	26.4	0.0025 J	0.001 U	0.001 J	17.5	0.00055 J	28.7	0.459	0.0002 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
06/02	0.088	0.65	0.005 U	0.005 U	100	0.002 U	0.005 U	0.32
10/02	0.072	7.1	0.005 U	0.005 U	110	0.002 U	0.005 U	0.09
01/03	0.078	7.6	0.005 U	0.005 U	130	0.002 U	0.0068	0.072
05/03	0.052	9.4	0.005 U	0.005 U	140	0.002 U	0.005 U	0.13
09/03	0.058	9.58	0.002 U	0.001 U	167	0.002 U	0.005 U	0.147
04/04	0.012	34.3	0.002 U	0.001 U	244.8	0.002 U	0.005 U	0.003 U
11/04	0.019	34.4	0.002 U	0.001 U	234	0.002 U	0.005 U	0.012
06/05	0.022	36.3	0.002 U	0.001 U	250	0.002 U	0.005 U	0.034
02/06	0.011	38.8	0.01	0.001 U	223	0.002 U	0.005 U	0.003
10/06	0.011 U	36.3	0.004	0.001 U	116	0.002 U	0.005 U	0.003 U
04/07	0.005 U	28.8	0.002 U	0.001 U	76.8	0.002 U	0.01 U	0.005 U
11/07	0.005 U	28.2	0.002 U	0.001 U	69.2	0.002 U	0.01 U	0.005 U
04/08	0.005 U	28.5	0.002	0.001 U	59.9	0.002 U	0.01 U	0.005 U
10/08	0.01	0.932	0.002 U	0.001 U	12.9	0.002 U	0.01 U	0.021
05/09	0.027	6.88	0.05 U	0.001 U	125	0.002 U	0.01 U	0.039
11/09	0.0059 J	16.1	0.01 J	0.00077 U	84.3	0.00043 J	0.0027 J	0.004 J
04/10	0.0019 U	22.4	0.0021 J	0.00077 U	36.3	0.0003 U	0.00085 J	0.0019 U
10/10	0.0022 J	24.5	0.0055 J	0.00074 U	46.2	0.0003 U	0.00074 U	0.009 J
03/11	0.0019 U	25.7	0.0052 J	0.00074 U	56.2	0.0003 U	0.00074 U	0.0019 U
09/11	0.0019 U	25.5	0.0019 U	0.00074 U	59.9	0.0003 U	0.00074 U	0.0047 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
03/12	0.0019 U	22.6	0.0019 U	0.00074 U	48.9	0.0003 U	0.00091 J	0.0038 J
09/12	0.0039 J	22.4	0.0033 J	0.00074 U	42.2	0.0003 U	0.003 J	0.0026 J
04/13	0.0056 U	20.3	0.0056 U	0.0022 U	31.6	0.001 U	0.0022 U	0.0056 U
10/13	0.0019 U	24.3	0.0019 U	0.00074 U	35.4	0.0003 U	0.0013 J	0.0027 J
04/14	0.0019 U	22.2	0.0019 U	0.00074 U	46.8	0.0003 U	0.0026 J	0.0025 J
08/14	0.0019 U	20.3	0.0019 U	0.00074 U	49.6	0.0003 U	0.00074 U	0.0019 U
04/15	0.011 U	22.3	0.35 U	0.01 U	47	0.002 U	0.0015 J	0.0035 J
08/15	0.00077 J	22.8	0.000374 J	0.001 U	55.4	0.002 U	0.000977 J	0.0056
03/16	0.0018 J	22.3	0.002 U	0.0005 U	47.5	0.0005 U	0.0018	0.015 U
09/16	0.0014 J	19	0.004 U	0.001 U	43.5	0.001 U	0.003	0.03 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-05S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	25 U	5 U	5 U	5 U	10 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3	5 U	5 U	5 U	3.2 J	5 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.6 J	1 U	1 U	5.1	5 U	5 U	5 U	5 U	5 U	1.4
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.6 J	1 U	1 U	4.2	5 U	5 U	5 U	5 U	5 U	1.3
06/05	1 U	1 U	1 U	1 U	0.5 J	1 U	1 U	1 U	1 U	0.6 J	1 U	1 U	4.7	5 U	5 U	5 U	5.2	5 U	1.2
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.6 J	1 U	1 U	4.6	5 U	5 U	5 U	5 U	5 U	1.4
10/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3	5 U	5 U	5 U	5 U	5 U	2.1
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1	5 U	5 U	5 U	5 U	5 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.9 J	5 U	5 U	5 U	5 U	5 U	1.7
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1.5
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	5 U	5 U	5 U	5 U	5 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5
11/09	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U
04/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.35 J	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.86 J
10/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.58 J	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.85 J
03/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.89 J	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	1.3
09/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.94 J	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	1.4
03/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.89 J	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	1.1
09/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.77 J	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.85 J
04/13	1 U	1 U	1 U	1 U	1 U	1 U	2 U	7 U	1 U	1 U	1 U	1 U	1 U	10 U	5 U	5 U	10 U	5 U	1 U
10/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.98 J
04/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	1.4	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	1.3
08/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	1.2	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	1.2
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5 U	1 U	1 U	1 U	1 U	1.4	5 U	5 U	5 U	5 U	5 U	0.98 J
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.47	5 U	5 U	5 U	1.96 JB	5 U	0.86 J
03/16	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U	1 U	1 U	1 J	10 U	10 U	10 U	20 U	20 U	0.8 J
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.1 J	1 U	1 U	1.1	5 U	5 U	5 U	5 U	5 U	0.7 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Volatile Organic Compounds

	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)
MCL		80	80			5	100		80		70		80	700	10000				5
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	--	1 U	1 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	7.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	6.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	7.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	6.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
10/06	1 U	1 U	1 U	1 U	1 U	1 U	4.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--	1 U	1 U
04/07	1.5	1 U	1 U	1 U	1 U	1 U	4.2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	3.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	3.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Volatile Organic Compounds

	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)
MCL		80	80			5	100		80		70		80	700	10000				5
11/09	0.33 U	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U
04/10	0.33 U	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	1.8	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U
10/10	0.33 U	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	2.2	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U
03/11	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	3.3	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.45 J	0.31 U	0.45 U
09/11	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	3.2	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.42 J	0.31 U	0.45 U
03/12	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	2.9	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U
09/12	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	2.8	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U
04/13	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U
10/13	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.38 J	0.31 U	0.45 U
04/14	0.32 U	0.27 U	0.4 U	0.45 JB	0.23 U	0.31 U	4	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.47 J	0.31 U	0.45 U
08/14	0.32 U	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	3.8	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.39 U	0.45 U
04/15	1 U	1 U	1 U	1 U	1 U	1 U	3.9	1 U	1 U	0.33 JB	1 U	1 U	1 U	1 U	--	1 U	0.38 J	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	3.67	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.36 J	1 U	1 U
03/16	5 U	1 U	4 U	1 U	5 U	1 U	4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	3.5	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.3 J	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Volatile Organic Compounds

	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	10000	100	5	1000	100			5			2	10000
06/02	--	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	3 U
10/02	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
10/06	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Volatile Organic Compounds

	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	10000	100	5	1000	100			5			2	10000
11/09	--	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
04/10	--	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
10/10	--	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
03/11	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/11	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
03/12	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/12	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/13	--	1 U	1 U	1 U	1 U	1 U	3 U	1 U	1 U	5 U	1 U	3 U
10/13	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/14	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
08/14	--	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/15	--	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1.6 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	1 U	5 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U	10 U	1 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
06/02	138	0.5 U	26	41.6	--	116	0.34	--	6.40	--	--	678	--	--	30	15.1	290	5	--
10/02	140	0.5 U	14	39.6	--	128	0.62	--	6.60	--	--	389	--	--	24	16.4	254	1	--
01/03	159	1.58	33	47.8	--	130	0.05 U	--	6.60	--	--	497	--	--	23	13.6	296	4	--
05/03	248	1.3	22.1	42.5	--	150	0.7	--	6.20	--	--	579	--	--	34.5	14.5	299	3	--
09/03	164	0.2 U	15	30.8	--	141	0.129	--	6.12	--	--	508	--	--	34.7	16	268	1.4	--
04/04	219	0.82	16	55.3	--	192.4	0.06 U	--	6.54	--	--	636	--	--	40.2	13.9	354	0.18	--
11/04	212	0.72	10 U	45.7	--	180	0.06 U	--	6.64	--	--	612	--	--	41.5	14.6	342	0.35	--
02/06	179	0.66	11	42.2	--	171	0.06 U	--	6.28	--	--	526	--	--	41.8	14	288	0.25	--
04/07	137	0.83	21	9.75	--	0.5 U	0.06 U	--	6.16	--	--	154	--	--	12	--	105	68	--
11/07	151	0.87	30	11.4	--	46.3	0.06 U	--	6.07	--	--	157	--	--	14.8	--	73	21	--
04/08	100	0.56	24	11.1	--	38.7	0.06 U	--	5.72	--	--	290	--	--	14.7	--	16	5	--
10/08	103	0.79	54	9.8	--	41	0.06 U	--	5.93	--	--	246	--	--	--	--	109	170	--
05/09	44	0.98	11	6.41	--	51	0.06 U	--	5.89	--	--	142	--	--	8.82	--	86	96	--
11/09	96	1.15	17	7.7	--	46	0.02 U	--	6.28	--	--	200	--	--	10.2	--	118	148	--
04/10	77	1.21	17	7.4	--	44	0.018 U	--	7.01	--	--	209.2	--	--	12.3	--	124	73	--

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
10/10	71	1.22	10	8.1	--	46	0.008 U	--	--	6.80	6.18	--	--	174	11.1	--	117	33.2	--
03/11	86	1.04	2 U	7.8	--	47	0.07 U	--	--	6.17	6.24	--	169	212	12.4	--	158	19.9	--
09/11	98	0.97 J	9 J	7.1	--	55	0.07 U	--	--	4.08	6.22	--	276	207	9.5	18.14	203	125	--
03/12	99	0.673 J	9 J	8.2	--	40	0.057 U	--	--	5.84	6.53	--	309	219	7.6	14.44	107	52.5	--
09/12	96	1.54	4 J	7.6	--	46.6	0.029 U	--	--	6.50	6.47	--	240	201	6	17.98	93	311	--
04/13	84	1.5	15	5.4	0.18	40	0.057 U	-17.6	--	6.00	6.46	--	214	176	7.3	14.33	112	28.2	3.8
10/13	78	1.55	10	6	1.43	57	0.057 U	-160	--	6.18	6.59	--	232	171	7.9	18.7	88	81.7	18.3
04/14	61	0.9 J	2 U	6.8	0.08	36	0.057 U	-26.2	--	5.47	6.58	--	270	150	7.9	10.8	74	31.6	0.8
08/14	85	1.59	15	6.7	0.13	45	0.024 U	-44.1	--	5.90	6.48	--	190	185	7	14.96	125	28.1	10.2
04/15	46	1.23	10 U	6.9	0.37	19	0.06 U	-8.7	6.17	5.50	--	114	108	--	13.9	--	48	10.7	12
08/15	35.5	1.14	19	5.7	0.47	31.3	0.05 U	-48.2	--	5.70	5.55	--	139	177	7.75	15.37	99	5.43	4.7
03/16	16	0.726	10 U	7.63	0.34	23	0.101	10.1	--	5.54	5.39	--	224	141	9.49	13	49	11.2	38.9
09/16	14.6	0.962	13	8.51	0.19	24.3	0.0712	-16.2	--	5.56	5.38	--	134.8	101	11.7	18.2	45	10.4	11.8

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
06/02	0.002 U	0.005 U	0.11	0.002 U	0.004 U	21	0.005 U	0.024	0.011	0.75	0.005 U	18	0.32	0.001 U
10/02	0.002 U	0.005 U	0.1	0.002 U	0.004 U	19	0.005 U	0.007	0.005 U	0.17	0.005 U	16	0.097	0.001 U
01/03	0.002 U	0.005 U	0.12	0.002 U	0.004 U	24	0.005 U	0.018	0.0073	0.26	0.005 U	18	0.29	0.001 U
05/03	0.002 U	0.005 U	0.099	0.002 U	0.004 U	27	0.005 U	0.037	0.0066	0.28	0.005 U	21	0.46	0.001 U
09/03	0.002 U	0.002 U	0.099	0.002 U	0.004 U	26.3	0.008 U	0.033	0.007	0.287	0.002 U	18.2	0.352	0.0002 U
04/04	0.002 U	0.002 U	0.166	0.002 U	0.004 U	32.4	0.008 U	0.035	0.003 U	0.033	0.002 U	27.06	0.519	0.0002 U
11/04	0.002 U	0.002 U	0.139	0.002 U	0.004 U	30.2	0.008 U	0.026	0.003 U	0.009 U	0.002 U	25.3	0.476	--
02/06	0.002 U	0.002 U	0.106	0.002 U	0.004 U	28.4	0.008 U	0.025	0.003 U	0.066	0.002 U	24.3	0.409	0.0002 U
04/07	0.002 U	0.023	0.028	0.0005 U	0.004 U	4.14	0.005 U	0.005 U	0.005 U	67.2	0.002 U	10.7	0.289	0.0002 U
11/07	0.002 U	0.036	0.02	0.0005 U	0.004 U	2.69	0.005 U	0.005 U	0.005 U	71.9	0.002 U	8.92	0.2	0.0002 U
04/08	0.002 U	0.016	0.021	0.0005 U	0.004 U	3.01	0.005 U	0.005 U	0.005 U	43.1	0.002 U	7.58	0.206	0.0002 U
10/08	0.002 U	0.041	0.022	0.0005 U	0.004 U	4.4	0.005 U	0.005 U	0.005 U	48.6	0.002 U	7.29	0.28	0.0002 U
05/09	0.0022 U	0.041	0.023	0.0005 U	0.004 U	9.32	0.005 U	0.005 U	0.005 U	31.5	0.002 U	6.73	0.511	0.0002 U
11/09	0.00077 U	0.027	0.028	0.0003 U	0.00037 U	4.8	0.0022 J	0.0019 U	0.0019 U	51	0.00077 U	8.2	0.29	0.0000300 U
04/10	0.00077 U	0.019	0.019	0.0003 U	0.00044 J	3.8	0.00077 U	0.0019 U	0.0019 U	36.7	0.00077 U	6	0.23	0.0000300 U
10/10	0.00074 U	0.026	0.021	0.00035 J	0.00037 U	3.5	0.0015 J	0.0019 U	0.0019 U	44.7	0.00074 U	6.9	0.19	0.0000300 U
03/11	0.00074 U	0.019	0.023	0.0003 U	0.00037 U	4	0.00083 J	0.0019 U	0.0019 U	38	0.00074 U	6	0.24	0.00017 U
09/11	0.00074 U	0.028	0.026	0.0003 U	0.00037 U	4.5	0.00074 U	0.0019 U	0.0019 U	44.8	0.00074 U	6.8	0.28	0.00017 U
03/12	0.00074 U	0.021	0.022	0.0003 U	0.00037 U	4.7	0.00074 U	0.0019 U	0.0019 U	45.7	0.00074 U	7.2	0.28	0.00017 U
09/12	0.00074 U	0.03	0.026	0.0003 U	0.00037 U	5.8	0.0014 J	0.0019 U	0.0019 U	47.8	0.00074 U	7.8	0.29	0.00017 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
04/13	0.00074 U	0.017	0.028	0.0003 U	0.00037 U	6.7	0.0013 J	0.0019 U	0.003 J	34.5	0.00074 U	5.5	0.36	0.00017 U
10/13	0.00074 U	0.024	0.03	0.0003 U	0.00037 U	6	0.00074 U	0.0019 U	0.0019 U	32	0.00074 U	5.1	0.38	0.00017 U
04/14	0.00074 U	0.018	0.016	0.0003 U	0.00037 U	4	0.00074 U	0.0019 U	0.0019 U	29.1	0.00074 U	4.6	0.2	0.00017 U
08/14	0.00074 U	0.023	0.021	0.0003 U	0.00037 U	4.3	0.00074 U	0.0019 U	0.0019 U	31.4	0.00074 U	5.2	0.24	0.00017 U
04/15	0.002 U	0.013	0.025	0.002 U	0.004 U	3.9	0.0011 J	0.01 U	0.01 U	19.3	0.002 U	3.1	0.17	0.0002 U
08/15	0.002 U	0.0236	0.0268	0.0005 U	0.004 U	3.88	0.0022 J	0.000309 J	0.000955 J	29.2	0.000919 J	5.25	0.219	0.0002 U
03/16	0.001 U	0.012	0.0265	0.0005 U	0.0005 U	3.56	0.0035	0.0029	0.00055 J	13.4	0.0002 J	3.43	0.161	0.0002 U
09/16	0.002 U	0.0333	0.0301	0.001 U	0.001 U	3.76	0.00093 J	0.0009 J	0.001 J	21.6	0.00091 J	3.62	0.199	0.0002 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
06/02	0.006	0.34	0.005 U	0.005 U	53	0.002 U	0.005 U	0.1
10/02	0.005 U	3.2	0.005 U	0.005 U	50	0.002 U	0.005 U	0.05 U
01/03	0.0059	7	0.005 U	0.005 U	59	0.002 U	0.005 U	0.076
05/03	0.0095	3.6	0.005 U	0.005 U	53	0.002 U	0.005 U	0.067
09/03	0.011 U	3.65	0.002 U	0.001 U	55.3	0.002 U	0.005 U	0.032
04/04	0.011 U	4.65	0.002 U	0.001 U	69.35	0.002 U	0.005 U	0.03
11/04	0.014	4.23	0.002 U	0.001 U	59	0.002 U	0.005 U	0.029
02/06	0.011 U	4.1	0.003	0.001 U	44.7	0.002 U	0.005 U	0.022
04/07	0.005 U	1.72	0.002 U	0.001 U	8.05	0.002 U	0.01 U	0.005 U
11/07	0.005 U	1.33	0.002 U	0.001 U	6.87	0.002 U	0.01 U	0.005 U
04/08	0.005 U	1.44	0.003	0.001 U	4.14	0.002 U	0.01 U	0.005 U
10/08	0.005 U	1.56	0.002 U	0.001 U	6.36	0.002 U	0.01 U	0.017
05/09	0.005 U	1.95	0.05 U	0.001 U	4.87	0.002 U	0.01 U	0.02
11/09	0.0019 U	2.2	0.0032 J	0.00077 U	6	0.00039 J	0.0013 J	0.0034 J
04/10	0.0019 U	1.6	0.0019 U	0.00077 U	4.3	0.0003 U	0.00077 U	0.0024 J
10/10	0.0019 U	2	0.003 J	0.00074 U	5.2	0.0003 U	0.00074 U	0.0078 J
03/11	0.0019 U	1.8	0.0019 U	0.00074 U	4.4	0.0003 U	0.00074 U	0.0021 J
09/11	0.0019 U	2	0.0019 U	0.00074 U	4.8	0.0003 U	0.00082 J	0.0019 J
03/12	0.0019 U	1.8	0.0019 U	0.00074 U	4.6	0.0003 U	0.00074 U	0.0029 J
09/12	0.0019 U	2.5	0.0019 U	0.00074 U	5.3	0.0003 U	0.00087 J	0.0048 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
04/13	0.0019 U	2.1	0.0019 U	0.00074 U	4.3	0.0003 U	0.00088 J	0.0038 J
10/13	0.0019 U	2.7	0.0019 U	0.00074 U	5.6	0.0003 U	0.00074 U	0.011
04/14	0.0019 U	1.5	0.0019 U	0.00074 U	3.8	0.0003 U	0.00074 U	0.0019 U
08/14	0.0019 U	2.1	0.0019 U	0.00074 U	4.9	0.0003 U	0.00074 U	0.0019 U
04/15	0.011 U	2	0.35 U	0.01 U	4.2	0.002 U	0.00085 J	0.0052 J
08/15	0.0011 J	2.12	0.002 U	0.001 U	5.02	0.002 U	0.0016 J	0.0133
03/16	0.0014 J	1.87	0.002 U	0.0005 U	4.21	0.0005 U	0.00029 J	0.015 U
09/16	0.004 U	2.02	0.004 U	0.001 U	4.89	0.001 U	0.0017	0.03 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-07S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.3	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.8 J	5 U	5 U	5 U	5 U	5 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 J	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.1	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.9 J	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3.6	5 U	5 U	18.3	5 U	1 U	1 U
11/09	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
04/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
10/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.34 J	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
03/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	12	1.2 U	0.23 U	0.32 U
09/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
03/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	4.1 J	1.2 U	0.23 U	0.32 U
09/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	9.7	1.2 U	0.23 U	0.32 U
04/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
10/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
08/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
03/16	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U	1 U	1 U	5 U	10 U	10 U	10 U	20 U	20 U	1 U	5 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	--	1 U	1 U	--
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1.6	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	4.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	2.7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1.3	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/07	1 U	1 U	1 U	1 U	1 U	1.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/09	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
04/10	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-07S - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
10/10	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
03/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.62 J	--
03/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
10/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/14	0.27 U	0.4 U	0.63 JB	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
08/14	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.39 U	0.45 U	--
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	1 U	1 U	--
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	1 U	4 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-07S - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
06/02	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	3 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/09	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
04/10	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
10/10	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
03/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
03/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
10/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
08/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/15	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1.6 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	5 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U	10 U	1 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
06/02	16	0.5 U	14	13.1	--	32	1.75	--	6.20	--	--	192	--	--	33	18.6	170	10	--
10/02	11	0.5 U	7	11.6	--	24	1.56	--	6.30	--	--	170	--	--	27	17.7	120	1	--
01/03	10	0.5 U	5 U	11.8	--	31	1.3	--	6.00	--	--	169	--	--	34	15.8	138	3	--
05/03	8	0.5 U	5 U	13.8	--	28	1.7	--	5.70	--	--	174	--	--	34.9	17.6	117	1.6	--
09/03	9	0.2 U	10 U	13.1	--	31.5	1.54	--	5.46	--	--	171	--	--	32.8	16.5	135	2.9	--
04/04	10	0.2 U	10 U	14.8	--	31.1	0.703	--	6.25	--	--	176	--	--	361	17.5	141	0.11	--
11/04	11	0.2 U	10 U	15.8	--	31.1	0.74	--	6.08	--	--	180	--	--	34.9	18.1	124	0.36	--
06/05	11	0.2 U	10 U	15.8	--	29.5	0.47	--	6.07	--	--	173	--	--	35.8	18.4	105	0.5	--
02/06	11	0.2 U	10 U	15.9	--	28.2	0.66	--	5.99	--	--	170	--	--	37.6	16.4	138	0.27	--
10/06	410	26	12	15.9	--	27.7	0.45	--	6.64	--	--	164	--	--	30.4	--	147	0.27	--
04/07	10	0.2 U	10 U	15.2	--	27.3	0.65	--	5.94	--	--	143	--	--	33.6	--	117	0.18	--
11/07	13	0.2 U	10 U	15.7	--	27.3	0.62	--	5.77	--	--	172	--	--	33.5	--	125	0.47	--
04/08	12	0.2 U	10 U	17.4	--	29.7	0.55	--	5.55	--	--	195	--	--	31.9	--	129	0.27	--
10/08	13	0.2 U	10 U	19.8	--	31	0.46	--	5.66	--	--	158	--	--	--	--	131	0.11	--
05/09	13	0.2 U	10 U	21.6	--	35.9	1.21	--	5.78	--	--	207	--	--	33.4	--	145	1.1	--

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
11/09	15	0.14 J	2 U	23.5	--	36	1.3	--	6.13	--	--	190	--	--	33.6	--	140	0.49	--
04/10	12	0.2 J	5 J	23	--	32	0.66	--	5.43	--	--	175.5	--	--	35.5	--	149	1.06	--
10/10	11	0.02 U	2 U	23.2	--	39	1	--	--	7.16	5.82	--	--	183	35.7	--	162	0.22	--
03/11	11	0.05 J	2 U	21.4	--	55	0.94	--	--	6.14	6.03	--	162	176	32.7	--	154	1.13	--
09/11	13	0.48 J	2 U	21.3	--	44	0.82	--	--	4.49	5.84	--	182	187	34.4	20.06	184	0.1 U	--
03/12	11	0.04 U	2 U	22.4	--	32	0.68	--	--	5.89	6.29	--	198	175	35.8	17.86	116	0.17	--
09/12	11	0.04 U	2 U	20.7	--	35.9	0.62	--	--	5.71	6.25	--	187	177	35.3	19.4	18	0.25	--
04/13	15	0.04 U	2 U	22.1	1.84	41	0.66	156.6	--	5.81	6.10	--	205	175	36.7	18.78	141	0.1 U	0 J
10/13	10	0.08 J	2 U	23.2	5	38	1.2	197	--	5.63	6.49	--	188	166	34	17.72	98	0.14	17.8
04/14	10	0.069 J	2 U	21.1	0.46	37	1	154.9	--	5.57	6.24	--	298	171	33.9	16.26	158	0.16	-2.9 J
08/14	9	0.14 J	2 U	21.4	1.82	37	1.5	159.4	--	5.56	6.30	--	169	166	34.2	17.33	143	0.14	13.2
04/15	12	1 U	10 U	23.3	5.9	32	1.6	15.86	6.37	5.60	--	154	160	--	34.6	--	118	0.27	10.4
08/15	9.36	0.2 U	10 U	16.9	1.82	33.2	1.39	173.3	--	5.28	5.40	--	136	187	31.5	17.33	145	0.571	2.2
03/16	10.2	0.2 U	10 U	16.9	0.81	30.8	1.2	185.2	--	5.41	6.46	--	281	214	31.7	15.65	101	0.317	38.1
09/16	9.44	0.2 U	10 U	17.1	0.84	30.6	1.45	110.5	--	5.47	5.70	--	0.157	177	31	18.6	121	1.92	0.1

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
06/02	0.002 U	0.005 U	0.027	0.002 U	0.004 U	8.9	0.005 U	0.009	0.029	0.76	0.007	2	0.021	0.001 U
10/02	0.002 U	0.005 U	0.026	0.002 U	0.004 U	8.6	0.008	0.005	0.005 U	0.28	0.005 U	2	0.005 U	0.001 U
01/03	0.002 U	0.005 U	0.028	0.002 U	0.004 U	9.1	0.005 U	0.0054	0.005 U	0.22	0.005 U	2	0.013	0.001 U
05/03	0.002 U	0.005 U	0.025	0.002 U	0.004 U	7.9	0.0052	0.005 U	0.005 U	0.3	0.005 U	1.9	0.0099	0.001 U
09/03	0.002 U	0.002	0.027	0.002 U	0.004 U	9.1	0.008 U	0.006 U	0.022	0.647	0.002 U	2.13	0.013	0.0002 U
04/04	0.002 U	0.002 U	0.029	0.002 U	0.004 U	8.83	0.008 U	0.006 U	0.003 U	0.248	0.002 U	2.21	0.009	0.0002 U
11/04	0.002 U	0.002 U	0.028	0.002 U	0.004 U	8.93	0.008 U	0.006 U	0.005	0.191	0.002 U	2.14	0.012	--
06/05	0.002 U	0.002 U	0.027	0.002 U	0.004 U	8.43	0.008 U	0.006 U	0.003 U	0.407	0.002 U	2.07	0.009	0.0002 U
02/06	0.002 U	0.002 U	0.026	0.002 U	0.004 U	8.28	0.008 U	0.008	0.003 U	0.089	0.002 U	1.83	0.005 U	0.0002 U
10/06	0.002 U	0.002 U	0.027	0.002 U	0.004 U	7.95	0.008 U	0.006 U	0.003 U	0.349	0.002 U	1.9	0.011	0.0002 U
04/07	0.002 U	0.002 U	0.027	0.0005 U	0.004 U	7.77	0.005 U	0.005 U	0.005 U	0.374	0.002 U	1.93	0.01 U	0.0002 U
11/07	0.002 U	0.002 U	0.023	0.0005 U	0.004 U	7.87	0.005 U	0.005 U	0.005 U	0.208	0.002 U	1.72	0.01 U	0.0002 U
04/08	0.002 U	0.003	0.026	0.0005 U	0.004 U	8.58	0.005 U	0.005 U	0.005 U	0.165	0.002 U	2.01	0.01 U	0.0002 U
10/08	0.002 U	0.002	0.025	0.0005 U	0.004 U	8.94	0.005 U	0.005	0.005 U	0.376	0.002 U	2.11	0.011	0.0002 U
05/09	0.0022 U	0.003	0.029	0.0005 U	0.004 U	10.5	0.005 U	0.006	0.005 U	0.163	0.002 U	2.35	0.01 U	0.0002 U
11/09	0.00077 U	0.001 U	0.029	0.0003 U	0.00037 U	10.7	0.0022 J	0.0051 J	0.0026 J	0.032	0.00077 U	2.5	0.0029 J	0.0000300 U
04/10	0.00077 U	0.001 U	0.031	0.0003 U	0.00037 U	8.7	0.0012 J	0.0037 J	0.0019 U	0.44	0.00077 U	2.2	0.012	0.0000300 U
10/10	0.00074 U	0.0013 J	0.028	0.00041 J	0.00037 U	9.8	0.0012 J	0.0043 J	0.0023 J	0.25	0.00074 U	2.4	0.0079 J	0.0000300 U
03/11	0.00074 U	0.001 U	0.029	0.0003 U	0.00037 U	9.2	0.00099 J	0.0045 J	0.0019 U	0.21	0.00074 U	2.2	0.0089 J	0.00017 U
09/11	0.00074 U	0.001 U	0.031	0.0003 U	0.00037 U	9.8	0.0011 J	0.0041 J	0.0019 U	0.23	0.00074 U	2.3	0.009 J	0.00017 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
03/12	0.00074 U	0.001 U	0.03	0.0003 U	0.00037 U	9.5	0.00094 J	0.004 J	0.0019 U	0.28	0.00074 U	2.3	0.0091 J	0.00017 U
09/12	0.00074 U	0.001 U	0.03	0.0003 U	0.00037 U	10.3	0.00074 U	0.0044 J	0.0019 U	0.3	0.00074 U	2.5	0.0099 J	0.00017 U
04/13	0.00074 U	0.001 U	0.029	0.0003 U	0.00037 U	10	0.00074 U	0.005 J	0.0019 U	0.18	0.00074 U	2.4	0.009 J	0.00017 U
10/13	0.00074 U	0.001 U	0.027	0.0003 U	0.00037 U	9.5	0.0014 J	0.0052 J	0.0019 U	0.074	0.00074 U	2.1	0.0034 J	0.00017 U
04/14	0.00074 U	0.001 U	0.028	0.0003 U	0.00037 U	9.8	0.0023 J	0.0049 J	0.0019 U	0.098	0.00074 U	2.3	0.0053 J	0.00017 U
08/14	0.00074 U	0.002 U	0.025	0.0003 U	0.00037 U	8.7	0.00074 U	0.0072 J	0.0019 U	0.022 U	0.00074 U	2	0.0019 U	0.00017 U
04/15	0.002 U	0.002 U	0.026	0.002 U	0.004 U	9.4	0.0015 J	0.0051 J	0.01 U	0.022 U	0.002 U	2.2	0.0034 J	0.0002 U
08/15	0.002 U	0.002 U	0.0268	0.0000700 J	0.0000640 J	9.64	0.000653 J	0.0053	0.000627 J	0.0143 J	0.002 U	2.22	0.0019 J	0.0002 U
03/16	0.001 U	0.002 U	0.0276	0.0000970 J	0.0005 U	8.92	0.0012 J	0.0051	0.002 U	0.0491 J	0.001 U	2.06	0.0042	0.0002 U
09/16	0.002 U	0.004 U	0.0284	0.001 U	0.001 U	9.06	0.0017 J	0.0049	0.0012 J	0.486	0.00025 J	1.95	0.0052	0.0002 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
06/02	0.011	0.21	0.005 U	0.005 U	18	0.002 U	0.005 U	0.33
10/02	0.01	1.9	0.005 U	0.005 U	18	0.002 U	0.005 U	0.09
01/03	0.011	2	0.005 U	0.005 U	20	0.002 U	0.005 U	0.05 U
05/03	0.011	1.9	0.005 U	0.005 U	17	0.002 U	0.005 U	0.05 U
09/03	0.015	2.56	0.002 U	0.001 U	20.1	0.002 U	0.005 U	0.052
04/04	0.011 U	2.01	0.002 U	0.001 U	19.8	0.002 U	0.005 U	0.006
11/04	0.011 U	2.45	0.002 U	0.001 U	19	0.002 U	0.005 U	0.016
06/05	0.011 U	1.91	0.002 U	0.001 U	19.3	0.002 U	0.005 U	0.008
02/06	0.011	2.1	0.003	0.001 U	17.7	0.002 U	0.005 U	0.013
10/06	0.012	1.97	0.002 U	0.001 U	17.6	0.002 U	0.005 U	0.006
04/07	0.01	1.92	0.002 U	0.001 U	17.4	0.002 U	0.01 U	0.006
11/07	0.005 U	1.3	0.002 U	0.001 U	16.4	0.002 U	0.01 U	0.008
04/08	0.011	2.1	0.002 U	0.001 U	17.8	0.002 U	0.01 U	0.006
10/08	0.013	1.93	0.002 U	0.001 U	16.3	0.002 U	0.01 U	0.008
05/09	0.014	1.89	0.05 U	0.001 U	18.5	0.002 U	0.01 U	0.017
11/09	0.012	2.2	0.0078 J	0.00077 U	21.4	0.00039 J	0.00077 U	0.011
04/10	0.011	2	0.0041 J	0.00077 U	19.7	0.0003 U	0.00077 U	0.0084 J
10/10	0.012	2.1	0.0054 J	0.00074 U	19.7	0.0003 U	0.00074 U	0.014
03/11	0.013	2	0.0028 J	0.00074 U	18	0.00048 J	0.00074 U	0.01
09/11	0.011	2	0.0019 U	0.00074 U	18.9	0.0003 U	0.0013 J	0.0078 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
03/12	0.012	2.1	0.0019 U	0.00074 U	18.5	0.0003 U	0.00074 U	0.01
09/12	0.012	2.1	0.0023 J	0.00074 U	19.9	0.0003 U	0.00087 J	0.0098 J
04/13	0.014	2	0.0019 U	0.00074 U	19.9	0.0003 U	0.00074 U	0.0096 J
10/13	0.012	2.1	0.0019 U	0.00074 U	20.5	0.0003 U	0.0014 J	0.015
04/14	0.014	1.9	0.0019 U	0.00074 U	18.7	0.0003 U	0.00088 J	0.0091 J
08/14	0.011	1.9	0.0019 U	0.00074 U	18.4	0.0003 U	0.00074 U	0.012
04/15	0.011	1.9	0.35 U	0.01 U	19.5	0.002 U	0.0011 J	0.016
08/15	0.0118	1.88	0.0012 J	0.001 U	18.7	0.002 U	0.000685 J	0.0246
03/16	0.0135	1.93	0.0011 J	0.0005 U	20.8	0.0005 U	0.00096	0.0083 J
09/16	0.0122	1.69	0.00092 J	0.001 U	17.5	0.001 U	0.0027	0.0132 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-09 - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
10/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
11/09	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
04/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
10/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
03/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
09/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
03/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
09/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
10/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
08/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
03/16	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U	1 U	1 U	5 U	10 U	10 U	10 U	20 U	20 U	1 U	5 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	--	1 U	1 U	--
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1	1 U	--	1 U	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
10/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--	1 U	1 U	--
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-09 - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
11/09	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
04/10	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
10/10	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
03/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
03/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
10/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/14	0.27 U	0.4 U	0.52 JB	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
08/14	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.39 U	0.45 U	--
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	1 U	1 U	--
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	1 U	4 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
06/02	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	3 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
09/03	1 U	1 U	0.5 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
10/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
11/09	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
04/10	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
10/10	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
03/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
03/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
10/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
08/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/15	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1.6 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	5 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U	10 U	1 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-10S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
06/02	71	0.5 U	26	22.4	--	118	3.41	--	6.60	--	--	364	--	--	35	14.3	248	10	--
10/02	80	0.5 U	13	27.5	--	132	1.59	--	6.60	--	--	293	--	--	28	18.4	184	0.5 U	--
01/03	94	0.5 U	5 U	20.8	--	140	1.39	--	6.50	--	--	293	--	--	43	12.3	214	10	--
05/03	92	0.5 U	5 U	11	--	110	0.05 U	--	6.20	--	--	279	--	--	40	10.7	168	3.6	--
09/03	88	0.2 U	12	17.8	--	107	0.584	--	6.44	--	--	292	--	--	20.9	15.7	163	6.9	--
04/04	92	0.2 U	18	64.7	--	120.2	0.351	--	6.67	--	--	445	--	--	18.7	15.6	246	1.2	--
11/04	93	0.2 U	11	51.3	--	118	0.36	--	6.65	--	--	437	--	--	35.6	17.3	237	5.8	--
06/05	75	0.2 U	10 U	24.2	--	96	0.54	--	6.88	--	--	300	--	--	25.6	17.6	175	14	--
02/06	85	0.2 U	10 U	24.9	--	108	1.12	--	6.33	--	--	314	--	--	28.3	12.9	183	27	--
11/07	80	0.2 U	10 U	19.7	--	92.5	0.06 U	--	6.02	--	--	305	--	--	16.7	--	161	0.18	--
04/08	96	0.2 U	13	18.4	--	103	0.44	--	5.77	--	--	318	--	--	20.4	--	88	1.5	--
10/08	112	0.2 U	10 U	19	--	0.5 U	0.048	--	6.14	--	--	288	--	--	--	--	183	60	--
05/09	75	0.2 U	10 U	41.4	--	114	0.58	--	5.95	--	--	371	--	--	30	--	207	154	--
11/09	109	0.12 J	3 J	41.9	--	133	1	--	7.06	--	--	395	--	--	32.5	--	239	0.79	--
04/10	139	0.2 J	13	33	--	152	0.04 J	--	6.14	--	--	358.1	--	--	26.6	--	226	6.39	--

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
10/10	165	0.08 J	6 J	31	--	179	0.2	--	--	7.23	6.72	--	--	446	31.3	--	289	9.04	--
03/11	183	0.58 J	2 U	22.8	--	241	0.07 U	--	--	6.84	6.88	--	350	451	46.7	--	322	19.6	--
09/11	124	0.64 J	2 U	15	--	162	0.78	--	--	5.74	6.67	--	291	366	36.9	19.09	267	5.8	--
03/12	123	0.767 J	4 J	20.7	--	150	0.06	--	--	6.23	7.23	--	393	361	38.5	15.06	228	6.55	--
09/12	99	0.752 J	2 U	13.1	--	126	1.2	--	--	5.95	7.05	--	295	298	33.4	19.77	112	12.8	--
04/13	57	0.182 J	2 U	9.4	9.74	60	0.88	25.3	--	6.97	7.12	--	181	164	12.3	13.52	111	0.16	0.9
10/13	82	0.124 J	3 J	12.3	2.61	45	0.49	151.9	--	6.57	7.45	--	252	222	16.9	18.52	105	0.79	19.4
04/14	66	0.068 J	16	11.1	8.99	89	0.66	111.9	--	5.89	7.24	--	285	194	15.2	9.64	116	2.51	0.4
08/14	82	0.138 J	2 U	11.9	4.97	99	0.34	119.1	--	6.50	7.26	--	215	221	20.2	15.28	140	0.14	13.9
04/15	65	1 U	10 U	9.2	11.05	81	0.48	153.1	7.15	6.33	--	168	147	--	21.8	--	103	0.2	10.1
08/15	72.6	0.2 U	7 J	9.66	4.84	89	0.242	106.5	--	6.40	5.88	--	171	237	9.53	18.13	128	0.457	2.1
03/16	75	0.2 U	10 U	17.2	8.04	92	0.583	152.2	--	6.65	5.90	--	389	289	7.59	11.9	121	2.46	39.1
09/16	76.6	0.2 U	5 J	12.4	0.94	91	0.447	111.6	--	6.58	5.70	--	228.1	245	11.6	19.1	126	7.13	12.4

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
06/02	0.002 U	0.005 U	0.026	0.002 U	0.004 U	31	0.005 U	0.013	0.018	1.2	0.005 U	12	0.24	0.001 U
10/02	0.002 U	0.005 U	0.024	0.002 U	0.004 U	30	0.005 U	0.005 U	0.005 U	0.22	0.005 U	11	0.005 U	0.001 U
01/03	0.002 U	0.005 U	0.056	0.002 U	0.004 U	33	0.005 U	0.005 U	0.005 U	2.2	0.005 U	13	0.093	0.001 U
05/03	0.002 U	0.005 U	0.025	0.002 U	0.004 U	26	0.005 U	0.005 U	0.005 U	0.91	0.005 U	10	0.028	0.001 U
09/03	0.002 U	0.002 U	0.029	0.002 U	0.004 U	26.4	0.008 U	0.006 U	0.008	1.57	0.002 U	10	0.049	0.0002 U
04/04	0.002 U	0.002 U	0.033	0.002 U	0.004 U	31.12	0.008 U	0.006 U	0.003 U	0.009 U	0.002 U	10.3	0.005 U	0.0002 U
11/04	0.002 U	0.002 U	0.077	0.002 U	0.004 U	29.9	0.008 U	0.006 U	0.003	0.778	0.002 U	10.5	0.022	--
06/05	0.002 U	0.002 U	0.039	0.002 U	0.004 U	23.9	0.008 U	0.006 U	0.003 U	2.22	0.002 U	8.82	0.012	0.0002 U
02/06	0.002 U	0.002 U	0.039	0.002 U	0.004 U	27	0.008 U	0.006 U	0.003 U	1.87	0.002 U	9.95	0.007	0.0002 U
11/07	0.002 U	0.002 U	0.071	0.0005 U	0.004 U	23.1	0.005 U	0.005 U	0.005 U	0.05 U	0.002 U	8.46	0.127	0.0002 U
04/08	0.002 U	0.002 U	0.051	0.0005 U	0.004 U	24.1	0.005 U	0.005 U	0.005 U	0.107	0.002 U	10.3	0.039	0.0002 U
10/08	0.002 U	0.002 U	0.082	0.0005 U	0.004 U	30	0.005 U	0.005 U	0.005 U	6.21	0.002 U	10.3	0.311	0.0002 U
05/09	0.0022 U	0.002 U	0.038	0.0005 U	0.004 U	28.1	0.005 U	0.05	0.005 U	21.7	0.002 U	10.7	0.059	0.0002 U
11/09	0.00077 U	0.001 U	0.036	0.0003 U	0.00037 U	32.9	0.002 J	0.0019 U	0.003 J	0.031	0.00077 U	12.7	0.0019 U	0.0000300 U
04/10	0.00077 U	0.001 U	0.036	0.0003 U	0.00037 U	35.9	0.00077 U	0.0019 U	0.0019 U	1.3	0.00077 U	13.4	0.0052 J	0.0000350 J
10/10	0.00074 U	0.001 U	0.079	0.00043 J	0.00037 U	46.5	0.0016 J	0.0019 U	0.0037 J	0.6	0.00074 U	16.5	0.019	0.0000300 U
03/11	0.00074 U	0.001 U	0.049	0.0003 U	0.00037 U	53.4	0.00091 J	0.0019 U	0.0019 U	3.3	0.00074 U	17.5	0.11	0.00017 U
09/11	0.00074 U	0.001 U	0.056	0.0003 U	0.00037 U	42.7	0.0015 J	0.0019 U	0.0036 J	1.9	0.00074 U	13.5	0.22	0.00017 U
03/12	0.00074 U	0.001 U	0.054	0.0003 U	0.00037 U	38.8	0.00082 J	0.0019 U	0.0019 U	1.1	0.00074 U	11.7	0.27	0.00017 U
09/12	0.00074 U	0.001 U	0.047	0.0003 U	0.00037 U	34.4	0.00074 U	0.0019 U	0.0019 U	2	0.00074 U	9.8	0.14	0.00017 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
04/13	0.00074 U	0.001 U	0.017	0.0003 U	0.00037 U	18.7	0.00074 U	0.0019 U	0.0019 U	0.022 U	0.00074 U	5.1	0.0072 J	0.00017 U
10/13	0.00089 J	0.001 U	0.025	0.0003 U	0.00037 U	23.7	0.00078 J	0.0019 U	0.0019 U	0.17	0.00074 U	6.7	0.012	0.00017 U
04/14	0.00074 U	0.001 U	0.02	0.0003 U	0.00037 U	21.6	0.00074 U	0.0019 U	0.0019 U	0.22	0.00074 U	6.5	0.0037 J	0.00017 U
08/14	0.00074 U	0.002 U	0.018	0.0003 U	0.00037 U	22.2	0.00074 U	0.0019 U	0.0019 U	0.022 U	0.00074 U	8	0.0019 U	0.00017 U
04/15	0.002 U	0.002 U	0.017	0.002 U	0.004 U	20.4	0.0011 J	0.01 U	0.01 U	0.022 U	0.002 U	7	0.003 J	0.0002 U
08/15	0.002 U	0.002 U	0.0185	0.0005 U	0.004 U	22.6	0.000338 J	0.0000480 J	0.000866 J	0.0189 J	0.002 U	7.92	0.0018 J	0.0002 U
03/16	0.001 U	0.002 U	0.021	0.0005 U	0.0005 U	23.8	0.0012 J	0.00095	0.00082 J	0.23	0.001 U	7.91	0.006	0.0002 U
09/16	0.002 U	0.004 U	0.0214	0.001 U	0.001 U	23.5	0.004 U	0.00027 J	0.00082 J	1	0.002 U	7.88	0.0146	0.0002 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
06/02	0.005 U	0.88	0.005 U	0.005 U	13	0.002 U	0.005 U	0.068
10/02	0.005 U	8.8	0.005 U	0.005 U	14	0.002 U	0.005 U	0.05 U
01/03	0.005 U	9.3	0.005 U	0.005 U	17	0.002 U	0.005 U	0.05 U
05/03	0.005 U	7.6	0.005 U	0.005 U	11	0.002 U	0.005 U	0.05 U
09/03	0.011 U	8.61	0.002 U	0.001 U	12.3	0.002 U	0.005 U	0.015
04/04	0.011 U	11.6	0.002 U	0.001 U	41.6	0.002 U	0.005 U	0.003
11/04	0.011 U	13.9	0.002 U	0.001 U	33	0.002 U	0.005 U	0.003
06/05	0.011 U	8.3	0.002 U	0.001 U	18.7	0.002 U	0.005 U	0.003 U
02/06	0.011 U	8.88	0.002 U	0.001 U	16.2	0.002 U	0.005 U	0.003
11/07	0.005 U	7.53	0.002 U	0.001 U	13.8	0.002 U	0.01 U	0.005 U
04/08	0.005 U	7.22	0.004	0.001 U	11.4	0.002 U	0.01 U	0.005 U
10/08	0.005 U	7.81	0.002 U	0.001 U	11.4	0.002 U	0.01 U	0.005 U
05/09	0.005 U	6.69	0.05 U	0.001 U	20.5	0.002 U	0.01 U	0.007
11/09	0.0019 U	9.8	0.0064 J	0.00077 U	24.7	0.00034 J	0.00077 U	0.0019 U
04/10	0.0019 U	8.6	0.0019 U	0.00077 U	21.1	0.0003 U	0.00077 U	0.003 J
10/10	0.0023 J	10.1	0.0029 J	0.00074 U	21.5	0.0003 U	0.00074 U	0.0097 J
03/11	0.0019 U	11	0.0019 U	0.00074 U	16.7	0.0003 U	0.00074 U	0.0028 J
09/11	0.0019 U	8.6	0.0019 U	0.00074 U	13	0.0003 U	0.0011 J	0.0051 J
03/12	0.0019 U	9.5	0.0019 U	0.00074 U	12.6	0.0003 U	0.00074 U	0.0049 J
09/12	0.0019 U	9.2	0.0022 J	0.00074 U	10.6	0.0003 U	0.00074 U	0.0056 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
04/13	0.0019 U	5.1	0.0019 U	0.00074 U	5.6	0.0003 U	0.00074 U	0.0027 J
10/13	0.0019 U	9	0.0019 U	0.00074 U	8.9	0.0003 U	0.00074 U	0.0027 J
04/14	0.0019 U	6.2	0.0019 U	0.00074 U	7	0.0003 U	0.00074 U	0.0019 U
08/14	0.0019 U	6.8	0.0019 U	0.00074 U	8	0.0003 U	0.00074 U	0.0086 J
04/15	0.011 U	5.5	0.35 U	0.01 U	5.8	0.002 U	0.01 U	0.0036 J
08/15	0.000407 J	6.75	0.002 U	0.001 U	6.74	0.002 U	0.005 U	0.0068
03/16	0.002 U	6.83	0.002 U	0.0005 U	7.18	0.0005 U	0.0005 U	0.015 U
09/16	0.004 U	6.45	0.004 U	0.001 U	7.64	0.001 U	0.00023 J	0.03 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/09	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
04/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
10/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
03/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
09/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
03/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
09/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
10/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
08/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
03/16	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U	1 U	1 U	5 U	10 U	10 U	10 U	20 U	20 U	1 U	5 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-10S - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	--	1 U	1 U	--
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/09	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
04/10	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-10S - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
10/10	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
03/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
03/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
10/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/14	0.27 U	0.4 U	0.54 JB	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
08/14	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.39 U	0.45 U	--
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	1 U	1 U	--
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	1 U	4 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
06/02	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	3 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
06/05	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/09	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
04/10	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-10S - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
10/10	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
03/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
03/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
10/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
08/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/15	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1.6 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	5 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U	10 U	1 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
06/02	13	0.5 U	5 U	15.2	--	28	3.82	--	5.70	--	--	184	--	--	20	14.4	146	5	--
10/02	10	0.5 U	7	14.4	--	42	4.33	--	5.70	--	--	184	--	--	23	15.5	106	4.5	--
01/03	5	0.5 U	5 U	0.4 U	--	18	1.06	--	5.20	--	--	75	--	--	13	15.2	84	0.5 U	--
05/03	6	0.5 U	5 U	18.7	--	16	0.5	--	4.70	--	--	440	--	--	13.3	14.2	64	0.7	--
09/03	10	0.2 U	10 U	19.6	--	23.8	1.55	--	5.61	--	--	156	--	--	16.7	15.6	76	1.9	--
04/04	2.2	0.2 U	10 U	14.3	--	14.4	0.06 U	--	5.27	--	--	87	--	--	7.68	14.9	36	1.3	--
11/04	20	0.2 U	11	20.1	--	39.6	1.89	--	6.03	--	--	213	--	--	32.4	16.2	123	0.86	--
02/06	11	0.2 U	10 U	21.1	--	23.9	1.06	--	5.67	--	--	150	--	--	19.7	13.8	106	1	--
04/07	12	0.2 U	10 U	17.5	--	31.2	2.67	--	6.02	--	--	152	--	--	25.4	--	112	1.5	--
11/07	14	0.2 U	10 U	16.5	--	36.2	3.9	--	5.60	--	--	206	--	--	21	--	132	0.22	--
04/08	11	0.2 U	10 U	17.5	--	31.5	4.23	--	5.47	--	--	196	--	--	22.4	--	58	0.39	--
10/08	14	0.2 U	10 U	55.2	--	29.3	0.08	--	5.71	--	--	161	--	--	--	--	132	4	--
05/09	2.4	0.2 U	10 U	18.7	--	12.7	0.51	--	5.16	--	--	112	--	--	10.5	--	68	1.8	--
11/09	3	0.13 J	2 U	23.2	--	25	0.22	--	5.27	--	--	108	--	--	9.6	--	88	1.04	--
04/10	6	0.21 J	7 J	15.3	--	36	2.6	--	5.68	--	--	138.1	--	--	24.7	--	103	1.07	--

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH (SU)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity (uS/cm)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10												
10/10	14	0.02 U	2 U	15.7	--	40	4.4	--	--	6.14	5.61	--	--	172	30	--	121	0.12	--
03/11	14	0.06 J	2 U	16.8	--	47	5	--	--	5.84	6.03	--	150	173	26.9	--	133	5.18	--
09/11	11	0.04 U	2 U	20.8	--	63	6.1	--	--	4.14	5.70	--	171	183	28	16.66	109	4.32	--
03/12	9	0.04 U	2 U	22.2	--	40	5.4	--	--	5.57	5.66	--	194	173	26	15.67	117	2.07	--
09/12	5	0.04 U	2 U	21.2	--	39.5	6	--	--	5.37	5.89	--	235	165	26.4	16.16	132	2.77	--
04/13	5 U	0.04 U	2 U	17.5	5.23	29	1.6	170.5	--	5.13	5.58	--	140	114	16.4	15.76	96	5.32	4.3
10/13	9	0.075 J	2 U	21.5	1.01	47	5.5	227.7	--	5.51	6.25	--	179	175	28.7	14.45	72	0.94	21.3
04/14	2	0.058 J	2 U	14.6	8.64	17	0.057 U	228.1	--	4.33	5.38	--	192	87	12.9	12.31	67	0.64	0.01 J
08/14	11	0.118 J	2 U	21	2.49	48	5.7	137.6	--	5.33	6.12	--	171	180	27.7	14.46	144	0.25	9.6
04/15	3	0.067 J	10 U	16.4	9.87	17	0.06 U	291.4	5.38	4.37	--	80	78	--	13.8	--	30	1.18	11.4
08/15	8.28	0.2 U	10 U	17.9	4	45.7	6.61	227.7	--	5.21	5.68	--	147	213	24	14.94	141	1.1	1.1
03/16	5.56	0.119 J	7 J	19.2	5.59	30.5	2.69	295.6	--	4.75	5.41	--	245	194	19.9	13.73	87	1.23	36.7
09/16	10.2	0.2 U	10 U	22.2	3.69	47.5	5.9	159.8	--	5.32	5.30	--	189.2	220	25.2	16.6	131	9.24	17.8

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
06/02	0.002 U	0.005 U	0.13	0.002 U	0.004 U	4.9	0.005 U	0.007	0.007	0.05 U	0.005 U	3.5	0.005 U	0.001 U
10/02	0.002 U	0.005 U	0.16	0.002 U	0.004 U	5.6	0.005 U	0.005 U	0.005 U	0.1	0.005 U	4.3	0.005 U	0.001 U
01/03	0.002 U	0.005 U	0.058	0.002 U	0.004 U	1.9	0.005 U	0.005 U	0.005 U	0.05 U	0.005 U	3.1	0.0093	0.001 U
05/03	0.002 U	0.005 U	0.037	0.002 U	0.004 U	0.74	0.005 U	0.005 U	0.005 U	0.05 U	0.005 U	3.4	0.005 U	0.001 U
09/03	0.002 U	0.002 U	0.097	0.002 U	0.004 U	3.63	0.008 U	0.006 U	0.006	0.189	0.002 U	3.57	0.025	0.0002 U
04/04	0.002 U	0.002 U	0.026	0.002 U	0.004 U	0.507	0.008 U	0.006 U	0.003 U	0.009 U	0.002 U	3.19	0.005 U	0.0002 U
11/04	0.002 U	0.002 U	0.166	0.002 U	0.004 U	7.32	0.008 U	0.006 U	0.003 U	0.029	0.002 U	5.18	0.043	--
02/06	0.002 U	0.002 U	0.071	0.002 U	0.004 U	3.59	0.008 U	0.006	0.003 U	0.087	0.002 U	3.62	0.015	0.0002 U
04/07	0.002 U	0.003	0.109	0.0005 U	0.004 U	4.68	0.005 U	0.005 U	0.005 U	0.05 U	0.002 U	4.74	0.025	0.0002 U
11/07	0.002 U	0.003	0.133	0.0005 U	0.004 U	6.52	0.005 U	0.005	0.01	0.052	0.002 U	4.84	0.034	0.0002 U
04/08	0.002 U	0.002 U	0.114	0.0005 U	0.004 U	4.88	0.005 U	0.005 U	0.005 U	0.162	0.002 U	4.69	0.023	0.0002 U
10/08	0.002 U	0.002 U	0.024	0.0005 U	0.004 U	8.66	0.005 U	0.006	0.005 U	0.252	0.002 U	1.86	0.01 U	0.0002 U
05/09	0.0022 U	0.002	0.025	0.0005 U	0.004 U	0.346	0.005 U	0.005 U	0.005 U	0.082	0.002 U	3.09	0.01 U	0.0002 U
11/09	0.00077 U	0.001 U	0.039	0.0003 U	0.00037 U	0.79	0.0017 J	0.0019 U	0.0031 J	0.23	0.00077 U	3.8	0.0027 J	0.0000300 U
04/10	0.00077 U	0.001 U	0.067	0.0003 U	0.00037 U	2	0.00077 U	0.0019 U	0.0019 U	0.048	0.00077 U	4.8	0.0099 J	0.0000530 J
10/10	0.00074 U	0.0017 J	0.12	0.0004 J	0.00046 J	6.8	0.002 J	0.0033 J	0.0028 J	0.043	0.00075 J	4.9	0.017	0.0000300 U
03/11	0.00074 U	0.001 U	0.13	0.0003 U	0.00037 U	6.7	0.0037 J	0.0031 J	0.0019 U	0.1	0.00074 U	4.9	0.015	0.00017 U
09/11	0.00074 U	0.001 U	0.16	0.0003 U	0.00037 U	5.8	0.0023 J	0.0025 J	0.0019 U	0.092	0.00074 U	4.7	0.015	0.00017 U
03/12	0.00074 U	0.001 U	0.13	0.0003 U	0.00037 U	5.9	0.0017 J	0.0019 U	0.0019 U	0.12	0.00074 U	5.4	0.009 J	0.00017 U
09/12	0.00074 U	0.001 U	0.12	0.0003 U	0.00037 U	5.3	0.0019 J	0.0021 J	0.0019 U	0.13	0.00074 U	6.4	0.0095 J	0.00017 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
04/13	0.00074 U	0.001 U	0.065	0.0003 U	0.00037 U	2.2	0.0015 J	0.0019 U	0.0019 U	0.1	0.00074 U	4.2	0.006 J	0.00017 U
10/13	0.00074 U	0.001 U	0.13	0.0003 U	0.00037 U	7.4	0.0013 J	0.0025 J	0.002 J	0.11	0.00074 U	4.9	0.012	0.00017 U
04/14	0.00074 U	0.001 U	0.025	0.0003 U	0.00037 U	0.36	0.00074 U	0.0019 U	0.0019 U	0.077	0.00074 U	3.2	0.0019 U	0.00017 U
08/14	0.00074 U	0.002 U	0.13	0.0003 U	0.00037 U	7.3	0.0026 J	0.0019 U	0.0019 U	0.022 U	0.00074 U	5.4	0.01	0.00017 U
04/15	0.002 U	0.002 U	0.023	0.002 U	0.004 U	0.31	0.0018 J	0.01 U	0.0061 J	0.11	0.002 U	3.2	0.002 J	0.0002 U
08/15	0.002 U	0.002 U	0.151	0.0005 U	0.000107 J	8.81	0.0015 J	0.0024 J	0.0014 J	0.0592	0.002 U	5.76	0.0079 J	0.0002 U
03/16	0.001 U	0.002 U	0.087	0.00014 J	0.0005 U	3.29	0.0015 J	0.0017	0.002 U	0.0273 J	0.001 U	5.41	0.0074	0.0002 U
09/16	0.002 U	0.004 U	0.159	0.001 U	0.001 U	8.64	0.0039 J	0.0024	0.004 U	0.265	0.0003 J	6.31	0.0121	0.0002 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
06/02	0.005 U	0.17	0.005 U	0.005 U	19	0.002 U	0.005 U	0.07
10/02	0.005 U	1.8	0.005 U	0.005 U	21	0.002 U	0.005 U	0.05 U
01/03	0.005 U	0.94	0.005 U	0.005 U	14	0.002 U	0.005 U	0.05 U
05/03	0.005 U	0.83	0.005 U	0.005 U	11	0.002 U	0.005 U	0.05 U
09/03	0.022	1.75	0.002 U	0.001 U	17.4	0.002 U	0.005 U	0.016
04/04	0.011 U	1.13	0.002 U	0.001 U	9.58	0.002 U	0.005 U	0.003
11/04	0.011 U	2.4	0.002 U	0.001 U	22.9	0.002 U	0.005 U	0.06
02/06	0.011 U	1.35	0.003	0.001 U	14.5	0.002 U	0.005 U	0.011
04/07	0.005 U	1.49	0.002	0.001 U	17.1	0.002 U	0.01 U	0.007
11/07	0.017	1.72	0.002 U	0.001 U	18.7	0.002 U	0.01 U	0.015
04/08	0.005 U	1.56	0.005	0.001 U	15.1	0.002 U	0.01 U	0.01
10/08	0.014	1.96	0.002 U	0.001 U	15	0.002 U	0.01 U	0.024
05/09	0.005 U	0.607	0.05 U	0.001 U	9.4	0.002 U	0.01 U	0.005 U
11/09	0.0019 U	0.97	0.0071 J	0.00077 U	12.3	0.00032 J	0.0012 J	0.0053 J
04/10	0.0019 U	1.2	0.0024 J	0.00077 U	14.8	0.0003 U	0.00077 U	0.0066 J
10/10	0.0034 J	1.8	0.0064 J	0.00074 U	18.3	0.0003 U	0.00074 U	0.022
03/11	0.0039 J	1.7	0.0035 J	0.012	17.5	0.0003 U	0.00074 U	0.014
09/11	0.0023 J	1.5	0.0043 J	0.00074 U	14.5	0.0003 U	0.00082 J	0.012
03/12	0.0019 U	1.7	0.0021 J	0.00074 U	16	0.0003 U	0.00074 U	0.0096 J
09/12	0.0024 J	1.6	0.0047 J	0.00074 U	17.3	0.0003 U	0.00074 U	0.012

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
04/13	0.0019 U	1	0.0025 J	0.00074 U	12.4	0.0003 U	0.00086 J	0.014
10/13	0.0027 J	1.9	0.0028 J	0.00074 U	19.1	0.0003 U	0.00074 U	0.017
04/14	0.0019 U	0.57	0.0019 U	0.00074 U	9.7	0.0003 U	0.00074 U	0.0033 J
08/14	0.0019 U	1.8	0.0019 U	0.00074 U	17.9	0.0003 U	0.00074 U	0.014
04/15	0.011 U	0.63	0.35 U	0.01 U	10.3	0.002 U	0.01 U	0.0083 J
08/15	0.003 J	1.83	0.0022	0.001 U	18.1	0.002 U	0.0004 J	0.0215
03/16	0.0019 J	1.22	0.00089 J	0.0005 U	14.9	0.0005 U	0.0005 U	0.015 U
09/16	0.0037 J	1.87	0.0022 J	0.001 U	18.7	0.001 U	0.0018	0.014 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
06/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25 U	5 U	5 U	5 U	10 U	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
11/09	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
04/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5	
10/10	0.33 U	0.29 U	0.22 U	0.29 U	0.15 U	0.17 U	0.5 U	0.96 U	0.3 U	0.25 U	0.33 U	0.23 U	0.15 U	2.1 U	0.78 U	0.41 U	3.1 U	1.1 U	0.16 U	0.33 U
03/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
09/11	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
03/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
09/12	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
10/13	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
08/14	0.35 U	0.22 U	0.34 U	0.33 U	0.28 U	0.29 U	0.6 U	1.5 U	0.28 U	0.38 U	0.32 U	0.24 U	0.27 U	1.8 U	1.3 U	1.5 U	3.1 U	1.2 U	0.23 U	0.32 U
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.5 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	4.6 J	5 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U
03/16	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	1 U	5 U	1 U	1 U	5 U	10 U	10 U	10 U	20 U	20 U	1 U	5 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-11 - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
06/02	1 U	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	--	1 U	--	1 U	1 U	--
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	25	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.4	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	11	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.9	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2.1	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	--	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	13	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U
11/09	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	17.3	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
04/10	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	1.2	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-11 - Volatile Organic Compounds

	Bromodichloromethane (ug/L)	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)
MCL	80	80			5	100		80		70		80	700	10000				5	10000
10/10	0.23 U	0.28 U	0.24 U	0.12 U	0.25 U	0.16 U	0.19 U	0.23 U	0.16 U	0.17 U	0.18 U	0.26 U	0.23 U	--	0.24 U	0.18 U	0.22 U	0.32 U	--
03/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.29 J	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/11	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.71 J	--
03/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.93 J	0.33 J	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
09/12	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	7.3	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
10/13	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
04/14	0.27 U	0.4 U	0.49 JB	0.23 U	0.31 U	0.19 U	0.33 U	8.2	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.31 U	0.45 U	--
08/14	0.27 U	0.4 U	0.39 U	0.23 U	0.31 U	0.19 U	0.33 U	0.21 U	0.31 U	0.32 U	0.31 U	0.45 U	0.34 U	--	0.42 U	0.33 U	0.39 U	0.45 U	--
04/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	8.4	1 U	1 U	1 U	1 U	1 U	--	1 U	2 U	1 U	1 U	--
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.42 J	1 U	1 U	1 U
03/16	1 U	4 U	1 U	5 U	1 U	1 U	1 U	7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	4 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.4 J	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
06/02	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	3 U
10/02	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
01/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
05/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	3 U
09/03	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
04/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U
11/04	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
02/06	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/07	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
10/08	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
05/09	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
11/09	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
04/10	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Volatile Organic Compounds

	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100	5	1000	100			5			2	10000
10/10	0.1 U	0.28 U	0.19 U	0.2 U	0.14 U	0.6 U	0.33 U	0.24 U	0.64 U	0.16 U	0.61 U
03/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/11	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
03/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
09/12	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
10/13	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
08/14	0.24 U	0.35 U	0.23 U	0.26 U	0.29 U	0.86 U	0.33 U	0.24 U	1.6 U	0.3 U	0.66 U
04/15	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1.6 U	1 U	1 U
08/15	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/16	5 U	1 U	1 U	1 U	1 U	50 U	1 U	1 U	10 U	1 U	1 U
09/16	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U

Shaded concentrations represent MCL/GWPS exceedances

Historical Groundwater Analytical Results 2017 – 2025

Berlin Landfill

Monitoring Location B-MW-01S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
03/17	169	0.2 U	8 J	22	3.06	190	0.271	85.1	5.83	5.89	491.3	514	39.8	13	286	--	2.13	4.5
09/17	205	0.2 U	21	8.58	1.46	206	0.587	194.9	5.99	6.90	416.3	461	6.37	19.4	275	--	10.5	8
04/18	200	0.1 U	10 U	40	1.39	--	0.091	136.6	5.93	6.38	493.9	640	28	13.8	320	--	0.39	6.1
09/18	140	0.1 U	15	83.7	0.37	--	0.05 U	106.9	5.67	6.16	650	540	28.4	25.3	400	--	2	0.7
03/19	1 U	0.7 JB	10 U	2.77	2.99	--	0.26	263.5	6.06	6.09	193.2	270	1.4	6.1	100	--	4.9	0
08/19	130	1 U	16	37.7	0.67	174.15	0.361 B	84.9	5.94	5.86	476.3	4700	29	21.7	240	--	3.7	--
03/20	221	0.1 U	6.7 JB	28.6	3.41	216	0.2 U	232	6.52	6.69	447	522	25.8	12.2	304	--	2.47	4.5
08/20	126	0.1 U	29.3 B	38.9	0.47	144	0.12 J	94.4	6.06	6.10	482.9	468	27.8	20.9	265	--	6.5	18.43
03/21	211	0.1 U	11.4	5.69	4.98	184	0.241	145.5	6.78	6.76	312	431	4.5	10.4	262	--	6.77	12.8
07/21	154	0.05 U	20.1 B	29.6	0.67	152	0.011 U	110	5.76	6.21	442.9	467	41.6	19.2	274	--	21.3	8.76
03/22	190	0.05 J	20.2	18.1	9.77	209	0.442 J	113.1	6.52	6.73	388.3	448.6	16.4	12.6	258	--	37.5	29.18
08/22	166	0.02 J	20.0 B	64.5	2.20	223	0.048 J	140.8	6.11	6.38	563	570.2	31.0	21.9	332	--	2.39	4.46
04/23	144	0.015 U	11.5	40.4	2.75	203	0.011 U	199.4	6.68	6.67	450.9	496.7	41.5	15.5	281	--	3.53	6.47
09/23	138	0.03 J	17	50.4	0.61	192	0.029 J	159.6	6.11	6.26	520	511.7	39.8	22.5	299	--	7.96	6.9
03/24	192	0.015 U	12.5	6.44	4.66	203	0.081	169.2	6.60	6.97	329.5	400	4.2	12.3	222	--	1.60	3.5

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-01S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
08/24	163	0.033	15.1	23.3	1.81	179	0.025	20.8	6.17	6.87	459	436	29.2	24.3	251	14.3	11.9	28.2
03/25	29.0	0.015 U	3 U	21.4	0.27	30.2	0.998	173.2	6.10	6.66	139.2	153.2	10.1	13.7	122	14.3 U	1.31	2.1

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
03/17	0.002 U	0.004 U	0.0569	0.001 U	0.001 U	50.5	0.0013 J	0.00036 J	0.0035 J	0.159 J	0.00072 J	15.6	0.033	0.0002 U
09/17	0.0006 J	0.0011 J	0.0476	0.001 U	0.00018 J	56.5	0.0013 J	0.00057 J	0.0073	0.709	0.0024	15.8	0.0577	0.0002 U
04/18	0.001 U	0.001 U	0.0514	0.001 U	0.000201 J	61	0.0007 J	0.0003 J	0.0059 B	0.23	0.0006 J	19	0.0684	0.0002 U
09/18	0.0004 J	0.0036 B	0.0753	0.0003 J	0.000447 JB	--	0.0017 J	0.0018 JB	0.0029 J	1.5	0.001 J	--	0.228	0.0002 U
03/19	0.0006 J	0.0008 JB	0.0196	0.001 U	0.000164 JB	31	0.0008 JB	0.0003 JB	0.0054 J	0.47	0.0018 J	8.2	0.0287	0.0002 U
08/19	0.002 U	0.0027	0.0711	0.0005 U	0.001 U	45.6	0.0015 J	0.00063 J	0.04 U	1.82	0.003 U	14.6	0.129	0.0002 U
03/20	0.001 U	0.001 U	0.0552	0.001 U	0.001 U	55.2	0.00163	0.001 U	0.00257	0.188	0.001 U	19.1	0.0189	0.0001 U
08/20	0.001 U	0.001 U	0.0701	0.001 U	0.001 U	33.8	0.001 U	0.001 U	0.00429 J	0.542	0.00158 J	14.5	0.0682	0.0001 U
03/21	0.001 U	0.001 U	0.0347	0.001 U	0.001 U	47.7	0.00688 J	0.00213 J	0.0103 B	0.67	0.00221	15.7	0.029	0.0001 U
07/21	0.001 U	0.00115 J	0.0641	0.001 U	0.001 U	35.1	0.00497 J	0.001 U	0.00349 JB	1.84	0.00336	15.6	0.093	0.0001 U
03/22	0.001 U	0.00205	0.0452	0.001 U	0.001 U	54.7	0.00378 J	0.001 U	0.00728 J	2.05	0.00728	17.5	0.0821	0.0001 U
08/22	0.00100 U	0.00100 U	0.0773	0.00100 U	0.00100 U	56.6	0.00272 J	0.00100 U	0.00259 J	0.205	0.00100 U	19.8	0.0335	0.000100 U
04/23	0.00100 U	0.00100 U	0.0593	0.00100 U	0.00100 U	50.7	0.00104 J	0.00100 U	0.00114 J	0.156	0.00100 U	18.5	0.0205	0.000100 U
09/23	0.00100 U	0.00100 U	0.0702	0.00100 U	0.00100 U	51	0.00148 J	0.00100 U	0.00204 J	0.374	0.00100 U	15.6	0.0527	0.000100 U
03/24	0.00100 U	0.00100 U	0.0358	0.00100 U	0.00100 U	54.1	0.00100 U	0.00100 U	0.00635 J	0.0673 J	0.00100 U	16.4	0.0142	0.000100 U
08/24	0.00100 U	0.00118 J	0.0702	0.00100 U	0.00100 U	43.8	0.00276	0.00100 U	0.00319	0.889	0.00188	16.9	0.0430	0.000100 U
03/25	0.00100 U	0.00100 U	0.0195	0.00100 U	0.00100 U	7.15	0.00106 J	0.00116 J	0.00646 J	0.314	0.00100 U	2.99	0.0578	0.000100 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
03/17	0.00085 J	1.49	0.0033 J	0.001 U	21.6	0.001 U	0.00072 J	0.0117 J
09/17	0.004 U	2.93	0.00077 J	0.001 U	8.68	0.001 U	0.0033	0.0271 J
04/18	0.0016	2.1	0.0024 J	0.001 U	21	0.001 U	0.0006 J	0.0378
09/18	0.0024 J	3.4	0.0028 J	0.0001 J	36	0.0001 J	0.0006 J	0.0427
03/19	0.0019 JB	2	0.005 U	0.001 U	3.9 B	0.0001 J	0.0021 J	0.0355
08/19	0.002 J	2.29	0.002 U	0.0005 U	27.5	0.0005 U	0.0012 J	0.0435 B
03/20	0.00128	1.87	0.00187	0.001 U	18.6	0.001 U	0.001 U	0.0203
08/20	0.001 U	2.53	0.001 U	0.001 U	30.5	0.001 U	0.00215 J	0.0175
03/21	0.00414 J	2.14	0.001 U	0.001 U	7.22	0.001 U	0.00188 J	0.0432 B
07/21	0.00327 J	2.05	0.001 U	0.001 U	22.7	0.001 U	0.00264 J	0.0224 B
03/22	0.00213 J	1.92 B	0.00559 J	0.001 U	10.7	0.001 U	0.00786 J	0.0268
08/22	0.00100 U	2.57	0.00100 U	0.00100 U	28.4	0.00100 U	0.00133 J	0.00817 JB
04/23	0.00100 U	1.59 B	0.00100 U	0.00100 U	22.4	0.00100 U	0.00112	0.00400 U
09/23	0.00100 U	2.25	0.00100 U	0.00100 U	28.8	0.00100 U	0.00164 J	0.00788 JB
03/24	0.00100 U	2.57	0.00100 U	0.00100 U	8.93	0.00100 U	0.00118 J	0.0235
08/24	0.00181 J	2.41	0.00106 J	0.00100 U	28.2	0.00100 U	0.00272	0.0145
03/25	0.00171 J	3.37	0.00100 U	0.00100 U	17.7	0.00100 U	0.00149 J	0.0146

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - PFAS Compounds

	Perfluoro(2-propoxypropanoic) acid (HFPODA) (ng/L)	Perfluorobutanesulfonic acid (PFBS) (ng/L)	Perfluorohexanesulfonic acid (PFHxS) (ng/L)	Perfluorononanoic acid (PFNA) (ng/L)	Perfluorooctanesulfonic acid (PFOS) (ng/L)	Perfluorooctanoic acid (PFOA) (ng/L)
MCL	10		10	10	4	4
08/24	7.69 U	5.75	5.21	2.20	47.5	32.5
03/25	8.36 U	0.93 J	1.17 J	2.09 U	3.54 J	2.79 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-01S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	--	3.6 JB	--	1 U	1 U	1 U	1 U
03/19	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U	--	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	2.29 B
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.048 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.048 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-01S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-01S - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000	100
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/19	10 U	5 U	5 U	5 U	10 U	5 U	10 U	--	5 U	5 U	5 U	5 U	5 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1.02 B	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-01S - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000	100
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Volatile Organic Compounds

	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL			5			2	10000
03/17	1 U	5 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	5 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	5 U	1 U	--	5 U	1 U	1 U
09/18	1 U	5 U	1 U	1 U	5 U	1 U	2 U
03/19	5 U	--	5 U	10 U	10 U	10 U	5 U
08/19	1 U	5 U	1 U	1 U	5 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-01S - Volatile Organic Compounds

	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL			5			2	10000
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
03/17	90.1	0.227	34	8.21	1.02	630	0.184	136.9	5.99	5.64	1291	1285	741	15.6	991	--	0.664	0.7
09/17	2 U	0.514	34	12.6	0.46	472	0.157	497.8	1.56	3.19	1456	1681	1180	17.8	1460	--	80.4	100.8
04/18	1 U	0.1 U	10 U	6.21	1.03	--	0.05 U	380	3.25	3.44	639	700	315	16.5	410	--	2	8.4
09/18	1 U	0.17 J	6.7 J	3.72	1.95	--	0.05 U	377.4	3.38	4.29	411.7	350	154	22.7	260	--	4.4	4.4
03/19	1 U	0.14 JB	10 U	5.53	0.35	--	0.1 U	400.9	4.67	4.05	343.4	350	112	14.5	120	--	1.3 B	0
08/19	1 U	1 U	24	6.33	3.87	70.92	2.3	434	4.06	3.80	214	180	75	18.7	170	--	2.3	--
03/20	1 U	0.1 U	3 U	7.2	0.96	58.7	0.2 U	429	3.76	3.84	249	268	88.1	16.1	138	--	0.5 U	2.7
08/20	1 U	0.1 U	12.5 B	3	0.39	42.6	0.4	310.4	4.20	4.19	185.8	191	73.2	20	130	--	1.77	8.67
03/21	1 U	0.1 U	4.9 J	2.96	0.85	34.3	0.05 U	425.7	3.89	3.97	143.4	177	53	14.4	88	--	18.6	56.4
07/21	5 U	0.05 U	5.2 JB	1.73 J	4.51	29.7	0.056 J	375	4.10	4.54	103.7	110	39.2	15.7	82.5 B	--	7.24	21.6
03/22	5 U	0.02 U	4 J	7.09	4.88	35.1	0.081 J	433.6	3.74	3.82	179.7	191.5	28.8	17.1	85	--	12.4	19.26
08/22	5.0 U	0.02 J	13.2 B	2.51	20.41	33	0.018 J	406.3	3.92	4.11	122.7	141.4	38.0	18.5	79.5	--	1.15	12.12
04/23	5.0 U	0.015 U	4.9 J	3.78 B	0.95	34	0.017 B	431.7	4.24	3.92	151.7	158.5	40.4	16.9	73.5	--	4.71	13.16
09/23	5.0 U	0.015 U	10.4	3.11	7.90	39	0.026 J	385.4	4.23	4.40	132.9	134.7	45.1	19	84.0	--	6.53	14.2
03/24	5.0 U	0.015 U	3 U	4.64	1.29	39	0.011 U	272	4.77	5.21	95.4	107.5	29.7	15.6	64.0	--	2.64	24.9

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
08/24	15.3	0.051	4.76	3.16	2.06	38.6	0.019	50.1	5.45	5.93	132.9	124.7	33.5	20.7	79.3	14.1 U	11.0	44.22
03/25	21.6	0.015 U	3 U	7.90	6.72	49.3	0.060	249.8	5.44	6.05	121.9	133.8	30.5	16.1	92.2	13.8 U	0.443	17.22

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
03/17	0.002 U	0.004 U	0.234	0.001 U	0.001 J	176	0.00086 J	0.0496	0.0014 J	0.157 J	0.00018 J	45.9	10.2	0.0002 U
09/17	0.002 U	0.0259	0.0587	0.0197	0.0016	134	0.0025 J	0.307	0.0045	18.5	0.0018 J	33.1	7.86	0.0002 U
12/17	--	0.002	--	0.0005	--	--	--	--	--	--	--	--	--	--
04/18	0.001 U	0.001 U	0.0266	0.0033	0.000357	50	0.0024	0.0515	0.0946	2.6	0.0007 J	17	1.61	0.0002 U
09/18	0.0003 J	0.0024 B	0.0431	0.0034	0.000438 JB	--	0.0019 J	0.0258	0.0013 J	0.23 B	0.0002 J	--	0.64	0.0002 U
03/19	0.0002 J	0.001 U	0.0379	0.0015 J	0.000196 JB	22	0.002 U	0.022	0.0065 J	3	0.0004 J	7	0.775	0.0002 U
08/19	0.002 U	0.002 U	0.0346	0.00079 J	0.0022 J	18.1	0.0011 J	0.0115	0.04 U	0.644	0.003 U	6.23	0.395	0.0002 U
03/20	0.001 U	0.001 U	0.0291	0.001 U	0.001 U	14.1	0.00155	0.0197	0.001 U	3.2	0.001 U	5.71	0.609	0.0001 U
08/20	0.001 U	0.001 U	0.0376	0.001 U	0.001 U	10.7	0.00115 JB	0.0121 B	0.00582 J	7.33	0.001 U	3.83	0.311	0.0001 U
03/21	0.001 U	0.001 U	0.0345	0.001 U	0.001 U	8.62	0.00107 J	0.0084 J	0.0293 B	5.24	0.001 U	3.1	0.29	0.0001 U
07/21	0.001 U	0.001 U	0.046	0.001 U	0.00113 J	7.52	0.001 U	0.00523 J	0.001 U	2.43	0.001 U	2.65	0.182	0.0001 U
03/22	0.001 U	0.001 U	0.0399	0.001 U	0.001 U	8.77	0.00336 J	0.00753 J	0.0124	2.09	0.00101 J	3.19	0.267	0.0001 U
08/22	0.00100 U	0.00100 U	0.0529	0.00100 U	0.00100 U	8.87	0.00670 J	0.00674 J	0.00507 J	1.01	0.00100 U	2.65	0.227	0.000100 U
04/23	0.00100 U	0.00100 U	0.0411	0.00100 U	0.00100 U	9.23	0.00218	0.00449 J	0.00100 U	1.12	0.00100 U	2.66	0.231	0.000100 U
09/23	0.00100 U	0.00100 U	0.0391	0.00100 U	0.00100 U	10.1	0.00100 U	0.00413 J	0.00100 U	2.11	0.00100 U	3.34	0.238	0.000100 U
03/24	0.00100 U	0.00100 U	0.0531	0.00100 U	0.00100 U	11.1	0.00250 J	0.00542 J	0.00100 U	2.19	0.00100 U	2.75	0.245	0.000100 U
08/24	0.00100 U	0.00100 U	0.0775	0.00100 U	0.00100 U	10.4	0.00227	0.00251	0.00100 U	9.53	0.00100 U	3.04	0.172	0.000100 U
03/25	0.00100 U	0.00100 U	0.0789	0.00100 U	0.00100 U	12.2	0.00544 J	0.00559 J	0.00100 U	0.0679 J	0.00100 U	4.6	0.137	0.000100 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
03/17	0.0035 J	9.72	0.004 U	0.001 U	15.6	0.00096 J	0.001 U	0.03 U
09/17	0.263	24.5	0.0012 J	0.001 U	12.7	0.0003 J	0.0005 J	1.1
12/17	--	--	--	--	--	--	--	--
04/18	0.0447	5.9	0.0005 J	0.001 U	6.1	0.001 U	0.005 U	0.129
09/18	0.0236	7	0.0017 J	0.0002 J	4.3	0.0003 J	0.005 U	0.0558
03/19	0.0096 J	3.5	0.005 U	0.001 U	4.1	0.0002 J	0.005 U	0.0699
08/19	0.0091 J	3.79	0.002 U	0.0005 U	3.58	0.0005 U	0.001 U	0.0367 B
03/20	0.00726	2.52	0.00133	0.001 U	4.15	0.001 U	0.001 U	0.055
08/20	0.00806 J	2.91	0.001 U	0.001 U	3.51	0.001 U	0.001 U	0.0461
03/21	0.00329 J	1.81	0.001 U	0.001 U	2.52	0.001 U	0.001 U	0.0434 B
07/21	0.00281 J	1.74	0.001 U	0.001 U	2	0.001 U	0.001 U	0.0196 B
03/22	0.00558 J	1.75 B	0.001 U	0.001 U	3	0.001 U	0.001 U	0.0232
08/22	0.00100 U	1.38	0.00100 U	0.00100 U	2.41	0.00100 U	0.00100 U	0.0184 B
04/23	0.00221 J	1.16 B	0.00100 U	0.00100 U	3.13 B	0.00100 U	0.00100 U	0.00400 U
09/23	0.00100 U	1.19	0.00100 U	0.00100 U	3.22	0.00100 U	0.00100 U	0.00400 U
03/24	0.00253 J	1.36	0.00100 U	0.00100 U	3.17	0.00100 U	0.00100 U	0.00400 U
08/24	0.00163 J	1.61	0.00100 U	0.00100 U	3.69	0.00100 U	0.00100 U	0.00459 B
03/25	0.00387 J	1.4	0.00100 U	0.00100 U	3.44	0.00100 U	0.00100 U	0.00400 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - PFAS Compounds

	Perfluoro(2-propoxypropanoic) acid (HFPODA) (ng/L)	Perfluorobutanesulfonic acid (PFBS) (ng/L)	Perfluorohexanesulfonic acid (PFHxS) (ng/L)	Perfluorononanoic acid (PFNA) (ng/L)	Perfluorooctanesulfonic acid (PFOS) (ng/L)	Perfluorooctanoic acid (PFOA) (ng/L)
MCL	10		10	10	4	4
08/24	7.18 U	1.31 J	1.64 U	1.00 J	2.11	10.5
03/25	7.73 U	1.57 J	1.77 U	1.93 U	1.38 J	7.66

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-02S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	4.6 J	5 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5.7	5 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	3.12 JB	5 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	--	5 U	--	1 U	1 U	1 U
03/19	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U	--	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	81.1	5 U	1 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	8.7 B	5 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.046 U	0.018 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.048 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.048 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Volatile Organic Compounds

	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)
MCL	80			5	100		80			70		80	700	10000				5	10000	100	5
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U
03/19	5 U	10 U	5 U	5 U	5 U	10 U	5 U	10 U	--	5 U	5 U	5 U	5 U	5 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U
08/19	0.771 JB	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	0.314 JB	1 U	1 U	1 U	1 U	1 U	0.345 JB	1 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Volatile Organic Compounds

	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)
MCL	80			5	100		80			70		80	700	10000				5	10000	100	5
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-02S - Volatile Organic Compounds

	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	1000	100			5			2	10000
03/17	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	5 U	1 U	--	5 U	1 U	1 U
09/18	1 U	1 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U
03/19	5 U	5 U	5 U	--	5 U	10 U	10 U	10 U	5 U
08/19	1 U	1 U	1 U	5 U	1 U	1 U	5 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-02S - Volatile Organic Compounds

	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	1000	100			5			2	10000
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
03/17	106	0.2 U	12	8.76	6.96	194	0.567	91.1	6.76	5.80	428.8	457	88.4	13.7	282	--	12.2	9.2
09/17	40.3	0.2 U	9 J	6.4	5.91	147	0.825	91.8	6.58	6.44	305.4	355	110	16.6	232	--	20.9	12.4
04/18	50	0.37	4.9 J	7.51	7.83	--	0.46	265.2	6.41	6.06	254.5	320	70.9	12.5	--	--	1.8	5
09/18	170	0.1 U	15	6.7	1.8	--	0.69	191.5	6.44	6.28	471.6	480	62.2	20.3	310	--	3.4	5.7
03/19	14 B	0.13 JB	2.7 JB	7.71	7.4	--	0.58	293.6	6.21	6.71	152.7	210	18.2	11.1	40	--	7.4	0
08/19	150	1 U	33	9.57	0.81	217.65	0.486 B	141.6	6.22	6.04	458.3	490	63	19.1	270	--	53	--
03/20	65.5	0.1 U	7.7 JB	8.1	5.7	84.8	0.25	232	6.59	6.72	205	234	37.3	13.1	154	--	13.6	15
08/20	102	0.1 U	19.8 B	7.4	0.86	172	0.2 J	82.2	6.55	6.53	392.9	417	90.2	19.6	267	--	6.74	14.8
03/21	148	0.1 U	10.7	8.88	1.4	193	0.406	164.4	6.76	6.62	380.8	485	90	11.7	244	--	4.58	11.1
07/21	108	0.13 J	14.6 B	4.84 J	2.42	111	0.094 J	51	6.30	6.69	267.4	302	37.1	14.7	203 B	--	37.3	25.06
03/22	59	0.02 U	13.8	7.42	11.61	76.5	0.235 J	157.6	6.43	6.69	167.1	192.8	27.8	17.6	117	--	11.5	74.18
08/22	105	0.08	14.7 B	7.73	3.13	148	0.283 J	92.6	6.31	6.59	313.8	348.2	57.3	18.8	219	--	25.9	27.47
04/23	93.2	0.052 J	4.6 J	5.84	--	191	0.184	--	7.43	6.62	--	415.4	105	--	271	--	7.08	--
09/23	127	0.163 J	16.4	11.7	0.76	239	1.45	173.6	6.33	6.58	480.1	529.2	117	16.3	344	--	8.93	9.9
03/24	39.0	0.015 U	4.15 J	10.4	8.5	62	0.534	182.3	6.28	6.70	134.8	168.7	18.7	12	92.0	--	5.46	8.4

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
08/24	113	0.273	27.3	8.05	4.19	181	0.019	-22.8	6.40	6.69	352.9	400.067	81.8	18.6	265	12.2	296	21.48
03/25	28.0	0.025	15.5	12.8	5.91	94.1	0.631	179.2	6.43	6.67	218	247	79.7	11.8	180	37.6	22.9	6.2

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
03/17	0.002 U	0.004 U	0.0403	0.001 U	0.001 U	64.5	0.002 J	0.0004 J	0.0027 J	2.16	0.00017 J	8.13	0.318	0.0002 U
09/17	0.002 U	0.004 U	0.0609	0.001 U	0.001 U	47.9	0.00093 J	0.00066 J	0.0028 J	4.91	0.00023 J	6.77	0.534	0.0002 U
04/18	0.001 U	0.001 U	0.0293	0.001 U	0.00012 J	33	0.0012 J	0.0002 J	0.0031 B	1.5	0.001 U	4.9	0.365	0.0002 U
09/18	0.001 U	0.001 JB	0.0358	0.001 U	0.000133 JB	--	0.002 U	0.0006 JB	0.0026 J	1.1	0.001 U	--	0.183	0.0002 U
03/19	0.0002 J	0.001 U	0.0273	0.001 U	0.000105 JB	19	0.0012 JB	0.0005 JB	0.002 J	3.6	0.0002 J	3.4	0.293	0.0002 U
08/19	0.002 U	0.00081 J	0.0561	0.0005 U	0.00041 J	65.8	0.0014 J	0.00082 J	0.04 U	6.41	0.003 U	12.9	0.551	0.0002 U
03/20	0.001 U	0.001 U	0.0328	0.001 U	0.001 U	24.8	0.00154	0.001 U	0.00177	1.78	0.001 U	5.58	0.196	0.0001 U
08/20	0.001 U	0.001 U	0.0376	0.001 U	0.001 U	53.1	0.00184 JB	0.00125 JB	0.00487 J	1.57	0.001 U	9.63	0.239	0.0001 U
03/21	0.001 U	0.001 U	0.0356	0.001 U	0.001 U	51.7	0.00127 J	0.001 U	0.00519 JB	0.69	0.001 U	15.5	2.18	0.0001 U
07/21	0.001 U	0.001 U	0.0563	0.001 U	0.001 U	33	0.001 U	0.00224 J	0.00209 J	8.08	0.001 U	6.85	5.77	0.0001 U
03/22	0.001 U	0.001 U	0.0267	0.001 U	0.001 U	23	0.00171 J	0.001 U	0.00224 J	3.44	0.001 U	4.63	1.21	0.0001 U
08/22	0.00100 U	0.00100 U	0.0374	0.00100 U	0.00100 U	45.7	0.00887 J	0.00100 U	0.00343 J	3.57	0.00100 U	8.31	0.419	0.000100 U
04/23	0.00100 U	0.00100 U	0.0339	0.00100 U	0.00100 U	56.2	0.00202 J	0.00100 U	0.00200 J	0.822	0.00100 U	12.3	0.0510	0.000100 U
09/23	0.00100 U	0.00100 U	0.0488	0.00100 U	0.00100 U	74	0.00690 J	0.00101 J	0.00188	1.25	0.00100 U	13.1	0.188	0.000100 U
03/24	0.00100 U	0.00100 U	0.0315	0.00100 U	0.00100 U	18.2	0.00365 J	0.00100 U	0.00188 J	1.19	0.00100 U	4	0.349	0.000100 U
08/24	0.00100 U	0.00172 J	0.108	0.00100 U	0.00100 U	57	0.0106 J	0.00312	0.0198 J	36.5	0.00132	9.35	3.03	0.000100 U
03/25	0.00100 U	0.00100 U	0.0427	0.00100 U	0.00100 U	28.5	0.00264 J	0.00161 J	0.00531 J	11.8	0.00100 U	5.6	0.777	0.000100 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
03/17	0.0019 J	6.17	0.004 U	0.001 U	7.41	0.001 U	0.00051 J	0.03 U
09/17	0.004 U	6.47	0.004 U	0.001 U	5.13	0.001 U	0.0004 J	0.03 U
04/18	0.0011	4.8	0.005 U	0.001 U	3.8	0.001 U	0.005 U	0.0073
09/18	0.0024 J	6.5	0.005 U	0.001 U	7.1	0.001 U	0.005 U	0.0066 JB
03/19	0.0019 JB	4.4	0.005 U	0.001 U	4	0.001 U	0.0006 J	0.002 JB
08/19	0.0011 J	5.42	0.002 U	0.0005 U	10.4	0.0005 U	0.001 U	0.0087 JB
03/20	0.001 U	5.41	0.001 U	0.001 U	4.74	0.001 U	0.001 U	0.004 U
08/20	0.00107 J	6.37	0.001 U	0.001 U	5.18	0.001 U	0.001 U	0.004 U
03/21	0.001 U	4.78	0.001 U	0.001 U	11.2	0.001 U	0.001 U	0.004 U
07/21	0.00116 J	4.32	0.001 U	0.001 U	3.92	0.001 U	0.001 U	0.004 U
03/22	0.001 U	5.17	0.001 U	0.001 U	3.8	0.001 U	0.001 U	0.004 U
08/22	0.00450 J	5.02	0.00100 U	0.00100 U	4.95	0.00100 U	0.00100 U	0.00523 JB
04/23	0.00131 J	4.44	0.00100 U	0.00100 U	4.11	0.00100 U	0.00100 U	0.00400 U
09/23	0.00248 J	5.79	0.00100 U	0.00100 U	5.87	0.00100 U	0.00100 U	0.00618 JB
03/24	0.00266 J	3.55	0.00100 U	0.00100 U	5.83	0.00100 U	0.00100 U	0.00400 U
08/24	0.00907 J	3.82	0.00100 U	0.00100 U	5.69	0.00100 U	0.00132	0.0181 B
03/25	0.00184 J	3.9	0.00102 J	0.00100 U	6.12	0.00100 U	0.00100 U	0.00509 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - PFAS Compounds

	Perfluoro(2-propoxypropanoic) acid (HFPODA) (ng/L)	Perfluorobutanesulfonic acid (PFBS) (ng/L)	Perfluorohexanesulfonic acid (PFHxS) (ng/L)	Perfluorononanoic acid (PFNA) (ng/L)	Perfluorooctanesulfonic acid (PFOS) (ng/L)	Perfluorooctanoic acid (PFOA) (ng/L)
MCL	10		10	10	4	4
08/24	7.33 U	3.51	3.77	6.67	105	21.0
03/25	7.42 U	2.51 J	1.75 J	2.81 J	31.5	8.34

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	--	5 U	--	1 U	1 U	1 U	1 U
03/19	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U	--	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	4.09 B
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.046 U	0.018 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.048 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 J	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.046 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.048 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-03S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000	100
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/19	10 U	5 U	5 U	5 U	10 U	5 U	10 U	--	5 U	5 U	5 U	5 U	5 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	2.09 B	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-03S - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000	100
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - Volatile Organic Compounds

	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL			5			2	10000
03/17	1 U	5 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	5 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	5 U	1 U	--	5 U	1 U	1 U
09/18	1 U	5 U	1 U	1 U	5 U	1 U	2 U
03/19	5 U	--	5 U	10 U	10 U	10 U	5 U
08/19	1 U	5 U	1 U	1 U	5 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-03S - Volatile Organic Compounds

	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL			5			2	10000
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-05S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
03/17	356	48.8	32	59.6	0.11	201	0.05 U	-77.7	6.24	6.22	1035	1015	6.18	15.7	363	--	32.2	11.4
09/17	389	46.5	32	78.8	0.07	195	0.0661	-81.8	6.54	6.58	1010	1102	4.15	16.8	345	--	152	12.8
04/18	380	69	24	89.2	0.3	--	0.085	-90.5	6.26	7.01	1074	1100	5.6	16.1	300	--	31	10
09/18	220	0.27 J	24	74.2	0.31	--	0.18 B	-67	6.19	6.41	1138	1100	4.29	21.3	520	--	1.8	7.5
03/19	400	50	37	92.9	0.26	--	0.16	26.3	6.26	6.41	1202	1400	2.34	13.6	360	--	62	5.8
08/19	380	41	25	70.9	0.27	191.78	0.636 B	-72.3	6.40	6.22	1031	1100	0.7 B	18.1	340	--	420	--
03/20	445	47.3	42.6 B	124	0.27	201	0.2 U	-70.1	6.47	6.53	1179	1200	4.72	15.9	466	--	260	13.3
08/20	425	45.3	49.1	111	0.35	198	0.2 U	-103	6.50	6.50	120.5	1290	0.98 J	19	509	--	141	13.53
03/21	404	44.6	36	117	1.23	182	0.05 U	105.5	6.31	6.61	894	1200	2	14.2	480	--	114	119.8
07/21	403	49	48.3	116	0.68	186	0.011 U	-63.8	6.24	6.49	1184	1190	0.6 J	18.7	428	--	301	46.6
03/22	419	45.2	51	158	0.17	213	0.011 U	-51.3	6.33	6.50	1410	1410	0.3 JB	16.1	544	--	259	22.74
08/22	496	41.5	47.6 B	145	0.41	211	0.011 U	-85.5	6.36	6.60	1311	1364	0.3 U	18.6	572	--	111	10.63
04/23	473	50.4	48.0	154	0.14	204	0.011 U	-84.2	6.59	6.85	1401	1394	0.3 U	15.9	957	--	187	4.74
09/23	--	--	--	--	0.04	--	--	-59.3	6.44	--	1218	--	--	16.9	--	--	--	6.6
10/23	413	55	49.7	137	0.09	177	0.011 U	-87.7	6.32	6.57	1358	1325	0.9 J	18.6	497	--	227	6.8

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
03/24	331	27.56	18.6	88.9	0.11	152	0.589	-77.1	6.34	6.61	887	920.6	8.0	15.5	377	--	66.4	14
08/24	400	40.4	47.9	144	0.22	187	0.011 U	-150	6.35	6.47	1420	1280.152	0.250 U	20.6	490	89.3	459	11.3
03/25	391	7.1	32.9	111	0.13	137	0.116	-88.2	6.24	6.56	1114	1060	4.16	16	408	20.4	97.2	0.31

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
03/17	0.002 U	0.0014 J	0.486	0.001 U	0.001 U	30.5	0.0013 J	0.001 U	0.004 U	21.5	0.00018 J	30.4	0.527	0.0002 U
09/17	0.002 U	0.0031 J	0.608	0.001 U	0.001 U	30.2	0.0011 J	0.001 U	0.0006 J	32	0.00023 J	29	0.537	0.0002 U
04/18	0.001 U	0.0014	0.569	0.001 U	0.0000890 JB	30	0.002 U	0.001 U	0.0014 B	24	0.0006 J	36	0.717	0.0002 U
09/18	0.001 U	0.0031 B	0.559	0.001 U	0.00012 JB	--	0.002 U	0.0003 JB	0.0013 J	24	0.0004 J	--	0.58	0.0002 U
03/19	0.001 U	0.0036 B	0.698	0.001 U	0.0000890 JB	27	0.0017 JB	0.0002 JB	0.0016 J	32	0.0008 J	27	0.586	0.0002 U
08/19	0.002 U	0.0011 J	0.649	0.0005 U	0.001 U	27.6	0.0013 J	0.001 U	0.04 U	27.9	0.003 U	29.8	0.664	0.0002 U
03/20	0.001 U	0.00232	0.81	0.001 U	0.001 U	26.3	0.001 U	0.001 U	0.001 U	38.4	0.001 U	32.8	0.649	0.0001 U
08/20	0.001 U	0.00178 J	0.791	0.001 U	0.001 U	26.1	0.00108 JB	0.001 U	0.001 U	35.3	0.001 U	32.4	0.681	0.0001 U
03/21	0.001 U	0.00191 J	0.722	0.001 U	0.001 U	24.9	0.001 U	0.001 U	0.001 U	31.9	0.001 U	29.2	0.597	0.0001 U
07/21	0.001 U	0.00125 J	0.726	0.001 U	0.001 U	24.5	0.00149 J	0.00103 J	0.00331 JB	36.9	0.00119 J	30.3	0.707	0.0001 U
03/22	0.001 U	0.00203	0.951	0.001 U	0.001 U	30.3	0.0014 J	0.001 U	0.00104 J	47.6	0.00245	33.4	0.807	0.0001 U
08/22	0.00100 U	0.00111 J	0.941	0.00100 U	0.00100 U	29.1	0.00518 J	0.00100 U	0.00100 U	43.6	0.00100 U	33.7	0.802	0.000100 U
04/23	0.00100 U	0.00239	1.12	0.00100 U	0.00100 U	28.9	0.00187 J	0.00100 U	0.00507 J	45.4	0.00100 U	32	0.649	0.000100 U
10/23	0.00100 U	0.00205	0.996	0.00100 U	0.00100 U	26.3	0.00100 U	0.00100 U	0.00100 U	43.2	0.00100 U	27.1	0.623	0.000100 U
03/24	0.00100 U	0.00522	0.724	0.00100 U	0.00100 U	24.5	0.00141 J	0.00100 U	0.00100 U	33.2	0.00100 U	22	0.424	0.000100 U
08/24	0.00100 U	0.00177 J	1.31	0.00100 U	0.00100 U	27.8	0.00112	0.00100 U	0.00100 U	53.7	0.00100 U	28.7	0.783	0.000100 U
03/25	0.00100 U	0.00282	0.918	0.00100 U	0.00100 U	19.1	0.00100 U	0.00100 U	0.00100 U	44.3	0.00100 U	21.5	0.451	0.000100 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
03/17	0.004 U	21.6	0.004 U	0.001 U	49.8	0.001 U	0.0011	0.03 U
09/17	0.004 U	23.9	0.004 U	0.001 U	60.3	0.001 U	0.0017	0.03 U
04/18	0.001 J	19	0.0013 J	0.001 U	59	0.001 U	0.0016 J	0.0047 J
09/18	0.0016 J	19	0.005 U	0.001 U	60	0.001 U	0.0018 J	0.017 B
03/19	0.0023 JB	21	0.0014 J	0.001 U	65	0.001 U	0.0033 J	0.0197
08/19	0.0007 J	18.1	0.002 U	0.0005 U	63	0.0005 U	0.0031 J	0.0064 JB
03/20	0.001 U	23	0.001 U	0.001 U	84.6	0.001 U	0.001 U	0.004 U
08/20	0.001 U	22.5	0.001 U	0.001 U	96.9	0.001 U	0.00285 J	0.004 U
03/21	0.001 U	21.1	0.001 U	0.001 U	84.1	0.001 U	0.001 U	0.004 U
07/21	0.00161 J	19.7	0.001 U	0.001 U	80.7	0.001 U	0.00229 J	0.00499 JB
03/22	0.00119 J	24.2	0.001 U	0.001 U	111	0.001 U	0.00314 J	0.004 U
08/22	0.00100 U	22.4	0.00100 U	0.00100 U	127	0.00100 U	0.00101 J	0.00400 U
04/23	0.00141 J	26.2	0.00100 U	0.00100 U	123	0.00100 U	0.00105 J	0.00400 U
10/23	0.00100 U	24.9	0.00100 U	0.00100 U	111	0.00100 U	0.00156 J	0.00400 U
03/24	0.00133 J	21.5	0.00100 U	0.00100 U	76.8	0.00100 U	0.00100 U	0.00400 U
08/24	0.00143 J	24.6	0.00100 U	0.00100 U	118	0.00100 U	0.00100 U	0.00400 U
03/25	0.00106 J	21.9	0.00100 U	0.00100 U	87.7	0.00100 U	0.00100 U	0.00400 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - PFAS Compounds

	Perfluoro(2-propoxypropanoic) acid (HFPODA) (ng/L)	Perfluorobutanesulfonic acid (PFBS) (ng/L)	Perfluorohexanesulfonic acid (PFHxS) (ng/L)	Perfluorononanoic acid (PFNA) (ng/L)	Perfluorooctanesulfonic acid (PFOS) (ng/L)	Perfluorooctanoic acid (PFOA) (ng/L)
MCL	10		10	10	4	4
08/24	7.46 U	3.58	28.4	3.80	45.0	141
03/25	7.41 U	2.68 J	19.1	3.94 J	45.2	104

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.2 J	1 U	1 U	1.1	5 U	5 U	5 U	5 U	5 U	0.9 J	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.1 J	1 U	1 U	1.2	5 U	5 U	5 U	5 U	5 U	0.8 J	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	0.185 J	1 U	1 U	1.53	5 U	5 U	5 U	5 U	5 U	1.14	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1.21	5 U	5 U	--	5 U	--	0.885 J	1 U	1 U
03/19	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	0.185 J	5 U	5 U	1.36	10 U	10 U	10 U	10 U	--	0.847 J	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	0.179 J	1 U	1 U	1.53	5 U	5 U	5 U	5 U	5 U	1.06 B	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1.7	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1.9	5 U	5 U	5 U	5 U	5 U	1.1	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1.6	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.046 U	0.018 U	1 U	1 U	1 U	1.8	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.048 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1.1	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.048 U	0.019 U	1.0 U	1.0 U	1.0 U	2.3	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.2	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	2.1	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
10/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.7	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.049 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-05S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.6	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-05S - Volatile Organic Compounds

	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)
MCL	80			5	100		80			70		80	700	10000				5	10000	100	5	1000
03/17	1 U	1 U	1 U	1 U	3.7	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	0.3 J	1 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	3.6	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	0.3 J	1 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	4.57	1 U	1 U	0.596 J	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	3.65	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/19	5 U	10 U	5 U	5 U	3.24	10 U	5 U	10 U	--	5 U	5 U	5 U	5 U	5 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	4.25	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	3.9	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	4.2	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	3.2	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	3.8	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	4.6	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	4.8	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	4.4	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
10/23	1.0 U	1.0 U	1.0 U	1.0 U	4.3	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.7	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Volatile Organic Compounds

	Bromoform (ug/L)	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)
MCL	80			5	100		80			70		80	700	10000				5	10000	100	5	1000
08/24	1.0 U	1.0 U	1.0 U	1.0 U	3.6	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	2.1	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Volatile Organic Compounds

	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100			5			2	10000
03/17	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	5 U	1 U	--	5 U	1 U	1 U
09/18	1 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U
03/19	5 U	5 U	--	5 U	10 U	10 U	10 U	5 U
08/19	1 U	1 U	5 U	1 U	1 U	5 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
10/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-05S - Volatile Organic Compounds

	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100			5			2	10000
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
03/17	26.1	1.02	14	7.99	0.13	33	0.05 U	6	5.56	6.51	174	120	10.2	12	167	--	5.13	10.9
09/17	29.5	1.15	18	7.42	0.06	29.6	0.05 U	-31.1	6.07	5.74	171.5	96	6.42	17.6	47	--	10.5	24.5
04/18	25	1.5	10 U	9.14	0.4	--	0.072	-53.9	5.97	6.29	161.3	120	7.22	12.3	42	--	59	10.1
09/18	40	33	10 U	6.37	0.31	--	0.14 B	-26.9	5.72	6.52	174.2	130	5.13	19.7	110	--	22	4.2
03/19	100	1.3 B	2.7 JB	7.97	0.35	--	0.13	73.2	6.26	6.05	184	240	6.02	11.3	63	--	3.8	0
08/19	44	1.1	18	7.18	0.25	23.58	0.244 B	-24.1	5.92	5.67	156.6	170	4.3 B	16.1	46	--	8.1	--
03/20	68.4	0.97 J	13.9 B	7.2	0.28	25.8	0.2 U	-7.3	5.96	6.07	154	163	6.11	13.9	76	--	32.2	8.3
08/20	69.5	1.01	24.7 B	8	--	26.7	0.2 U	2.1	5.95	5.98	172.9	190	6.49	16.8	106	--	3.41	--
03/21	69.4	1.13	11.7	8.31	2.33	27.4	0.4 U	-17.6	6.22	6.12	157.5	190	7.3	11.4	106	--	51.4	13.8
07/21	80.3	1.2	13.8 B	7.69	3.88	29.1	0.011 U	41.1	5.77	6.14	176.9	127	5.7	14	111 B	--	80	40.68
03/22	26.9	0.58 J	16.9	6.44	0.44	19.8	1.24	33.6	5.51	5.80	105.4	117.3	6.9	14.2	68.5	--	57	18.09
08/22	67.8	0.93 J	9.5 JB	8.31	0.36	23.4	0.011 U	28.9	5.71	6.12	145.2	166.9	6.5	17.1	84.0	--	20.8	13.86
04/23	37.8	0.675 J	5.9 J	8.20 B	0.22	18.8	0.161 B	95.6	5.76	6.02	106.4	123	11.5	14.4	71.5	--	7.18	7.62
09/23	55.1	0.875 J	9.71 J	7.88	0.10	18.2	0.011 U	59.4	5.79	5.98	133.2	131.2	6.2	16.6	79.0	--	13.4	2.6
03/24	10.0	0.433 J	3 U	10.9	0.23	15	0.331	103.4	5.10	5.62	75.9	92.51	14.9	12	51.3	--	12.1	12.6

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
08/24	36.9	0.753	3 U	7.93	0.18	15.7	0.011 U	-36.6	5.67	6.03	95.6	116.481	7.80	15.3	71.3	17.8	38.5	8.72
03/25	27.1	0.791	3 U	8.41	0.18	15.1	0.051	2.9	5.29	5.78	111.9	119.2	17.2	13.9	74.7	14.1 U	6.42	0.76

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)	Mercury, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015			0.002
03/17	0.002 U	0.0264	0.0254	0.001 U	0.00025 J	5.68	0.0009 J	0.00054 J	0.0009 J	23.8	0.00026 J	4.57	0.26	0.0002 U
09/17	0.002 U	0.0385	0.0196	0.001 U	0.001 U	3.78	0.0041	0.00028 J	0.004 U	31.3	0.00052 J	4.9	0.181	0.0002 U
04/18	0.001 U	0.0301	0.0244	0.001 U	0.000107 J	6.8	0.002 U	0.0007 J	0.0015 B	27	0.0002 J	4.6	0.273	0.0002 U
09/18	0.001 U	0.0291	0.0231	0.001 U	0.000116 JB	--	0.002 U	0.0004 JB	0.001 U	25	0.001 U	--	0.224	0.0002 U
03/19	0.001 U	0.0277	0.0194	0.001 U	0.0000670 JB	4.2	0.002 U	0.0003 JB	0.0041 J	29	0.0003 J	4.6	0.199	0.0002 U
08/19	0.001 U	0.024	0.0181	0.0005 U	0.0005 U	3.07	0.002 U	0.005 U	0.01 U	25.6	0.001 U	3.86	0.149	0.0002 U
03/20	0.001 U	0.0249	0.0214	0.001 U	0.001 U	3.07	0.001 U	0.001 U	0.001 U	29.1	0.001 U	4.39	0.16	0.0001 U
08/20	0.001 U	0.0304	0.0236	0.001 U	0.001 U	3.05	0.001 U	0.001 U	0.001 U	32.2	0.001 U	4.62	0.196	0.0001 U
03/21	0.001 U	0.035	0.0183	0.001 U	0.001 U	3.02	0.001 U	0.001 U	0.00112 JB	33.9	0.001 U	4.82	0.159	0.0001 U
07/21	0.001 U	0.0295	0.0208	0.001 U	0.001 U	3.05	0.001 U	0.001 U	0.001 U	35	0.001 U	5.21	0.204	0.0001 U
03/22	0.001 U	0.0323	0.029	0.001 U	0.001 U	3.2	0.00143 J	0.00164 J	0.00315 J	22.9	0.00176 J	2.86	0.132	0.0001 U
08/22	0.00100 U	0.0379	0.0194	0.00100 U	0.00100 U	2.42	0.00622 J	0.00100 U	0.00100 U	31.7	0.00100 U	4.22	0.118	0.000100 U
04/23	0.00100 U	0.0116	0.0317	0.00100 U	0.00100 U	2.43	0.00100 U	0.00109 J	0.00100 U	16	0.00100 U	3.09	0.124	0.000100 U
09/23	0.00100 U	0.0256	0.0190	0.00100 U	0.00100 U	2.15	0.00100 U	0.00100 U	0.00100 U	23.2	0.00100 U	3.12	0.0845	0.000100 U
03/24	0.00100 U	0.00764	0.0354	0.00100 U	0.00100 U	2.66	0.00271 J	0.00211 J	0.00102 J	7.24	0.00100 U	2.04	0.116	0.000100 U
08/24	0.00100 U	0.0157	0.0201	0.00100 U	0.00100 U	1.91	0.00127	0.00100 U	0.00100 U	20.4	0.00100 U	2.65	0.0886	0.000100 U
03/25	0.00100 U	0.0101	0.0220	0.00100 U	0.00100 U	1.8	0.00100 U	0.00195 J	0.00112 J	13.8	0.00100 U	2.59	0.0862	0.000100 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Total Metals

	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL			0.05			0.002		
03/17	0.004 U	1.97	0.004 U	0.001 U	4.66	0.001 U	0.00062 J	0.03 U
09/17	0.002 J	2.04	0.004 U	0.001 U	4.98	0.001 U	0.0012	0.03 U
04/18	0.0003 J	2.1	0.0004 J	0.001 U	4.6	0.001 U	0.005 U	0.005 J
09/18	0.0004 J	2.4	0.005 U	0.001 U	5	0.001 U	0.0015 J	0.0022 JB
03/19	0.0004 JB	1.9	0.005 U	0.001 U	4.6	0.001 U	0.005 U	0.0048 JB
08/19	0.002 U	1.74	0.002 U	0.0005 U	5.14	0.0005 U	0.01 U	0.015 U
03/20	0.001 U	1.79	0.001 U	0.001 U	5.32	0.001 U	0.001 U	0.004 U
08/20	0.001 U	2.07	0.001 U	0.001 U	5.67	0.001 U	0.001 U	0.004 U
03/21	0.001 U	1.68	0.001 U	0.001 U	4.94	0.001 U	0.001 U	0.004 U
07/21	0.001 U	1.93	0.001 U	0.001 U	5.08	0.001 U	0.001 U	0.004 U
03/22	0.001 U	3.09	0.001 U	0.001 U	5.15	0.001 U	0.00176 J	0.00716 J
08/22	0.00100 U	1.88	0.00100 U	0.00100 U	5.58	0.00100 U	0.00100 U	0.00400 U
04/23	0.00100 U	2.12 B	0.00100 U	0.00100 U	5.6 B	0.00100 U	0.00100 U	0.00400 U
09/23	0.00100 U	1.69	0.00100 U	0.00100 U	4.68	0.00100 U	0.00100 U	0.00400 U
03/24	0.00270 J	2.58	0.00100 U	0.00100 U	5.64	0.00100 U	0.00100 U	0.00527 J
08/24	0.00100 U	1.79	0.00100 U	0.00100 U	4.87	0.00100 U	0.00100 U	0.00400 U
03/25	0.00108 J	1.94	0.00100 U	0.00100 U	6.32	0.00100 U	0.00100 U	0.0101

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - PFAS Compounds

	Perfluoro(2-propoxypropanoic) acid (HFPODA) (ng/L)	Perfluorobutanesulfonic acid (PFBS) (ng/L)	Perfluorohexanesulfonic acid (PFHxS) (ng/L)	Perfluorononanoic acid (PFNA) (ng/L)	Perfluorooctanesulfonic acid (PFOS) (ng/L)	Perfluorooctanoic acid (PFOA) (ng/L)
MCL	10		10	10	4	4
08/24	7.05 U	1.30 J	3.77	1.57 J	11.5	10.1
03/25	7.15 U	1.10 J	1.75 J	1.79 U	5.51	4.72

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-07S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	--	5 U	--	1 U	1 U	1 U	1 U
03/19	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U	--	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.046 U	0.018 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.048 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.046 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.046 U	0.018 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.049 U	0.020 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-07S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.020 U	0.020 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000	100
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	0.621 J	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/19	10 U	5 U	5 U	5 U	10 U	5 U	10 U	--	5 U	5 U	5 U	5 U	5 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-07S - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000	100
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Volatile Organic Compounds

	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL			5			2	10000
03/17	1 U	5 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	5 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	5 U	1 U	--	5 U	1 U	1 U
09/18	1 U	5 U	1 U	1 U	5 U	1 U	2 U
03/19	5 U	--	5 U	10 U	10 U	10 U	5 U
08/19	1 U	5 U	1 U	1 U	5 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-07S - Volatile Organic Compounds

	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL			5			2	10000
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
03/17	9.24	0.2 U	10 U	16.2	0.82	30.5	1.62	166.5	5.27	5.29	184	185	30	16.4	131	--	0.915	0.8
09/17	10.2	0.2 U	10 U	17.1	0.92	31.9	1.79	194.3	5.90	6.14	149.8	160	27.2	17.6	107	--	3.44	0.3
04/18	11	0.87	10 U	18.4	1.14	--	1.9	233	5.49	5.41	158.6	210	28.4	15.9	110	--	1	3.7
09/18	14	0.1 U	2.9 J	17.9	1.43	--	2.8	241	5.24	5.47	175	150	29.1	22.2	58	--	0.44	1.8
03/19	9.5 B	0.11 JB	10 U	17.8	0.67	--	1.3	293.7	5.89	5.10	180.6	210	33	14.7	81	--	0.91 B	0
08/19	6	1 U	10 U	15.1	0.95	28.46	1.18 B	231.4	5.57	5.44	158.6	180	29	18	78	--	2.3	--
03/20	11.3 B	0.1 U	3 U	18.3	0.59	27.5	1.09	259	5.66	5.83	162	173	35.3	16.1	115	--	0.67	2
08/20	9	0.1 U	3.6 JB	16.6	3.34	26.9	1.41	288.2	5.73	5.80	164.4	166	32.3	19.9	121	--	0.5 U	1.88
03/21	9.1	0.1 U	3 U	16.9	8.05	27.3	1.27	177	5.85	5.84	149.6	168	35.5	15.2	128	--	0.92	91.3
07/21	8.2	0.05 U	7.2 JB	16.6	3.39	23.8	1.6	234.7	5.46	5.88	153.9	165	34.2	17.5	127 B	--	2.06	23.2
03/22	11.7	0.02 U	3 U	17.3	0.76	29.4	1.51	176.9	5.56	5.75	166	175.7	32.5	15.7	125	--	0.5 U	3.68
08/22	11.0	0.02 U	3.0 U	17.6	0.93	30.8	1.79	183.9	5.51	5.93	156.8	179.9	29.6	17.9	128	--	3.68	41.21
04/23	11.1	0.015 U	3.0 U	17.5 B	1.96	28.6	2.40	196.8	6.67	5.97	154.6	167.9	25.5	15.9	120	--	0.500 U	5.04
09/23	10.9	0.015 U	4.54 J	17.3	4.18	27.6	2.29	206.7	3.85	6.06	151.6	171.4	26.1	17	121	--	0.500 U	0.1 J
03/24	10.6	0.015 U	3 U	17.3	6.8	29	2.57	182.6	5.94	6.32	145.2	172.5	24.8	14.1	117	--	0.500 U	1.5

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
08/24	11.7	0.015 U	3 U	17.6	0.68	27	2.80	125.9	5.67	5.96	148.1	159.692	21.1	18.2	118	8.3 U	0.254	4.37
03/25	11.3	0.015 U	3 U	17.4	0.48	24.1	1.43	157.8	5.57	6.05	149.1	151.9	26.5	15.6	124	14.4 U	0.404	7.75

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015		
03/17	0.002 U	0.004 U	0.0255	0.001 U	0.001 U	8.93	0.0015 J	0.0043	0.004 U	0.35	0.00013 J	1.99	0.0038 J
09/17	0.002 U	0.004 U	0.0237	0.00012 J	0.001 U	9.29	0.0011 J	0.0046	0.004 U	0.812	0.00029 J	2.11	0.0041
04/18	0.001 U	0.001 U	0.0227	0.001 U	0.000128 J	8.2	0.0014 J	0.0048	0.0008 JB	0.43	0.0002 J	2	0.0025 J
09/18	0.0002 J	0.0014 JB	0.0235	0.001 U	0.0002 JB	--	0.0019 J	0.0046 J	0.0006 J	0.42	0.0000900 J	--	0.0024 J
03/19	0.001 U	0.001 U	0.0243	0.001 U	0.000111 JB	8.8	0.0009 JB	0.0048 J	0.0008 J	0.71	0.0003 J	2.2	0.0048 J
08/19	0.001 U	0.003 U	0.023	0.0000820 J	0.0000910 J	8.35	0.00094 J	0.0048 J	0.01 U	0.306 B	0.001 U	1.84	0.0032 J
03/20	0.001 U	0.001 U	0.0249	0.001 U	0.001 U	7.4	0.00106	0.00479	0.001 U	0.117	0.001 U	2.18	0.0049
08/20	0.001 U	0.001 U	0.0257	0.001 U	0.001 U	7.28	0.001 U	0.00547 JB	0.0032 J	0.00983 B	0.001 U	2.12	0.00148 J
03/21	0.001 U	0.001 U	0.0243	0.001 U	0.001 U	7.5	0.001 U	0.00493 J	0.00109 JB	0.0724 B	0.001 U	2.07	0.00335 J
07/21	0.001 U	0.001 U	0.0225	0.001 U	0.001 U	6.41	0.0015 J	0.00491 J	0.001 U	0.557	0.001 U	1.88	0.00219 J
03/22	0.001 U	0.001 U	0.022	0.001 U	0.001 U	8.38	0.001 U	0.00503 J	0.001 U	0.0263 J	0.001 U	2.07	0.00265 J
08/22	0.00100 U	0.00100 U	0.0243	0.00100 U	0.00100 U	8.71	0.00360 J	0.00503 J	0.00128 J	0.524	0.00100 U	2.2	0.00401 J
04/23	0.00100 U	0.00100 U	0.0238	0.00100 U	0.00100 U	8	0.00161 J	0.00491 J	0.00100 U	0.00803 J	0.00100 U	2.09	0.00309 J
09/23	0.00100 U	0.00100 U	0.0233	0.00100 U	0.00100 U	7.86	0.00100 U	0.00453 J	0.00100 U	0.00500 U	0.00100 U	1.94	0.00100 U
03/24	0.00100 U	0.00100 U	0.0238	0.00100 U	0.00100 U	8.13	0.00143 J	0.00471 J	0.00100 U	0.0145 J	0.00100 U	2.12	0.00114 J
08/24	0.00100 U	0.00100 U	0.0241	0.00100 U	0.00100 U	7.62	0.00109	0.00522	0.00100 U	0.0370 J	0.00100 U	1.94	0.00181 J
03/25	0.00100 U	0.00100 U	0.0223	0.00100 U	0.00100 U	6.62	0.00100 U	0.00411 J	0.00298 J	0.0984 J	0.00100 U	1.85	0.00572 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Total Metals

	Mercury, Total (mg/L)	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL	0.002			0.05			0.002		
03/17	0.0002 U	0.012	1.72	0.00087 J	0.001 U	18	0.001 U	0.0015	0.0085 J
09/17	0.0002 U	0.0118	1.82	0.00095 J	0.001 U	18.5	0.001 U	0.0033	0.0094 J
04/18	0.0002 U	0.0114	1.9	0.0018 J	0.001 U	17	0.001 U	0.0015 J	0.0203
09/18	0.0002 U	0.0112	2.1	0.0012 J	0.001 U	18	0.001 U	0.0014 J	0.0121 B
03/19	0.0002 U	0.0135	2.1	0.0012 J	0.001 U	18	0.001 U	0.0036 J	0.0096 JB
08/19	0.0002 U	0.0118	1.62	0.002 U	0.0005 U	16.3	0.0005 U	0.01 U	0.0092 JB
03/20	0.0001 U	0.0133	1.8	0.0011	0.001 U	19.3	0.001 U	0.001 U	0.00854
08/20	0.0001 U	0.0121	1.79	0.00112 J	0.001 U	20	0.001 U	0.00101 J	0.0126
03/21	0.0001 U	0.0125	1.72	0.001 U	0.001 U	18.6	0.001 U	0.001 U	0.0112 B
07/21	0.0001 U	0.0104 J	1.54	0.00119 J	0.001 U	17.3	0.001 U	0.00332 J	0.00955 JB
03/22	0.0001 U	0.0125	2.83	0.001 U	0.001 U	18.9	0.001 U	0.00101 J	0.00866 J
08/22	0.000100 U	0.00741 J	1.81	0.00100 U	0.00100 U	20.1	0.00100 U	0.00363 J	0.0120 B
04/23	0.000100 U	0.0121	1.74 B	0.00100 U	0.00100 U	19.7	0.00100 U	0.00100 U	0.0141 B
09/23	0.000100 U	0.0111	1.7	0.00127 J	0.00100 U	18.9	0.00100 U	0.00100 U	0.00764 JB
03/24	0.000100 U	0.0125	1.79	0.00169 J	0.00100 U	20.4	0.00100 U	0.00116 J	0.0105
08/24	0.000100 U	0.0114	1.76	0.00191 J	0.00100 U	19.8	0.00100 U	0.00113	0.00927 B
03/25	0.000100 U	0.0113	1.64	0.00201 J	0.00100 U	18.6	0.00100 U	0.00113 J	0.0116

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - PFAS Compounds

	Perfluoro(2-propoxypropanoic) acid (HFPODA) (ng/L)	Perfluorobutanesulfonic acid (PFBS) (ng/L)	Perfluorohexanesulfonic acid (PFHxS) (ng/L)	Perfluorononanoic acid (PFNA) (ng/L)	Perfluorooctanesulfonic acid (PFOS) (ng/L)	Perfluorooctanoic acid (PFOA) (ng/L)
MCL	10		10	10	4	4
08/24	7.23 U	1.61 U	1.65 U	1.81 U	1.81 U	1.81 U
03/25	8.21 U	1.83 U	1.88 U	2.05 U	2.05 U	2.05 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-09 - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	--	5 U	--	1 U	1 U	1 U	1 U
03/19	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U	--	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	2.57 B
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	10.8 B	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.048 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-09 - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.020 U	0.020 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-09 - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000	100
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/19	10 U	5 U	5 U	5 U	10 U	5 U	10 U	--	5 U	5 U	5 U	5 U	5 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	0.664 JB	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000	100
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Volatile Organic Compounds

	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL			5			2	10000
03/17	1 U	5 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	5 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	5 U	1 U	--	5 U	1 U	1 U
09/18	1 U	5 U	1 U	1 U	5 U	1 U	2 U
03/19	5 U	--	5 U	10 U	10 U	10 U	5 U
08/19	1 U	5 U	1 U	1 U	5 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-09 - Volatile Organic Compounds

	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL			5			2	10000
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
03/17	70.5	0.2 U	5 J	7.38	5.26	88.7	0.768	110.9	6.34	6.02	227.2	241	18.7	13.5	131	--	3.57	3
09/17	44.5	0.2 U	7 J	3.79	4.25	120	0.543	127.7	6.64	6.58	286.2	292	83.8	21.8	172	--	10.8	12.2
04/18	40	0.51	10 U	5.37	10.26	--	0.28	279.3	6.58	5.95	165.8	200	37.9	13.1	90	--	6	12.2
09/18	50	1.5	4.3 J	3.38	4.7	--	0.34	164.4	6.48	5.80	186.8	200	26.1	23.8	120	--	0.69	19.8
03/19	120	0.3 JB	10 U	4.1	11.35	--	0.12	254.3	6.96	6.25	139.2	200	13.3	9.8	48	--	0.39 B	0
08/19	54	1 U	12	4.56 B	6.91	67.12	0.616 B	151	6.90	6.55	140.6	160	8.4	17	51	--	2.2	--
03/20	64.3	0.1 U	7.2 JB	5.4	3.71	75	0.41	212	6.78	6.91	170	185	19.7	14	110	--	14.4	4.1
08/20	61.4	0.1 U	14.1 B	4.1	5.44	71.1	0.34	255.7	6.96	6.95	174.1	176	15.7	20.4	110	--	0.535	2.93
03/21	62.3	0.1 U	3 U	3.21	8.15	61.4	0.089	267.8	7.02	7.18	109.4	144	6.7	8.5	86	--	0.851	6.6
07/21	73.8	0.05 U	9.1 JB	2.94 J	6.91	64.1	0.162 J	291.7	6.82	7.10	141	162	5.2	15	93.5 B	--	4.5	12.94
03/22	105	0.02 U	3 U	7.18	0.48	115	0.591 J	133.1	6.90	7.06	231.4	271.2	3.2 B	13.8	153	--	3.58	1.79
08/22	96.4	0.02 U	7.7 JB	6.79	1.17	117	0.046 J	118.4	6.73	7.05	232.2	273.1	29.1	18.2	154	--	1.11	8.42
04/23	70.8	0.154 J	5.5 J	5.98 B	0.75	83.9	0.041 B	6.7	7.31	7.04	175	196.8	15.5	14.2	111	--	8.50	6.02
09/23	78.5	0.032 J	13.3	6.18	0.05	87.5	0.095 J	-41.3	6.66	6.79	190.7	212.7	18.2	16.9	121	--	45.9	12.2
03/24	49.4	0.015 U	14.1	4.04	6.8	54.4	0.063	153	6.63	7.16	103.8	137.4	8.9	10.8	59.3	--	0.500 U	35

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-10S - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
08/24	64.0	0.015 U	3 U	3.05	7.16	66.7	0.099	1.6	6.78	6.99	139.3	147.331	5.88	19.2	80.7	8.3 U	2.37	9.69
03/25	53.0	0.015 U	3 U	6.51	1.69	54	0.227	132.3	6.80	7.06	116.8	132.3	5.16	14	79.0	14.2 U	0.293	13.51

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015		
03/17	0.002 U	0.004 U	0.0248	0.001 U	0.001 U	23.2	0.0012 J	0.00045 J	0.0011 J	0.382	0.002 U	7.48	0.014
09/17	0.002 U	0.004 U	0.0312	0.001 U	0.001 U	34.5	0.0012 J	0.00055 J	0.0014 J	1.98	0.002 U	8.1	0.0171
04/18	0.001 U	0.0007 J	0.0098	0.001 U	0.000121 J	22	0.0012 J	0.0003 J	0.0022 B	1.8	0.0000700 J	5.2	0.0056
09/18	0.0002 J	0.0011 JB	0.0101	0.001 U	0.000115 JB	--	0.002 U	0.0004 JB	0.0008 J	0.22 B	0.001 U	--	0.0085 J
03/19	0.001 U	0.001 U	0.0088 J	0.001 U	0.0000770 JB	17	0.002 U	0.0003 JB	0.0007 J	0.071 B	0.001 U	5.1	0.0084 J
08/19	0.002 U	0.002 U	0.009 J	0.0005 U	0.001 U	17.8	0.0013 J	0.00041 J	0.04 U	0.267 B	0.003 U	5.49	0.0175
03/20	0.001 U	0.001 U	0.0134	0.001 U	0.001 U	18.1	0.00137	0.001 U	0.001 U	1.7	0.001 U	7.23	0.0105
08/20	0.001 U	0.001 U	0.00806 J	0.001 U	0.001 U	17.2	0.001 U	0.001 U	0.00262 J	0.0527 B	0.001 U	6.83	0.00538 J
03/21	0.001 U	0.001 U	0.00628 J	0.001 U	0.001 U	15.1	0.001 U	0.001 U	0.001 U	0.028 B	0.001 U	5.77	0.00308 J
07/21	0.001 U	0.001 U	0.00703 J	0.001 U	0.001 U	15.5	0.001 U	0.0013 J	0.001 U	0.811	0.001 U	6.14	0.0609
03/22	0.001 U	0.001 U	0.0082 J	0.001 U	0.001 U	28.2	0.001 U	0.001 U	0.00121 J	0.355	0.001 U	10.8	0.0346
08/22	0.00100 U	0.00100 U	0.0121	0.00100 U	0.00100 U	30	0.00742 J	0.00100 U	0.00122 J	0.0881 JB	0.00100 U	10.3	0.00511 J
04/23	0.00100 U	0.00100 U	0.0278	0.00100 U	0.00100 U	23.7	0.00145 J	0.0253	0.00125 J	1.52	0.00100 U	6.04	0.922
09/23	0.00100 U	0.00100 U	0.0205	0.00100 U	0.00100 U	24.1	0.00111 J	0.00321 J	0.00144	6.84	0.00100 U	6.64	0.121
03/24	0.00100 U	0.00100 U	0.00464 J	0.00100 U	0.00100 U	14.4	0.00100 U	0.00100 U	0.00159 J	0.179	0.00100 U	4.47	0.00110 J
08/24	0.00100 U	0.00100 U	0.00559 J	0.00100 U	0.00100 U	16.1	0.00265	0.00100 U	0.00100 U	0.159	0.00100 U	6.43	0.00100 U
03/25	0.00100 U	0.00100 U	0.00651 J	0.00100 U	0.00100 U	12.8	0.00157 J	0.00111 J	0.00100 U	0.0445 J	0.00100 U	5.32	0.00108 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Total Metals

	Mercury, Total (mg/L)	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL	0.002			0.05			0.002		
03/17	0.0002 U	0.004 U	6.03	0.004 U	0.001 U	6.19	0.001 U	0.001 U	0.03 U
09/17	0.0002 U	0.004 U	6.56	0.004 U	0.001 U	4.43	0.001 U	0.00039 J	0.03 U
04/18	0.0002 U	0.0008 J	3.2	0.0031 J	0.0001 J	3.2	0.001 U	0.005 U	0.004 J
09/18	0.0002 U	0.0008 J	4.4	0.005 U	0.001 U	2.6	0.001 U	0.0008 J	0.0012 JB
03/19	0.0002 U	0.001 JB	2.3	0.005 U	0.001 U	2.3 B	0.001 U	0.0006 J	0.005 U
08/19	0.0002 U	0.0011 J	2.95	0.002 U	0.0005 U	2.35 B	0.0005 U	0.001 U	0.015 U
03/20	0.0001 U	0.001 U	3.9	0.001 U	0.001 U	3.25	0.001 U	0.001 U	0.004 U
08/20	0.0001 U	0.001 U	2.78	0.001 U	0.001 U	3.49	0.001 U	0.001 U	0.004 U
03/21	0.0001 U	0.001 U	1.78	0.001 U	0.001 U	2.17	0.001 U	0.001 U	0.00542 JB
07/21	0.0001 U	0.001 U	2.15	0.001 U	0.001 U	2.17	0.001 U	0.001 U	0.004 U
03/22	0.0001 U	0.001 U	3.31	0.001 U	0.001 U	5.07	0.001 U	0.001 U	0.004 U
08/22	0.000100 U	0.00100 U	3.53	0.00100 U	0.00100 U	4.73	0.00100 U	0.00100 U	0.00400 U
04/23	0.000100 U	0.00100 U	3.54	0.00100 U	0.00100 U	3.74 B	0.00100 U	0.00100 U	0.0127 B
09/23	0.000100 U	0.00100 U	3.3	0.00100 U	0.00100 U	4	0.00100 U	0.00136 J	0.00400 U
03/24	0.000100 U	0.00100 U	1.89	0.00100 U	0.00100 U	4.25	0.00100 U	0.00100 U	0.00400 U
08/24	0.000100 U	0.00157 J	2.2	0.00100 U	0.00100 U	3.01	0.00100 U	0.00100 U	0.00400 U
03/25	0.000100 U	0.00113 J	2.37	0.00100 U	0.00100 U	3.46	0.00100 U	0.00100 U	0.00400 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - PFAS Compounds

	Perfluoro(2-propoxypropanoic) acid (HFPODA) (ng/L)	Perfluorobutanesulfonic acid (PFBS) (ng/L)	Perfluorohexanesulfonic acid (PFHxS) (ng/L)	Perfluorononanoic acid (PFNA) (ng/L)	Perfluorooctanesulfonic acid (PFOS) (ng/L)	Perfluorooctanoic acid (PFOA) (ng/L)
MCL	10		10	10	4	4
08/24	7.45 U	1.66 U	1.70 U	1.86 U	1.86 U	1.86 U
03/25	8.00 U	1.78 U	1.83 U	2.00 U	2.69 J	2.00 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	--	5 U	--	1 U	1 U	1 U	1 U
03/19	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U	--	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	4.73 B
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.048 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.048 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.048 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.048 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-10S - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-10S - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000	100
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/19	10 U	5 U	5 U	5 U	10 U	5 U	10 U	--	5 U	5 U	5 U	5 U	5 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	2.32 B	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)	trans-1,2-Dichloroethene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000	100
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Volatile Organic Compounds

	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL			5			2	10000
03/17	1 U	5 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	5 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	5 U	1 U	--	5 U	1 U	1 U
09/18	1 U	5 U	1 U	1 U	5 U	1 U	2 U
03/19	5 U	--	5 U	10 U	10 U	10 U	5 U
08/19	1 U	5 U	1 U	1 U	5 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-10S - Volatile Organic Compounds

	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL			5			2	10000
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
03/17	11.2	0.2 U	10 U	23.4	3.74	48.8	5.33	206.4	5.04	5.66	220.3	229	24.3	14.3	135	--	2.17	3.2
09/17	8.4	0.2 U	10 U	31.5	3.31	50.1	2.59	272.8	5.09	5.42	177.1	206	24.4	15.5	126	--	31.7	35.8
04/18	13	0.1 U	10 U	44	3.2	--	3.5	170.5	5.14	5.21	233	300	26.4	13.9	180	--	0.98	3.8
09/18	20	0.1 U	2.9 J	41.8	3.24	--	3.9	240.4	5.12	5.60	267.2	330	27.4	19.4	220	--	2.4	6.6
03/19	1 U	0.13 JB	10 U	16.3	7.45	--	0.1 U	282.8	5.05	6.12	99.5	130	13.7	12	23	--	1.5 B	0
08/19	12	1 U	19	26	7.81	50.4	3.1	194.1	5.70	5.23	200.1	250	21	16.2	110	--	3.9	--
03/20	17.2 B	0.1 U	5.3 JB	37.5	2.33	59.1	4.3	234	5.52	5.62	233	255	31.2	14.6	137	--	1.76	3.1
08/20	12.4	0.1 U	14.5 B	31.5	--	54.1	3.82	257.8	5.50	5.57	221.6	247	29.4	16.9	154	--	0.631	--
03/21	1 U	0.1 U	3 U	13.8	9.17	14.9	0.354	147.3	4.87	4.92	75.9	89.6	14.6	11.7	71	--	1.25	27
07/21	14.4	0.05 U	4.9 JB	24.7	2.66	39.7	3.21	248.9	5.19	5.70	172.2	199	25.7	14.8	137 B	--	0.5 U	14.2
03/22	18.3	0.02 J	3 U	25.6	2.85	52.4	4.43	170.5	5.47	5.70	208.2	235	29.7	14.7	150	--	2.49	12.61
08/22	14.3	0.02 U	6.1 JB	21.4	15.03	43.9	4.80	235.3	5.42	5.69	187.1	218.8	27.5	16.7	145	--	3.32	11.85
04/23	11.5	0.015 U	3.0 U	16.6 B	3.53	39.8	5.34	280.5	7.34	5.84	174.2	193.8	26.3	15.1	129	--	1.40	13.60
09/23	12.5	0.015 U	3 U	18.3	3.23	43.3	6.02	295	3.53	5.78	173.7	206.8	25.2	14.9	137	--	0.897	1.3
03/24	5.0 U	0.015 U	3 U	15.4	7.22	20.4	1.20	298.5	4.74	5.19	98.1	119.9	15.0	12.9	66.7	--	0.500 U	1.4

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - General Parameters

	Alkalinity (mg/L)	Ammonia Nitrogen (mg/L)	Chemical Oxygen Demand (mg/L)	Chloride (mg/L)	Dissolved Oxygen, Field (mg/L)	Hardness (mg/L)	Nitrate (mg/L)	ORP, Field (mV)	pH, Field (SU)	pH, Lab (SU)	Specific Conductivity, Field (uS/cm)	Specific Conductivity, Lab (umhos/cm)	Sulfate, total (mg/L)	Temperature, field (°C)	Total Dissolved Solids (mg/L)	Total Suspended Solids (mg/L)	Turbidity (NTU)	Turbidity, Field (NTU)
MCL							10											
08/24	11.8	0.015 U	3 U	16.5	4.18	43.3	6.53	163.4	5.53	5.83	170.5	195.869	26.2	15.9	134	8.4 U	1.39	25.1
03/25	21.2	0.015 U	3 U	20.4	3.33	43.8	6.05	182.1	5.50	5.79	191.3	196.9	25.6	15.3	142	14.4 U	0.271	19.87

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Total Metals

	Antimony, Total (mg/L)	Arsenic, Total (mg/L)	Barium, Total (mg/L)	Beryllium, Total (mg/L)	Cadmium, Total (mg/L)	Calcium, Total (mg/L)	Chromium, Total (mg/L)	Cobalt, Total (mg/L)	Copper, Total (mg/L)	Iron, Total (mg/L)	Lead, Total (mg/L)	Magnesium, Total (mg/L)	Manganese, Total (mg/L)
MCL	0.006	0.01	2	0.004	0.005		0.1				0.015		
03/17	0.002 U	0.004 U	0.163	0.001 U	0.001 U	9.23	0.002 J	0.0021	0.004 U	0.0558 J	0.0000960 J	6.25	0.0114
09/17	0.002 U	0.00096 J	0.151	0.00024 J	0.001 U	6.73	0.0039 J	0.0031	0.0016 J	1.04	0.0018 J	8.08	0.0208
04/18	0.001 U	0.0008 J	0.196	0.001 U	0.000348	9.4	0.0029	0.0031	0.0027 B	0.11	0.0003 J	9.4	0.0271
09/18	0.001 U	0.0007 JB	0.218	0.001 U	0.000178 JB	--	0.002 U	0.0029 J	0.0005 J	0.025 B	0.001 U	--	0.0307
03/19	0.001 U	0.001 U	0.0267	0.0003 J	0.000121 JB	0.3 B	0.002 JB	0.0011 J	0.0013 J	0.12 B	0.0004 J	3.6	0.004 J
08/19	0.002 U	0.002 U	0.179	0.0005 U	0.00018 J	9.35	0.0014 J	0.0035 J	0.04 U	0.137 B	0.003 U	6.56	0.0223
03/20	0.001 U	0.001 U	0.199	0.001 U	0.001 U	9.83	0.00178	0.00279	0.001 U	0.0338 J	0.001 U	8.39	0.0315
08/20	0.001 U	0.001 U	0.179	0.001 U	0.001 U	9.49	0.0017 JB	0.00309 JB	0.00109 J	0.0532 B	0.001 U	7.38	0.0238
03/21	0.001 U	0.001 U	0.0235	0.001 U	0.001 U	0.253	0.00419 J	0.00101 J	0.00236 JB	0.0684 B	0.001 U	3.46	0.00304 J
07/21	0.001 U	0.001 U	0.125	0.001 U	0.001 U	7.34	0.001 U	0.00264 J	0.001 U	0.0142 JB	0.001 U	5.18	0.0168
03/22	0.001 U	0.001 U	0.159	0.001 U	0.001 U	10.4	0.00845 J	0.00318 J	0.00267 J	0.124	0.001 U	6.45	0.0215
08/22	0.00100 U	0.00100 U	0.132	0.00100 U	0.00100 U	9.01	0.00228 J	0.00257 J	0.00206 J	0.221	0.00100 U	5.2	0.0139
04/23	0.00100 U	0.00100 U	0.118	0.00100 U	0.00100 U	7.92	0.00168 J	0.00203 J	0.00100 U	0.0667 J	0.00100 U	4.87	0.00628 J
09/23	0.00100 U	0.00100 U	0.126	0.00100 U	0.00100 U	9.03	0.00151 J	0.00212 J	0.00100 U	0.0365 J	0.00100 U	5.04	0.00427 J
03/24	0.00100 U	0.00100 U	0.0350	0.00100 U	0.00100 U	0.932	0.00135 J	0.00153 J	0.00100 U	0.0260 J	0.00100 U	4.38	0.00218 J
08/24	0.00100 U	0.00100 U	0.126	0.00100 U	0.00100 U	8.7	0.00219	0.00219	0.00100 U	0.0511 J	0.00100 U	5.22	0.00362 J
03/25	0.00100 U	0.00100 U	0.129	0.00100 U	0.00100 U	8.83	0.00202 J	0.00221 J	0.00208 J	0.0182 J	0.00100 U	5.29	0.00350 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Total Metals

	Mercury, Total (mg/L)	Nickel, Total (mg/L)	Potassium, Total (mg/L)	Selenium, Total (mg/L)	Silver, Total (mg/L)	Sodium, Total (mg/L)	Thallium, Total (mg/L)	Vanadium, Total (mg/L)	Zinc, Total (mg/L)
MCL	0.002			0.05			0.002		
03/17	0.0002 U	0.0029 J	1.67	0.0017 J	0.001 U	18.3	0.001 U	0.00047 J	0.0127 J
09/17	0.0002 U	0.0034 J	1.79	0.0012 J	0.001 U	19.7	0.001 U	0.0043	0.0136 J
04/18	0.0002 U	0.0043	2.1	0.0042 J	0.0001 J	22	0.0002 J	0.0008 J	0.0216
09/18	0.0002 U	0.0031 J	2.6	0.0004 J	0.001 U	25	0.001 U	0.0013 J	0.0184 B
03/19	0.0002 U	0.0022 JB	0.74	0.005 U	0.001 U	10	0.001 U	0.0007 J	0.0031 JB
08/19	0.0002 U	0.0034 J	1.94	0.0011 J	0.0005 U	24.1	0.0005 U	0.001 J	0.0152 B
03/20	0.0001 U	0.00331	2.09	0.00185	0.001 U	24.6	0.001 U	0.001 U	0.0133
08/20	0.0001 U	0.00376 J	2.03	0.00214 J	0.001 U	22.9	0.001 U	0.001 U	0.0153
03/21	0.0001 U	0.00171 J	0.585	0.001 U	0.001 U	10	0.001 U	0.001 U	0.004 U
07/21	0.0001 U	0.00275 J	1.68	0.00161 J	0.001 U	18.7	0.001 U	0.001 U	0.0111 B
03/22	0.0001 U	0.00583 J	2.84	0.00152 J	0.001 U	21.8	0.001 U	0.00124 J	0.0167
08/22	0.000100 U	0.00218 J	1.79	0.00180 J	0.00100 U	19.5	0.00100 U	0.00122 J	0.0166 B
04/23	0.000100 U	0.00311 J	1.68 B	0.00139 J	0.00100 U	18.9	0.00100 U	0.00100 U	0.00485 J
09/23	0.000100 U	0.00318 J	1.84	0.00206 J	0.00100 U	19	0.00100 U	0.00100 U	0.0197 B
03/24	0.000100 U	0.00220 J	0.706	0.00100 U	0.00100 U	13	0.00100 U	0.00100 U	0.00400 U
08/24	0.000100 U	0.00391 J	1.85	0.00196 J	0.00100 U	19.4	0.00100 U	0.00100 U	0.0128 B
03/25	0.000100 U	0.00519 J	1.83	0.00292 J	0.00100 U	18.6	0.00100 U	0.00100 U	0.0201

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - PFAS Compounds

	Perfluoro(2-propoxypropanoic) acid (HFPODA) (ng/L)	Perfluorobutanesulfonic acid (PFBS) (ng/L)	Perfluorohexanesulfonic acid (PFHxS) (ng/L)	Perfluorononanoic acid (PFNA) (ng/L)	Perfluorooctanesulfonic acid (PFOS) (ng/L)	Perfluorooctanoic acid (PFOA) (ng/L)
MCL	10		10	10	4	4
08/24	7.17 U	1.60 U	1.64 U	1.79 U	1.83	1.79 U
03/25	7.30 U	1.61 J	0.86 J	1.50 J	4.71	3.59 J

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
03/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	--	5 U	--	1 U	1 U	1 U	1 U
03/19	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	10 U	10 U	10 U	10 U	--	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	2.92 B
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.048 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.047 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.048 U	0.019 U	1 U	1 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.048 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.047 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.046 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.2 B	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.048 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-11 - Volatile Organic Compounds

	1,1,1,2-Tetrachloroethane (ug/L)	1,1,1-Trichloroethane (ug/L)	1,1,2,2-Tetrachloroethane (ug/L)	1,1,2-Trichloroethane (ug/L)	1,1-Dichloroethane (ug/L)	1,1-Dichloroethene (ug/L)	1,2,3-Trichloropropane (ug/L)	1,2-Dibromo-3-chloropropane (ug/L)	1,2-Dibromoethane (ug/L)	1,2-Dichlorobenzene (ug/L)	1,2-Dichloroethane (ug/L)	1,2-Dichloropropane (ug/L)	1,4-Dichlorobenzene (ug/L)	2-Butanone (ug/L)	2-Hexanone (ug/L)	4-Methyl-2-Pentanone (ug/L)	Acetone (ug/L)	Acrylonitrile (ug/L)	Benzene (ug/L)	Bromochloromethane (ug/L)	Bromodichloromethane (ug/L)	Bromoform (ug/L)
MCL		200		5		7		0.2	0.05	600	5	5	75						5		80	80
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.019 U	0.019 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.020 U	0.020 U	1.0 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-11 - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000
03/17	1 U	1 U	1 U	1 U	1 U	0.9 J	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	0.6 J	1 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	1 U	1 U	1 U	2.2	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	0.7 J	1 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	1 U	1 U	1 U	0.48 J	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	0.904 J	1 U	1 U	1 U	1 U	1 U	1 U
09/18	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	5 U	0.688 J	1 U	1 U	1 U	1 U	1 U	1 U
03/19	10 U	5 U	5 U	5 U	10 U	5.82 B	10 U	--	5 U	5 U	5 U	5 U	5 U	1 U	1 U	5 U	5 U	5 U	5 U	5 U	5 U
08/19	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	0.895 JB	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	2.1 B	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.8	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-11 - Volatile Organic Compounds

	Bromomethane (ug/L)	Carbon Disulfide (ug/L)	Carbon Tetrachloride (ug/L)	Chlorobenzene (ug/L)	Chloroethane (ug/L)	Chloroform (ug/L)	Chloromethane (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,2-Dichloroethene (ug/L)	cis-1,3-Dichloropropene (ug/L)	Dibromochloromethane (ug/L)	Ethylbenzene (ug/L)	m&p-Xylene (ug/L)	Methyl Iodide (ug/L)	Methyl Tertiary Butyl Ether (ug/L)	Methylene Bromide (ug/L)	Methylene Chloride (ug/L)	o-Xylene (ug/L)	Styrene (ug/L)	Tetrachloroethene (ug/L)	Toluene (ug/L)
MCL			5	100		80			70		80	700	10000				5	10000	100	5	1000
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	--	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill

Monitoring Location B-MW-11 - Volatile Organic Compounds

	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100			5			2	10000
03/17	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U
09/17	1 U	1 U	5 U	1 U	1 U	1 U	1 U	1 U
04/18	1 U	1 U	5 U	1 U	--	5 U	1 U	1 U
09/18	1 U	1 U	5 U	1 U	1 U	5 U	1 U	2 U
03/19	5 U	5 U	--	5 U	10 U	10 U	10 U	5 U
08/19	1 U	1 U	5 U	1 U	1 U	5 U	1 U	1 U
03/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/20	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
07/21	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
03/22	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
08/22	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
04/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
09/23	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Berlin Landfill
Monitoring Location B-MW-11 - Volatile Organic Compounds

	trans-1,2-Dichloroethene (ug/L)	trans-1,3-Dichloropropene (ug/L)	trans-1,4-Dichloro-2-butene (ug/L)	Trichloroethene (ug/L)	Trichlorofluoromethane (ug/L)	Vinyl Acetate (ug/L)	Vinyl Chloride (ug/L)	Xylene (ug/L)
MCL	100			5			2	10000
08/24	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
03/25	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Shaded concentrations represent MCL/GWPS exceedances

Appendix B

Groundwater Well Construction Documentation

W

PLANNING, PERMITS AND INSPECTIONS

Worcester County

ROOM 116 COURT HOUSE

SNOW HILL, MARYLAND 21863

301-632-1200

BOARD OF APPEALS
PLANNING COMMISSION
AGRICULTURAL PRESERVATION
ENVIRONMENTAL PROGRAMS

ELECTRICAL BOARD
SHORELINE COMMISSION
LICENSE COMMISSIONERS

WELL CONSTRUCTION PERMIT

PERMIT NO. 25-110-95

STATE NO. WO-94-0152 TO WO-94-0161

PROPERTY OWNER Worcester County

MAILING ADDRESS One W. Market Street
Snow Hill, MD 21863

SUBDIVISION

LOT **BLOCK** **SECTION**

WELL DRILLER Handex of Maryland, Inc.

PROPOSED WELL DEPTH: 15 ft.

SPECIAL CONDITIONS: TEST WELL TO BE ABANDONED WHEN TESTING COMPLETED.

IN ACCORDANCE WITH MARYLAND COMAR 26.04.04, A PERMIT HAS BEEN ISSUED FOR THE CONSTRUCTION OF A WELL TO SERVE THE ABOVE PROPERTY.

APPROVING SANITARIAN Susan Hughes RS
DATE 10/26/95

EMERGENCY/TEMP NO. IF ANY

B 1 **3001** SEQUENCE NO. (DP USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
PERMIT TO DRILL WELL
please print or type

STATE PERMIT NUMBER: WO-81-2337
fill in this form completely

Date Received (APA):

OWNER INFORMATION

Last Name / Owner / First Name: WORCESTER COUNTY

Street or RFD: P. O. BOX 249

Town: SNOW HILL State: MD Zip: 21863

DRILLER INFORMATION

Driller's Name: MICHAEL W. HUBER License No.: 336

Firm Name: HARDIN-HUBER, INC.

Address: 1230 CRONSON BLVD. CROFTON, MD 21114

Signature: Michael W Huber Date: JUNE 29, 1988

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): NONE

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): NONE

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL: 40 FEET

APPROXIMATE DIAMETER OF WELL: 4 NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) | JETTED | Jetted & DRIVEN
AIR-ROTary | AIR-PERcussion | ROTARY (Hydraulic Rotary)
CABLE | REVerse-ROTary | DRive-POINT

other ______

REPLACEMENT OR DEEPENED WELLS (CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENDED (IF AVAILABLE):

Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE [ ] WRITE INITIALS IN BOX PERMIT No. WO-81-2337

B 3 LOCATION OF WELL

COUNTY: WORCESTER

SUBDIVISION:

SECTION: LOT:

NEAREST TOWN: BERLIN

MILES FROM TOWN (enter 0 if in town): .4 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NE, E, SE, S, SW, W, NW — E

NEAR WHAT ROAD: FLOWER ST.

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH / WEST / EAST / SOUTH — S

DISTANCE FROM ROAD: 1.2

ENTER FT or MI: MI

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

COUNTY NAME: WORCESTER COUNTY NO.: 25-110-88#6

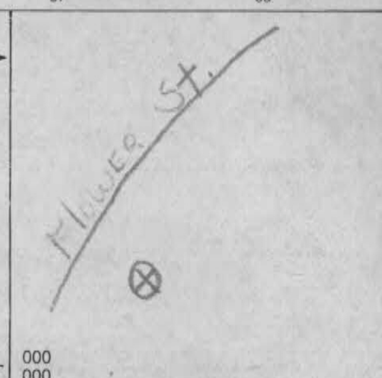
STATE SIGNATURE: Richard J Wellstk INSERT S

DATE ISSUED: 070588

CO SIGNATURE / EXP. DATE

NORTH GRID: 186000 EAST GRID: 1316000

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X



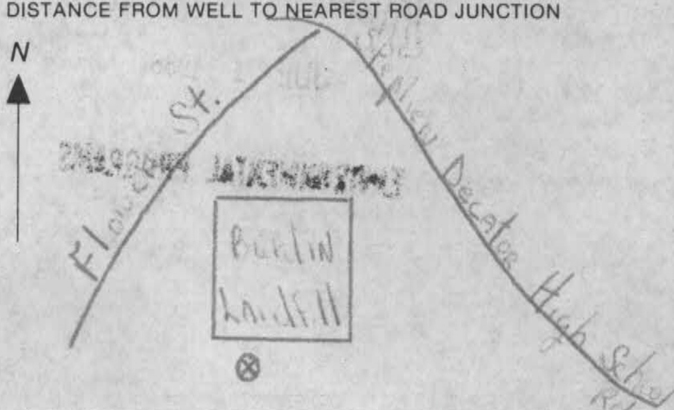
SOURCES OF DRILLING WATER
1. MUNICIPAL
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E 1,316,000
N 186,000

000
000

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



SPECIAL CONDITIONS

Well #6 MW-4 I

COUNTY

EMERGENCY/TEMP NO. IF ANY

B 1 3002 SEQUENCE NO. (DP USE ONLY)	STATE OF MARYLAND PERMIT TO DRILL WELL	STATE PERMIT NUMBER
(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)	please print or type	WO-81-2338 fill in this form completely

STATE OF MARYLAND PERMIT TO DRILL WELL

please print or type

Date Received (APA)

OWNER INFORMATION

WORCESTER COUNTY
Last Name Owner First Name

P.O. BOX 249
Street or RFD

SNOW HILL MD 21863
Town State Zip

B 3 LOCATION OF WELL

WORCESTER
COUNTY

SUBDIVISION

SECTION LOT

BERLIN
NEAREST TOWN

MILES FROM TOWN (enter 0 if in town) .4 MI

DRILLER INFORMATION

MICHAEL W. HUBER 336
Driller's Name License No.

HARDIN-HUBER, INC.
Firm Name

1230 CRONSON BLVD., CROFTON, MD 21114
Address

Michael W Huber JUNE 29, 1988
Signature Date

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX)

N, NE, E, SE, S, SW, W, NW — TOWN — E

FLOWER ST.
NEAR WHAT ROAD

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
NORTH N, WEST W, 32, E EAST, S SOUTH — S

2400
DISTANCE FROM ROAD

ENTER FT or MI Ft

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.) NONE

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) NONE

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

WORCESTER 25-110-88 #7
COUNTY NAME COUNTY NO.

STATE SIGNATURE Richard L Welles INSERT S

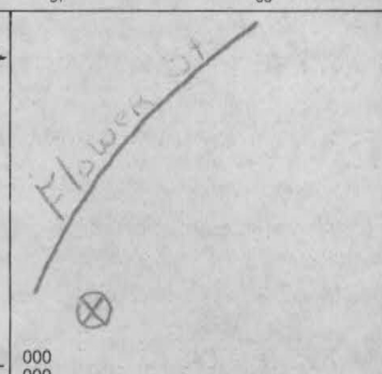
DATE ISSUED
070588 1/5/89
CO SIGNATURE EXP. DATE

NORTH GRID 186000 EAST GRID 1316000

APPROXIMATE DEPTH OF WELL 45 FEET

APPROXIMATE DIAMETER OF WELL 4" NEAREST INCH

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X



SOURCES OF DRILLING WATER
1. MUNICIPAL
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE
E 1,316,000
N 186,000

METHOD OF DRILLING (circle one)

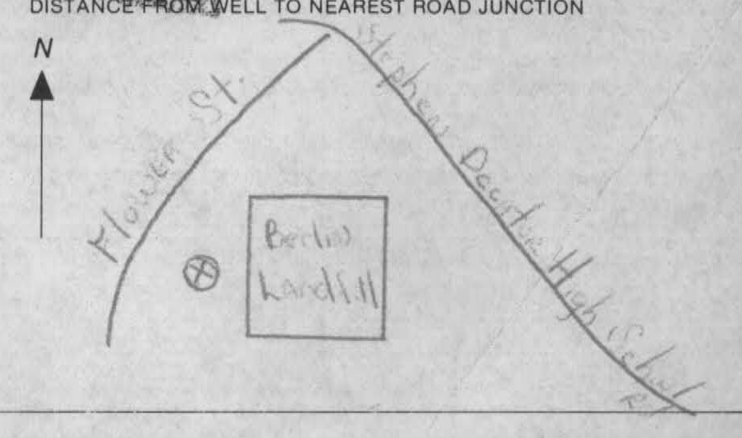
BORED (or Augered) JETTED Jetted & DRIVEN
AIR-ROTary AIR-PERcussion ROTARY (Hydraulic Rotary)
CABLE REVerse-ROTary DRive-POINT
other

REPLACEMENT OR DEEPENED WELLS (CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE)

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER GAP

FORCE WRITE INITIALS IN BOX PERMIT No. WO-81-2338

SPECIAL CONDITIONS

WELL #7 MW-11

COUNTY

EMERGENCY/TEMP NO. IF ANY

B 1 3000 SEQUENCE NO. (DP USE ONLY)

1 2 3 6

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND PERMIT TO DRILL WELL

please print or type

STATE PERMIT NUMBER

WO-81-2339

70 *fill in this form completely* 79

Date Received (APA)

8 13

OWNER INFORMATION

WORCESTER COUNTY

15 Last Name Owner First Name 34

P. O. BOX 249

36 Street or RFD 55

SNOW HILL MD 21863

57 Town 70 State 72 Zip 76

DRILLER INFORMATION

MICHAEL W. HUBER 336

Driller's Name 77 License No. 80

HARDIN-HUBER, INC.

Firm Name

1230 CRONSON BLVD., CROFTON, MD 21114

Address

Michael W Huber JUNE 29, 1988

Signature Date

B 2 WELL INFORMATION

1 2

APPROX. PUMPING RATE (GAL. PER MIN.) NONE 8 12

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) NONE 14 20

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- 22 I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL 100 FEET 24 28

APPROXIMATE DIAMETER OF WELL 4" NEAREST INCH

METHOD OF DRILLING (circle one)

30-37

BORED (or Augered)	JETTED	Jetted & DRIVEN
AIR-ROTary	AIR-PERcussion	ROTARY (Hydraulic Rotary)
CABLE	REVerse-ROTary	DRive-POINT

other

REPLACEMENT OR DEEPENED WELLS (CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- 39 S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE) 41 52

Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER G A P 54 63

FORCE 67 68 WRITE INITIALS IN BOX PERMIT No. WO-81-2339 70 71 72 73 74 75 76 77 78 79

B 3 LOCATION OF WELL

1 2

WORCESTER

8 COUNTY 21

23 SUBDIVISION 42

SECTION 44 46 LOT 48 50

BERLIN

52 NEAREST TOWN 71

MILES FROM TOWN (enter 0 if in town) .4 MI 73 76 77 78

B 4

1 2

DIRECTION OF WELL FROM TOWN (CIRCLE BOX)

N 8, NE 8-9, E 8, SE 8-9, S 8, SW 8-9, W 8, NW 8-9, TOWN

FLOWER STREET

11 NEAR WHAT ROAD 30

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX) NORTH N, WEST W, 32, EAST E, SOUTH S

34 1.35 37

DISTANCE FROM ROAD

ENTER FT or MI MI 38 39

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

WORCESTER 25-110-88 #5

COUNTY NAME COUNTY NO.

STATE SIGNATURE Richard L Wells RS INSERT S 41

DATE ISSUED

070568 1/5/89

43 48 CO SIGNATURE EXP. DATE

NORTH GRID 186000 50 55 EAST GRID 1316000 57 63

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

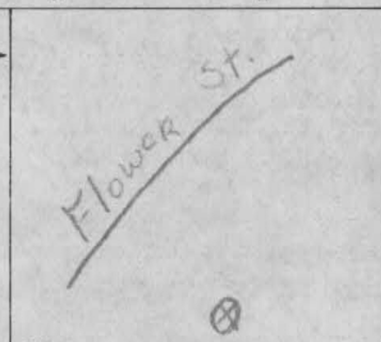
SOURCES OF DRILLING WATER

1. MUNICIPAL
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

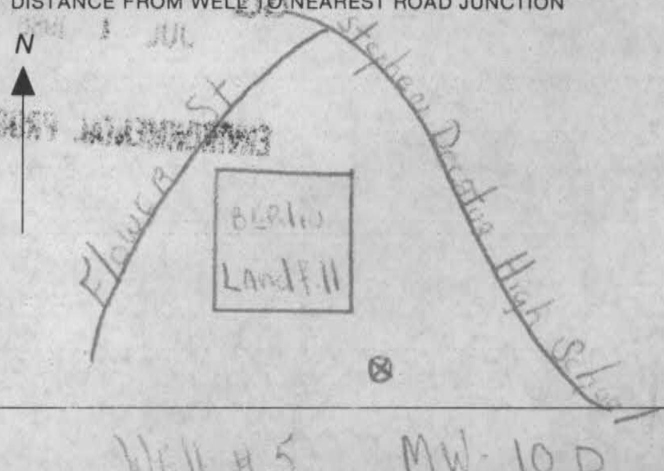
E 1,316,000

N 186,000



RECEIVED

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



SPECIAL CONDITIONS

Well #5 MW-10D

COUNTY

EMERGENCY/TEMP NO. IF ANY

B 1 3016 SEQUENCE NO. (DP USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
PERMIT TO DRILL WELL

please print or type

STATE PERMIT NUMBER: WO-81-2340

fill in this form completely

Date Received (APA):

OWNER INFORMATION

Last Name / Owner / First Name: WORCESTER COUNTY

Street or RFD: P. O. BOX 249

Town: SNOW HILL State: MD Zip: 21863

DRILLER INFORMATION

Driller's Name: MICHAEL W. HUBER License No.: 336

Firm Name: HARDIN-HUBER, INC.

Address: 1230 CRONSON BLVD. CROFTON, MD 21114

Signature: Michael W Huber Date: JUNE 29, 1988

B 3 LOCATION OF WELL

COUNTY:

SUBDIVISION: WORCESTER

SECTION: LOT:

NEAREST TOWN: BERLIN

MILES FROM TOWN (enter 0 if in town): .4 MI

B 4

NEAR WHAT ROAD: FLOWER STREET

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NE, E, SE, S, SW, W, NW — TOWN — E (circled)

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH N, WEST W, 32, EAST E, SOUTH S (circled)

DISTANCE FROM ROAD: 1.4

ENTER FT or MI: MI

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): NONE

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): NONE

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

COUNTY NAME: WORCESTER COUNTY NO.: 25-110-88-#4

STATE SIGNATURE: Richard Willcks INSERT S

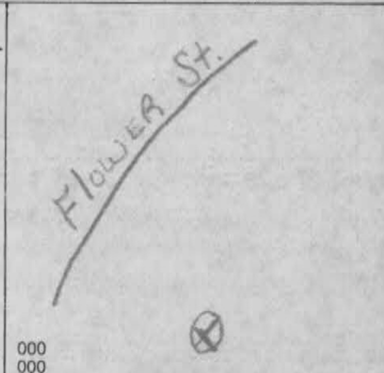
DATE ISSUED: 070588 CO SIGNATURE EXP. DATE: 1/5/89

NORTH GRID: 186000 EAST GRID: 1316000

APPROXIMATE DEPTH OF WELL: 30

APPROXIMATE DIAMETER OF WELL: 4" NEAREST INCH

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X



SOURCES OF DRILLING WATER
1. MUNICIPAL
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E 1,316,000

N 186,000

000
000

METHOD OF DRILLING (circle one)

BORED (or Augered) (circled) JETTED Jetted & DRIVEN

AIR-ROTary AIR-PERcussion ROTARY (Hydraulic Rotary)

CABLE REVerse-ROTary DRive-POINT

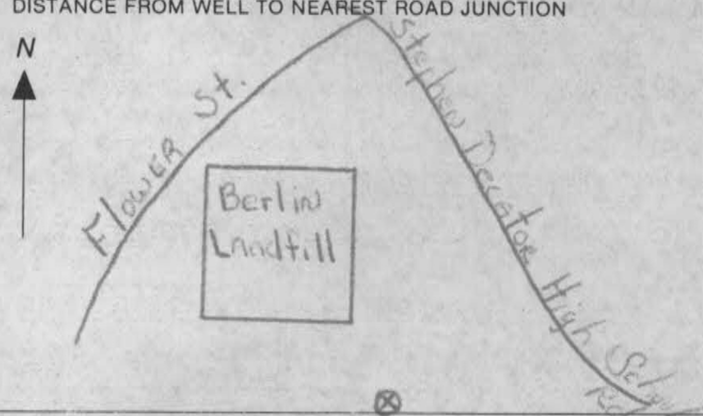
other

REPLACEMENT OR DEEPENED WELLS
(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL (circled)
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE):

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: G A P

FORCE (WRITE INITIALS IN BOX) PERMIT No.: WO-81-2340

SPECIAL CONDITIONS

WELL #4 MW-105

COUNTY

EMERGENCY/TEMP NO. IF ANY

B 1 3012 SEQUENCE NO. (DP USE ONLY)	STATE OF MARYLAND PERMIT TO DRILL WELL	STATE PERMIT NUMBER
1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)	*please print or type*	WD-81-2341 70 *fill in this form completely* 79

Date Received (APA) 8 13

OWNER INFORMATION

WORCESTER COUNTY
15 Last Name Owner First Name 34

P. O. BOX 249
36 Street or RFD 55

SNOW HILL MD 21863
57 Town 70 State 72 Zip 76

DRILLER INFORMATION

MICHAEL W. HUBER — 336
Driller's Name — 77 License No. 80

HARDIN-HUBER, INC.
Firm Name

1230 CRONSON BLVD., CROFTON, MD 21114
Address

Michael W. Huber — JUNE 29, 1988
Signature — Date

B 2 *WELL INFORMATION*

APPROX. PUMPING RATE (GAL. PER MIN.) NONE (8–12)

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY) NONE (14–20)

B 3 *LOCATION OF WELL*

WORCESTER
8 COUNTY 21

23 SUBDIVISION 42

SECTION 44 46 LOT 48 50

BERLIN
52 NEAREST TOWN 71

MILES FROM TOWN (enter 0 if in town) 4 MI (73 76 77 78)

B 4 DIRECTION OF WELL FROM TOWN (CIRCLE BOX)

N 8; NW 8–9; NE 8–9; W 8; TOWN; E 8; SW 8–9; S 8; SE 8–9

FLOWER STREET
11 NEAR WHAT ROAD 30

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX)
NORTH N; WEST W; 32; E EAST; S SOUTH

34 4800 37
DISTANCE FROM ROAD

ENTER FT or MI FT 38 39

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- 22 I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

WORCESTER — 25-110-88-#3
COUNTY NAME — COUNTY NO.

STATE SIGNATURE Richard Wells RS — INSERT S 41

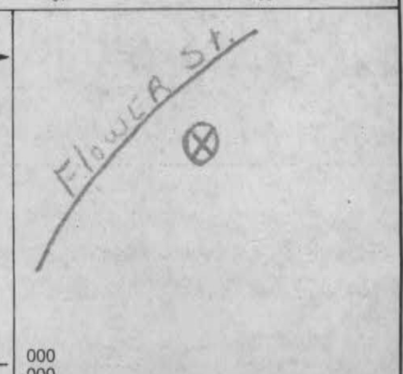
DATE ISSUED — 1/5/89
43 48 CO. SIGNATURE — EXP. DATE

NORTH GRID 186000 (50–55) EAST GRID 1316000 (57–63)

APPROXIMATE DEPTH OF WELL 60 FEET (24–28)

APPROXIMATE DIAMETER OF WELL 4" NEAREST INCH

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X



SOURCES OF DRILLING WATER
1. MUNICIPAL
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E 1,316,000
N 186,000
000
000

METHOD OF DRILLING (circle one)

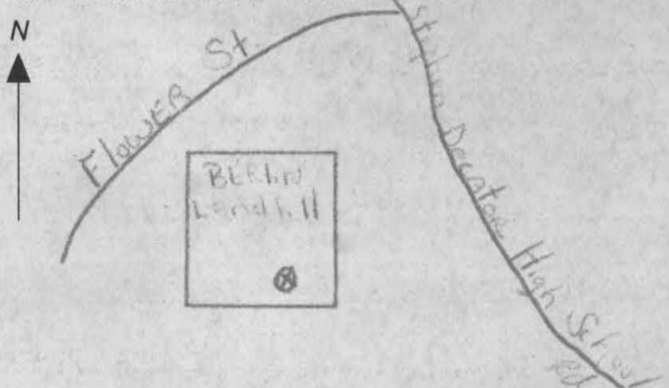
30-37
BORED (or Augered) — JETTED — Jetted & DRIVEN
AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary)
CABLE — REVerse-ROTary — DRive-POINT
other

REPLACEMENT OR DEEPENED WELLS (CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- 39 S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE) 41 52

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER GAP (54–63)

FORCE 67 68 WRITE INITIALS IN BOX PERMIT No. WD-81-2341 (70–79)

SPECIAL CONDITIONS

Well #3 MW-9

COUNTY

EMERGENCY/TEMP NO. IF ANY

B 1 **2979** SEQUENCE NO. (DP USE ONLY) (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)	*STATE OF MARYLAND* *PERMIT TO DRILL WELL* please print or type	STATE PERMIT NUMBER WO-81-2342 *fill in this form completely*

OWNER INFORMATION

Date Received (APA):

Last Name / Owner / First Name: WORCESTER COUNTY

Street or RFD: P. O. BOX 249

Town: SNOW HILL State: MD Zip: 21863

DRILLER INFORMATION

Driller's Name: MICHAEL W. HUBER License No.: 336

Firm Name: HARDIN-HUBER, INC.

Address: 1230 CRONSON BLVD. CROFTON, MD 21114

Signature: Michael W. Huber Date: JUNE 29, 1988

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): NONE

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): NONE

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- **T** TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL: 35 FEET

APPROXIMATE DIAMETER OF WELL: 4" NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) JETTED Jetted & DRIVEN
AIR-ROTary AIR-PERcussion ROTARY (Hydraulic Rotary)
CABLE REVerse-ROTary DRive-POINT
other

REPLACEMENT OR DEEPENED WELLS (CIRCLE APPROPRIATE BOX)

- **N** THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE):

Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: G A P

FORCE [ ] WRITE INITIALS IN BOX PERMIT No. WO-81-2342

B 3 LOCATION OF WELL

COUNTY: WORCESTER

SUBDIVISION:

SECTION: LOT:

NEAREST TOWN: BERLIN

MILES FROM TOWN (enter 0 if in town): 4 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): **E**

NEAR WHAT ROAD: Flower St.

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): S (SOUTH)

DISTANCE FROM ROAD: 1.2 ENTER FT or MI: MI

NOT TO BE FILLED IN BY DRILLER HEALTH DEPARTMENT APPROVAL

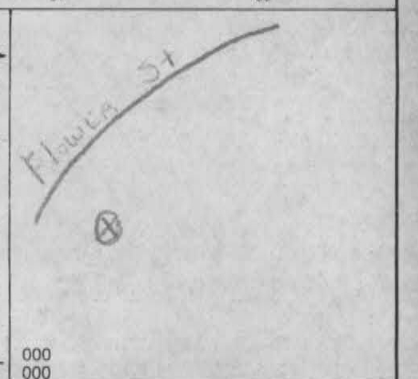
COUNTY NAME: WORCESTER COUNTY NO.: 25-110-88#1

STATE SIGNATURE: Richard L Wells KO INSERT S

DATE ISSUED: 070588 CO SIGNATURE EXP. DATE: 1/5/89

NORTH GRID: 186000 EAST GRID: 1316000

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

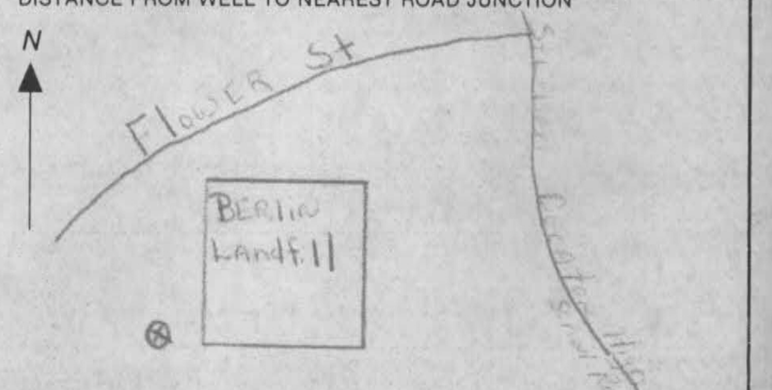


SOURCES OF DRILLING WATER
1. Municipal
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E 1,316,000
N 186,000

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



SPECIAL CONDITIONS

WELL #1 MW-8M

COUNTY

EMERGENCY/TEMP NO. IF ANY

B 1	2980 SEQUENCE NO. (DP USE ONLY) (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)	STATE OF MARYLAND PERMIT TO DRILL WELL please print or type	STATE PERMIT NUMBER WO-81-2343 fill in this form completely

STATE OF MARYLAND
PERMIT TO DRILL WELL

please print or type

STATE PERMIT NUMBER: WO-81-2343
fill in this form completely

Date Received (APA):

OWNER INFORMATION

Last Name / Owner / First Name: WORCESTER COUNTY

Street or RFD: P. O. BOX 249

Town: SNOW HILL State: MD Zip: 21863

DRILLER INFORMATION

Driller's Name: MICHAEL W. HUBER License No.: 336

Firm Name: HARDIN-HUBER, INC.

Address: 1230 CRONSON BLVD. CROFTON, MD 21114

Signature: Michael W Huber Date: JUNE 29, 1988

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): NONE

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): NONE

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL: 65 FEET

APPROXIMATE DIAMETER OF WELL: 4" NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) JETTED Jetted & DRIVEN
AIR-ROTary AIR-PERcussion ROTARY (Hydraulic Rotary)
CABLE REVerse-ROTary DRive-POINT
other

REPLACEMENT OR DEEPENED WELLS (CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE):

Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE | WRITE INITIALS IN BOX | PERMIT No. WO-81-2343

B 3 LOCATION OF WELL

COUNTY: WORCESTER

SUBDIVISION:

SECTION: LOT:

NEAREST TOWN: BERLIN

MILES FROM TOWN (enter 0 if in town): 4 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NW, NE, W, TOWN, E, SW, S, SE — E

NEAR WHAT ROAD: FLOWER STREET

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH, WEST, 32, EAST, SOUTH — S

DISTANCE FROM ROAD: 1.25

ENTER FT or MI: MI

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

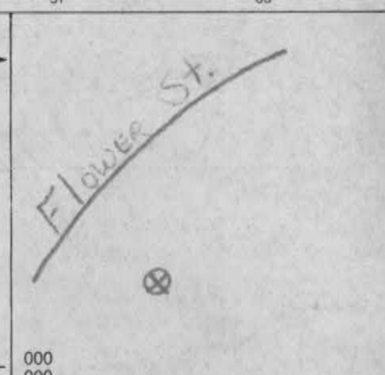
COUNTY NAME: WORCESTER COUNTY NO.: 25-110-88-#2

STATE SIGNATURE: Richard L Wells RS INSERT S

DATE ISSUED: 070588 CO SIGNATURE EXP. DATE: 1/5/89

NORTH GRID: 186000 EAST GRID: 1316000

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X



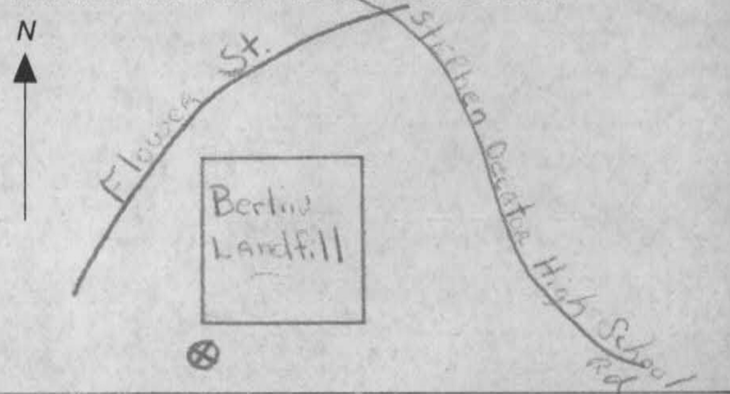
SOURCES OF DRILLING WATER
1. MUNICIPAL
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E 1,316,000
N 186,000

000
000

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



SPECIAL CONDITIONS

WELL #2 MW 8D

COUNTY

APPENDIX B

BORING LOGS AND SOILS DATA

HARRINGTON, LACEY AND ASSOCIATES, INC.

1980

ATEC Associates, Inc.
of Maryland
Consulting Geotechnical & Materials Engineers

RECORD OF SOIL EXPLORATION

CONTRACTED WITH Harrington, Lacey and Associates BORING # 1
PROJECT NAME Berlin JOB # 31-01369
LOCATION Worcester County, Maryland

SAMPLER

Datum ______	Hammer Wt. 140 Lbs.	Hole Diameter 8"	Foreman Franz
Surf. Elev. ______ Ft.	Hammer Drop 30 In.	Rock Core Dia. ______	Inspector Ed Young
Date Started 5/12/80	Pipe Size 2.0 In.	Boring Method HSA	Date Completed 5/12/80

ELEV.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions	STRA. DEPTH	DEPTH SCALE	SAMPLE Cond.	Blows/6"	No.	Type	Rec. "	BORING & SAMPLING NOTES
	SURFACE	0.0							
	Green grey Sandy SILT			I	2 1/2	1	DS	16	
		6.0							Water on rods @ 7.0'
	Light tan, wet, fine to coarse SAND		10	D	1 7/2	2	DS	12	
				D	3 5/5	3	DS	14	
			20	D	2 3/4	4	DS	16	
				D	4 5/9	5	DS	14	
			30	D	2 7/11	6	DS	8	4" PVC set at 30', with 3' stickup Top 5' galvanized steel pipe and cap Bottom 10' slotted screen.
	Bottom of Test Boring @ 30.0'								
			40						

SAMPLE CONDITIONS
D-DISINTEGRATED
I-INTACT
U-UNDISTURBED
L-LOST

SAMPLER TYPE
DS-DRIVEN SPLIT SPOON
PT-PRESSED SHELBY TUBE
CA-CONTINUOUS FLIGHT AUGER
RC-ROCK CORE

GROUND WATER DEPTH
AT COMPLETION 6.5 FT.
AFTER ______ HRS. ______ FT.
AFTER 24 HRS. 9.0 FT.

BORING METHOD
HSA-Hollow Stem Augers
CFA-Continuous Flight Augers
DC -Driving Casing
MD -Mud Drilling

ATEC Associates, Inc.
of Maryland
Consulting Geotechnical & Materials Engineers

RECORD OF SOIL EXPLORATION

CONTRACTED WITH Harrington, Lacey and Associates — BORING # 2
PROJECT NAME Berlin — JOB # 31-01369
LOCATION Worcester County, Maryland

SAMPLER

Datum ______ Hammer Wt. 140 Lbs. Hole Diameter 8" Foreman Franz
Surf. Elev. ______ Ft. Hammer Drop 30 In. Rock Core Dia. ______ Inspector Ed Young
Date Started 5/13/80 Pipe Size 2.0 In. Boring Method HSA Date Completed 5/13/80

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Plasticity, Size, Proportions)	STRA. DEPTH	DEPTH SCALE	SAMPLE Cond.	Blows/6"	No.	Type	Rec. "	BORING & SAMPLING NOTES
	SURFACE	0.0							
	Tan, fine SAND			D	5 6/7	1	DS	14	
		6.0							
	Grey SILT, trace sand		10	I	2 2/3	2	DS	12	
		11.0							Water on rods @ 11.5'
	Light grey, wet to very wet, medium to coarse SAND			D	4 6/7	3	DS	14	
			20	D	2 3/5	4	DS	16	
				D	5 5/7	5	DS	14	
		30.0	30	D	8 9/11	6	DS	16	4" PVC set at 30' with 3' stickup Top 5' galvanized steel pipe and cap Bottom 10' slotted screen.
	Bottom of Test Boring @ 30.0'								
			40						

SAMPLE CONDITIONS
D-DISINTEGRATED
I-INTACT
U-UNDISTURBED
L-LOST

SAMPLER TYPE
DS-DRIVEN SPLIT SPOON
PT-PRESSED SHELBY TUBE
CA-CONTINUOUS FLIGHT AUGER
RC-ROCK CORE

GROUND WATER DEPTH
AT COMPLETION 9.3 FT.
AFTER ______ HRS. ______ FT.
AFTER 24 HRS. 11.0 FT.

BORING METHOD
HSA-Hollow Stem Augers
CFA-Continuous Flight Augers
DC -Driving Casing
MD -Mud Drilling

ATEC Associates, Inc.
of Maryland
Consulting Geotechnical & Materials Engineers

RECORD OF SOIL EXPLORATION

CONTRACTED WITH Harrington, Lacey and Associates — BORING # 3
PROJECT NAME Berlin — JOB # 31-01369
LOCATION Worcester County, Maryland

SAMPLER

Datum	Hammer Wt. 140 Lbs.	Hole Diameter 8"	Foreman Franz
Surf. Elev. Ft.	Hammer Drop 30 In.	Rock Core Dia.	Inspector Ed Young
Date Started 5/14/80	Pipe Size 2.0 In.	Boring Method HSA	Date Completed 5/14/80

ELEV.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions	STRA. DEPTH	DEPTH SCALE	Cond.	Blows/6"	No.	Type	Rec. "	BORING & SAMPLING NOTES
	SURFACE	0.0							
	Light brown, Silty medium to fine SAND								
				D	3 5/5	1	DS	16	
	Wet at 8.0'								Water on rods @ 8.0'
			10	D	3 6/6	2	DS	10	
				D	1 2/2	3	DS	18	
			20	D	4 6/6	4	DS	12	
	Medium SAND at 25.0'			D	3 5/7	5	DS	8	
			30	D	5 9/13	6	DS	12	
				D	8 10/11	7	DS	14	4" PVC set at 40', with 3' stickup. Top 5' galvanized steel pipe and cap. Bottom 10' slotted screen.
	Coarse SAND at bottom	40.0	40	D	11 13/17	8	DS	14	
	Bottom of Test Boring @ 40.0'								

SAMPLE CONDITIONS	SAMPLER TYPE	GROUND WATER DEPTH	BORING METHOD
D-DISINTEGRATED	DS-DRIVEN SPLIT SPOON	AT COMPLETION 8.0 FT.	HSA-Hollow Stem Augers
I-INTACT	PT-PRESSED SHELBY TUBE	AFTER ___ HRS. ___ FT.	CFA-Continuous Flight Augers
U-UNDISTURBED	CA-CONTINUOUS FLIGHT AUGER	AFTER 24 HRS. 14.0 FT.	DC-Driving Casing
L-LOST	RC-ROCK CORE		MD-Mud Drilling

AIEC Associates, Inc.
of Maryland
Consulting Geotechnical & Materials Engineers

RECORD OF SOIL EXPLORATION

CONTRACTED WITH: Harrington, Lacey and Associates — BORING #: 4
PROJECT NAME: Berlin — JOB #: 31-01369
LOCATION: Worcester County, Maryland

SAMPLER

Datum:	Hammer Wt.: 140 Lbs.	Hole Diameter: 8"	Foreman: Franz
Surf. Elev.: Ft.	Hammer Drop: 30 In.	Rock Core Dia.:	Inspector: Ed Young
Date Started: 5/14/80	Pipe Size: 2.0 In.	Boring Method: HSA	Date Completed: 5/14/80

ELEV.	SOIL DESCRIPTION (Color, Moisture, Density, Plasticity, Size, Proportions)	STRA. DEPTH	DEPTH SCALE	SAMPLE Cond.	Blows/6"	No.	Type	Rec.	BORING & SAMPLING NOTES
	SURFACE	0.0						"	
	Grey green SILT, trace sand								
				I	2 2/3	1	DS	14	
		7.0							Water on rods @ 8.0'
	Grey, medium SAND								
			10	D	3 2/4	2	DS	12	
				D	2 1/3	3	DS	14	
			20	D	2 4/7	4	DS	12	
				D	2 3/3	5	DS	12	
	Coarser sand (samples smell bad)								
		30.0	30	D	4 6/7	6	DS	12	4" PVC set at 30' with 3' stickup. Top 5' galvanized steel pipe and cap. Bottom 10' slotted screen.
	Bottom of Test Boring @ 30.0'								
			40						

SAMPLE CONDITIONS
D-DISINTEGRATED
I-INTACT
U-UNDISTURBED
L-LOST

SAMPLER TYPE
DS-DRIVEN SPLIT SPOON
PT-PRESSED SHELBY TUBE
CA-CONTINUOUS FLIGHT AUGER
RC-ROCK CORE

GROUND WATER DEPTH
AT COMPLETION 6.0 FT.
AFTER ____ HRS. ____ FT.
AFTER 24 HRS. 4.0 FT.

BORING METHOD
HSA-Hollow Stem Augers
CFA-Continuous Flight Augers
DC -Driving Casing
MD -Mud Drilling

... HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

ATEC Associates, Inc.
of Maryland
Consulting Geotechnical & Materials Engineers

RECORD OF SOIL EXPLORATION

CONTRACTED WITH Harrington, Lacey and Associates BORING # 5
PROJECT NAME Berlin JOB # 31-01369
LOCATION Worcester County, Maryland

SAMPLER

Datum	Hammer Wt. 140 Lbs.	Hole Diameter 8"	Foreman Franz
Surf. Elev. Ft.	Hammer Drop 30 In.	Rock Core Dia.	Inspector Ed Young
Date Started	Pipe Size 2.0 In.	Boring Method HSA	Date Completed

ELEV.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions	STRA. DEPTH	DEPTH SCALE	SAMPLE Cond.	Blows/6"	No.	Type	Rec.	BORING & SAMPLING NOTES
	SURFACE	0.0						"	
	Brown, medium SAND								
			10						Water on auger @ 10.0'
			20						
		30.0	30						1½" PVC set at 30', 3.5' stickup Bottom 10' slotted screen.
	Bottom of Test Boring @ 30.0'								
			40						

SAMPLE CONDITIONS	SAMPLER TYPE	GROUND WATER DEPTH	BORING METHOD
D-DISINTEGRATED	DS-DRIVEN SPLIT SPOON	AT COMPLETION ____ FT.	HSA-Hollow Stem Augers
I-INTACT	PT-PRESSED SHELBY TUBE	AFTER ____ HRS. ____ FT.	CFA-Continuous Flight Augers
U-UNDISTURBED	CA-CONTINUOUS FLIGHT AUGER	AFTER 24 HRS. 8.5 FT.	DC -Driving Casing
L-LOST	RC-ROCK CORE		MD -Mud Drilling

...HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

MEC Associates, Inc.
of Maryland
Consulting Geotechnical & Materials Engineers

RECORD OF SOIL EXPLORATION

CONTRACTED WITH Harrington, Lacey and Associates BORING # 6
JOB # 31-01369
PROJECT NAME Berlin
LOCATION Worcester County, Maryland

SAMPLER

Datum	Hammer Wt. 140 Lbs.	Hole Diameter 8"	Foreman Franz
Surf. Elev. Ft.	Hammer Drop 30 In.	Rock Core Dia.	Inspector Ed Young
Date Started 5/14/80	Pipe Size 2.0 In.	Boring Method HSA	Date Completed 5/14/80

ELEV.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions	STRA. DEPTH	DEPTH SCALE	SAMPLE Cond.	Blows/6"	No.	Type	Rec. "	BORING & SAMPLING NOTES
	SURFACE	0.0							
	Brown, medium SAND								
			10						
			20						
		30.0	30						1½" PVC set to 30', 1.5' stickup Bottom 10' slotted screen.
	Bottom of Test Boring @ 30.0'								
			40						

SAMPLE CONDITIONS
D–DISINTEGRATED
I–INTACT
U–UNDISTURBED
L–LOST

SAMPLER TYPE
DS–DRIVEN SPLIT SPOON
PT–PRESSED SHELBY TUBE
CA–CONTINUOUS FLIGHT AUGER
RC–ROCK CORE

GROUND WATER DEPTH
AT COMPLETION FT.
AFTER HRS. FT.
AFTER 24 HRS. 8.5 FT.

BORING METHOD
HSA –Hollow Stem Augers
CFA–Continuous Flight Augers
DC –Driving Casing
MD –Mud Drilling

* SPT TEST DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

ATEC Associates, Inc.
of Maryland
Consulting Geotechnical & Materials Engineers

No conf. layer
10' sampling interval

RECORD OF SOIL EXPLORATION

CONTRACTED WITH Harrington, Lacey and Associates BORING # 7
PROJECT NAME Berlin JOB # 31-01369
LOCATION Worcester County, Maryland

SAMPLER

Datum	Hammer Wt. 140 Lbs.	Hole Diameter 8"	Foreman Franz
Surf. Elev. 20.15 Ft.	Hammer Drop 30 In.	Rock Core Dia.	Inspector Ed Young
Date Started 5/15/80	Pipe Size 2.0 In.	Boring Method HSA	Date Completed 5/15/80

ELEV.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions	STRA. DEPTH	DEPTH SCALE	SAMPLE Cond.	Blows/6"	No.	Type	Rec. "	BORING & SAMPLING NOTES
	SURFACE	0.0							
	Brown, medium to coarse SAND								Water on rods @ 2.0'
			10	D	2 4/11	1	DS	16	
			20	D	3 6/6	2	DS	14	
			30	D	9 12/18	3	DS	18	1½" PVC set at 30', 3' stickup Bottom 10' slotted screen.
			40	D	5 8/10	4	DS	16	

SAMPLE CONDITIONS	SAMPLER TYPE	GROUND WATER DEPTH	BORING METHOD
D-DISINTEGRATED	DS-DRIVEN SPLIT SPOON	AT COMPLETION 2.0 FT.	HSA-Hollow Stem Augers
I-INTACT	PT-PRESSED SHELBY TUBE	AFTER ___ HRS. ___ FT.	CFA-Continuous Flight Augers
U-UNDISTURBED	CA-CONTINUOUS FLIGHT AUGER	AFTER 24 HRS. 2.0 FT.	DC -Driving Casing
L-LOST	RC-ROCK CORE		MD -Mud Drilling

ATEC Associates, Inc.
of Maryland
Consulting Geotechnical & Materials Engineers

RECORD OF SOIL EXPLORATION

CONTRACTED WITH Harrington, Lacey and Associates BORING # 7, Page 2 of 2
PROJECT NAME Berlin JOB # 31-01369
LOCATION Worcester County, Maryland

SAMPLER

Datum ______ Hammer Wt. 140 Lbs. Hole Diameter 8" Foreman Franz
Surf. Elev. ______ Ft. Hammer Drop 30 In. Rock Core Dia. ______ Inspector Ed Young
Date Started 5/15/80 Pipe Size 2.0 In. Boring Method HSA Date Completed 5/15/80

ELEV.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions	STRA. DEPTH	DEPTH SCALE	SAMPLE Cond.	Blows/6"*	No.	Type	Rec.	BORING & SAMPLING NOTES
	Cont	40.0						"	
	Brown, medium to coarse SAND	42.0							-21.85'
	Grey, medium SAND, trace silt								
			70	D	12 14/15	5	DS	16	
			80	D	9 11/21	6	DS	18	
		65.0		D	11 11/14	7	DS	10	-44.85
	Bottom of Test Boring @ 65.0'								
			90						
			100						

SAMPLE CONDITIONS
D–DISINTEGRATED
I–INTACT
U–UNDISTURBED
L–LOST

SAMPLER TYPE
DS–DRIVEN SPLIT SPOON
PT–PRESSED SHELBY TUBE
CA–CONTINUOUS FLIGHT AUGER
RC–ROCK CORE

GROUND WATER DEPTH
AT COMPLETION 2.0 FT.
AFTER ______ HRS. ______ FT.
AFTER 24 HRS. 2.0 FT.

BORING METHOD
HSA–Hollow Stem Augers
CFA–Continuous Flight Augers
DC –Driving Casing
MD –Mud Drilling

*STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

FORM 101

ATEC Associates, Inc.
of Maryland
Consulting Geotechnical & Materials Engineers

RECORD OF SOIL EXPLORATION

CONTRACTED WITH Harrington, Lacey and Associates BORING # 8
PROJECT NAME Berlin JOB # 31-01369
LOCATION Worcester County, Maryland

SAMPLER

Datum	Hammer Wt. 140 Lbs.	Hole Diameter 8"	Foreman Franz
Surf. Elev. Ft.	Hammer Drop 30 In.	Rock Core Dia.	Inspector Ed Young
Date Started 5/14/80	Pipe Size 2.0 In.	Boring Method HSA	Date Completed 5/14/80

ELEV.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions	STRA. DEPTH	DEPTH SCALE	SAMPLE Cond.	Blows/6"	No.	Type	Rec.	BORING & SAMPLING NOTES
	SURFACE	0.0						"	
	Brown, Silty CLAY								Water on rods @ 4.0'
		8.0							
	Brown SAND		10						
			20						
		30.0	30						1½" PVC set at 30', 3' stickup Bottom 10' slotted screen.
	Bottom of Test Boring @ 30.0'								
			40						

SAMPLE CONDITIONS	SAMPLER TYPE	GROUND WATER DEPTH	BORING METHOD
D-DISINTEGRATED	DS-DRIVEN SPLIT SPOON	AT COMPLETION 2.0 FT.	HSA-Hollow Stem Augers
I-INTACT	PT-PRESSED SHELBY TUBE		CFA-Continuous Flight Augers
U-UNDISTURBED	CA-CONTINUOUS FLIGHT AUGER	AFTER HRS. FT.	DC -Driving Casing
L-LOST	RC-ROCK CORE	AFTER 24 HRS. 3.0 FT.	MD -Mud Drilling

ATEC Associates, Inc.
of Maryland
Consulting Geotechnical & Materials Engineers

RECORD OF SOIL EXPLORATION

CONTRACTED WITH Harrington, Lacey and Associates BORING # 9
PROJECT NAME Berlin JOB # 31-01369
LOCATION Worcester County, Maryland

SAMPLER

Datum	Hammer Wt. 140 Lbs.	Hole Diameter 8"	Foreman Franz
Surf. Elev. Ft.	Hammer Drop 30 In.	Rock Core Dia.	Inspector Ed Young
Date Started 5/14/80	Pipe Size 2.0 In.	Boring Method HSA	Date Completed 5/14/80

ELEV.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions	STRA. DEPTH	DEPTH SCALE	SAMPLE Cond.	Blows/6"	No.	Type	Rec.	BORING & SAMPLING NOTES
	SURFACE	0.0						"	
	Brown, medium SAND								
			10						
			20						
		30.0	30						1½" PVC set at 30', 2' stickup Bottom 10' slotted screen.
	Bottom of Test Boring @ 30.0'								
			40						

SAMPLE CONDITIONS
D-DISINTEGRATED
I-INTACT
U-UNDISTURBED
L-LOST

SAMPLER TYPE
DS-DRIVEN SPLIT SPOON
PT-PRESSED SHELBY TUBE
CA-CONTINUOUS FLIGHT AUGER
RC-ROCK CORE

GROUND WATER DEPTH
AT COMPLETION 2.5 FT.
AFTER ____ HRS. ____ FT.
AFTER 24 HRS. 3.5 FT.

BORING METHOD
HSA - Hollow Stem Augers
CFA - Continuous Flight Augers
DC - Driving Casing
MD - Mud Drilling

Associates, Inc.
of Maryland

Consulting Geotechnical & Materials Engineers

RECORD OF SOIL EXPLORATION

CONTRACTED WITH Harrington, Lacey and Associates BORING # 10
PROJECT NAME Berlin JOB # 31-01369
LOCATION Worcester County, Maryland

SAMPLER

Datum	Hammer Wt. 140 Lbs.	Hole Diameter 8"	Foreman Franz
Surf. Elev. Ft.	Hammer Drop 30 In.	Rock Core Dia.	Inspector Ed Young
Date Started 5/14/80	Pipe Size 2.0 In.	Boring Method HSA	Date Completed 5/14/80

ELEV.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions	STRA. DEPTH	DEPTH SCALE	SAMPLE Cond.	Blows/6"	No.	Type	Rec.	BORING & SAMPLING NOTES
	SURFACE	0.0						"	
	Brown, medium SAND								
			10						
			20						
		30.0	30						1½" PVC set at 30', 1.5' stickup Bottom 10' slotted screen.
	Bottom of Test Boring @ 30.0'								
			40						

SAMPLE CONDITIONS	SAMPLER TYPE	GROUND WATER DEPTH	BORING METHOD
D–DISINTEGRATED	DS–DRIVEN SPLIT SPOON	AT COMPLETION 20.0 FT.	HSA–Hollow Stem Augers
I–INTACT	PT–PRESSED SHELBY TUBE	AFTER ___ HRS. ___ FT.	CFA–Continuous Flight Augers
U–UNDISTURBED	CA–CONTINUOUS FLIGHT AUGER	AFTER 24 HRS. 14.0 FT.	DC –Driving Casing
L–LOST	RC–ROCK CORE		MD –Mud Drilling

*STANDARD PENETRATION TEST-DRIVING 2" OD SAMPLER 1' WITH 140# HAMMER FALLING 30"; COUNT MADE AT 6" INTERVALS

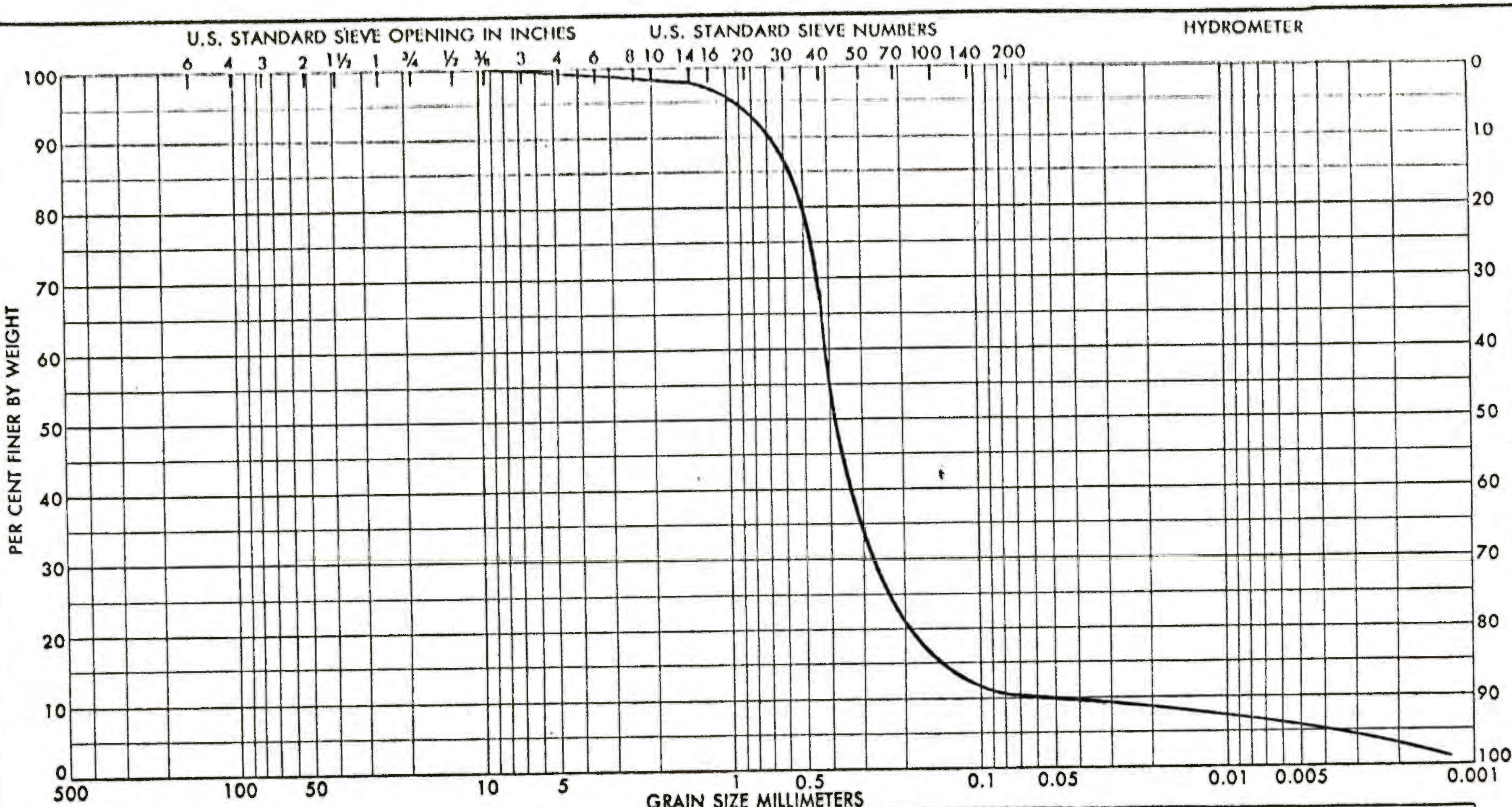
980

SUMMARY OF LABORATORY TEST RESULTS

PROJECT: Berlin Landfill

JOB NO: 31-02652

Boring No.	Sample No.	Sample Depth, feet	Loss on Ignition (%)		Natural Dry Density,	Natural Moisture Content %	Atterberg Limit L.L.	P.L.	ner pH
1	3	13.5-15.0	1.67			21.3	Non-pla		
2	5	23.5-25.0	1.22			18.9			



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
3	13.5-15.0		21.3	Non-plastic		

PROJECT Berlin Landfill

31-02652

AREA

BORING NO. 1

DATE June 4, 1980

GRADATION CURVES

FORM 105

ANALYSIS

PROJECT ______ LOCATION ______ DATE ______

CLIENT ______ TECHNICIAN ______ LAB NO. 31-02652

BORING NO. 1 SAMPLE NO. 3 DEPTH 13.5-15.0

Pan No.	300	Pan No.	
Pan + Soil, Dry		Pan + Soil After Washing, Dry	
Pan		Pan	
Soil, Dry	202.2	Soil After Washing, Dry	182.7

Sieve Used For Washing # ______

Sieve Size	Cum Wt. Retained	Cum % Retained	% Finer	% Finer Retained
3"				
1 1/2"				
1"				
3/4"				
1/2"				
3/8"	0	0.0	100.0	
#4	1.0	0.5	99.5	
#8				
#10	3.1	1.5	98.5	
#16				
#30				
#40	64.1	31.7	68.3	
#50				
#60				
#80				
#100	170.20	84.2	15.8	
#200	181.5	89.8	10.2	
#270				
Pan	182.7			

21	6-4	11:31			15	4.0		9.5				
					30			9.0				
		11:32		1				8.5				
		11:33		2				8.0				
		11:35		4				7.5				
		11:39		8				7.0				
		11:46		15				6.5				
		12:01		30		-		6.0				
		12:31	1					5.5				
		1:31	2					5.0				
		3:31	4					4.5				
		7:31	8									
7/5		11:31	24					4.5				1.8

...itially Passing No. 10 SIEVE 98.5 %

Can No.		% Fine Than	# Soil Passing	Tot. Sample	
Soil + Can ...					
Soil + Can ...		0.05 mm			% Silt
...					
Can		0.005 mm			% Clay
Dry Soil					
...		0.001 mm			% Colloids
Hydro ...					
... Sample					
Weight					
Hydro Sample ...					

	Trail 1	Trail 2	Trail 3

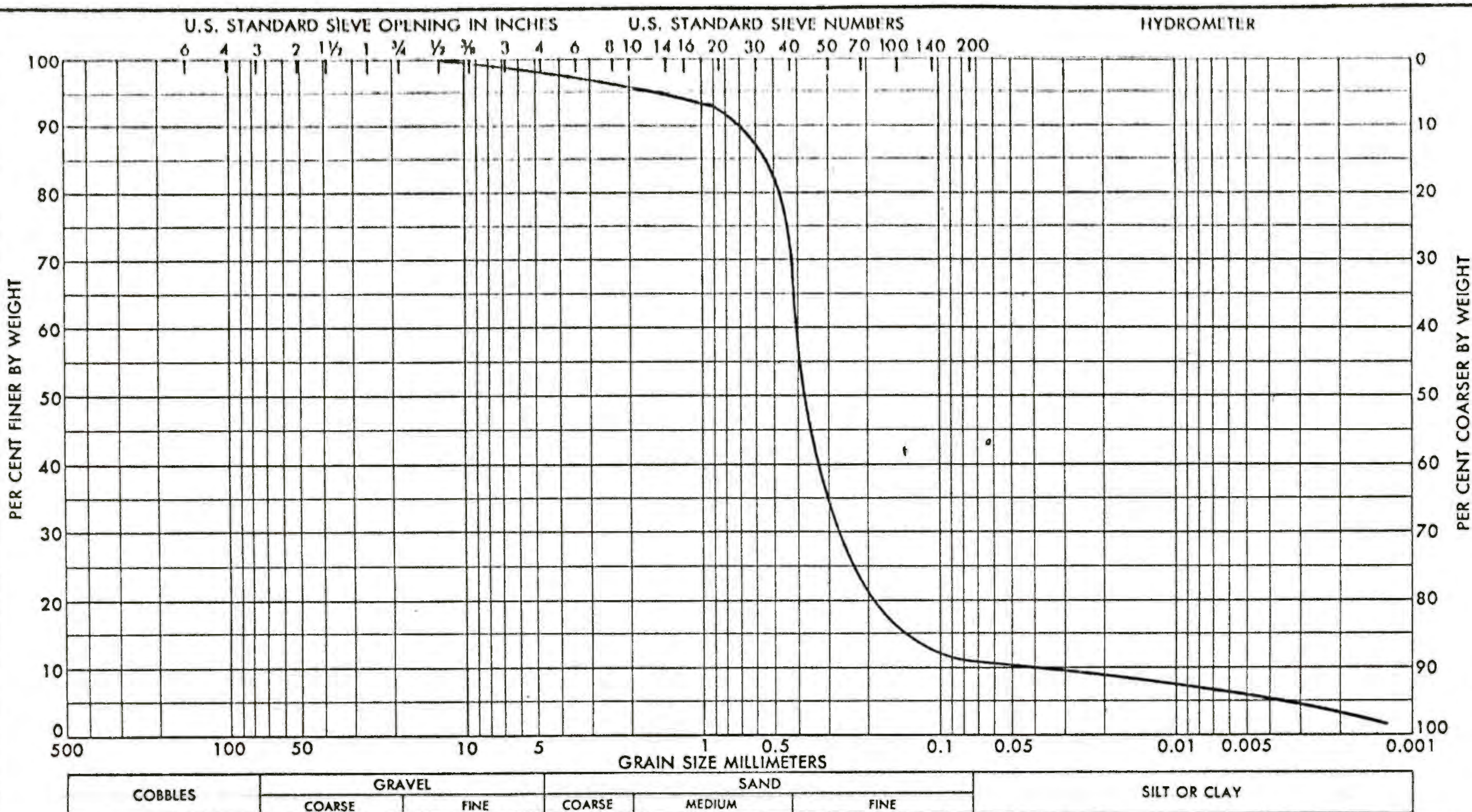
50 grams

B-1

S-3

31-02652

Berlin Landfill



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
5	23.5-25.0		18.9	Non-plastic		

PROJECT Berlin Landfill
31-02652
AREA
BORING NO. 2
DATE June 4, 1980

GRADATION CURVES

FORM 105

ANAL?SIS

PROJECT ________ LOCATION ________ DATE ________

CLIENT ________ TECHNICIAN ________ LAB NO. 3102652

BORING NO. 2 SAMPLE NO. 5 DEPTH 23.5-25.0

Pan No.	301	Pan No.	
Pan + Soil, Dry		Pan + Soil After Washing, Dry	
Pan		Pan	
Soil, Dry	223.3	Soil After Washing, Dry	201.3

Sieve Used For Washing # ________

Sieve Size	Cum Wt. Retained	Cum % Retained	% Finer	% Finer Retained
3"				
1 1/2"				
1"				
3/4"				
1/2"	0	0.0	100.0	
3/8"				
# 4	6.7	3.0	97.0	
# 8				
#10	8.5	3.8	96.2	
#16				
#30				
#40	64.1	28.7	71.3	
#50				
#60				
#80				
#100	185.60	83.1	16.9	
#200	200.0	89.6	10.4	
#270				
Pan	201.3			

2	6-4	11^40			15	4.0	9.5				
					30		9.0				
		11^41		1			8.5				
		11^42		2			8.0				
		11^44		4			7.5				
		11^48		8			7.0				
		11^55		15			6.5				
		12^10		30			6.0				
		12^40	1				5.5				
		1^42	2				5.0				
		3^40	4				4.5				
		7^40	8								
19		11^40	24				4.5				1.8

10

Initially Passing No. ______ SIEVE 96.2 % Tot. Sample

Can No.		% Fine Than	# Soil Passing	
Soil + Can (wet)				
Soil + Can (dry)		0.05 mm		% Silt
Moisture				
Can		0.005 mm		% Clay
Dry Soil				
Moisture %		0.001 mm		% Colloids
Hydro Sample				
Hydro Sample Weight				
Hydro Sample Wt.				

Time	Trail 1	Trail 2	Trail 3

50 grams

Berlin Landfill

B - 2

S - 5

31-02652

APPENDIX C

BORING LOGS AND SOILS DATA

WILLIAM HARRINGTON & ASSOCIATES, INC.

1986

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # 11D (1 of 4)
JOB # 31-61007

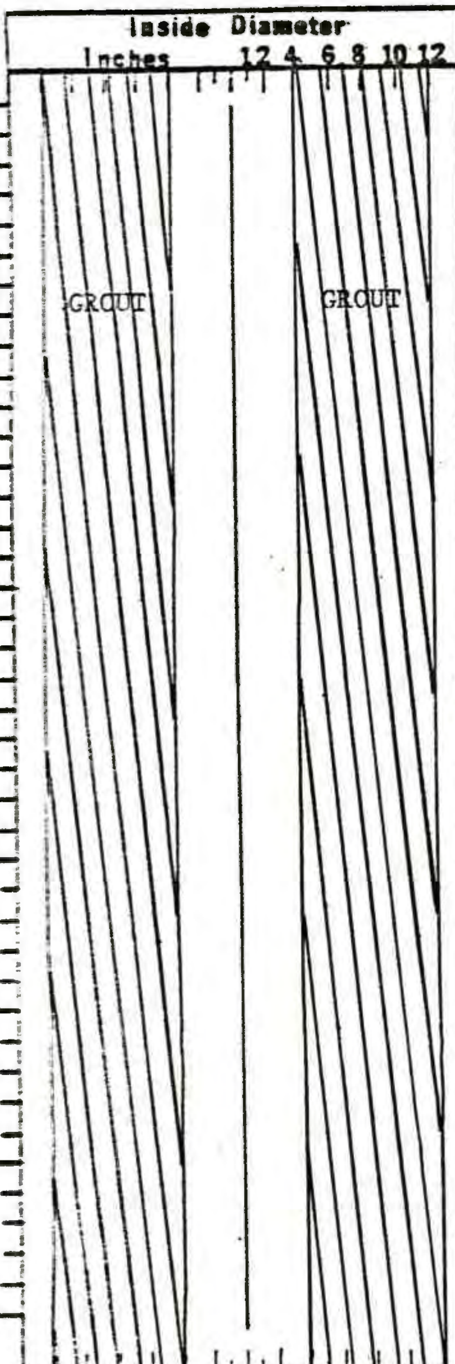
WELL DATA STATE PERMIT # WO-81-1362

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/14/86
Date Completed 3/17/86



Depth Scale	Cond.	Blows/6"	No.	Type	Rec.	Soil Description (Color, Moisture, Density, Plasticity, Size, Proportions)
0	D/I	5-20 10-7	1	DS	14	Dark brown, damp, medium dense, Silty fine to medium fine SAND (SM) 2.0
	D/I	3-4 5-6	2	DS	14	Brown, moist, loose, fine SAND (SM), trace Silt
5	D/I	4-6 5-3	3	DS	14	6.0
	D	3-3 4-4	4	DS	10	Light brown, moist, loose, fine to medium fine SAND (SW) 8.0
	D	2-4 7-8	5	DS	12	Tan, moist, medium dense, fine to medium fine SAND 10.0
10	D	3-6 7-8	6	DS	14	Light tan, saturated, medium dense, fine to medium fine SAND (SW) 12.0
	D	2-4 9-15	7	DS	10	Brown, saturated, medium dense, fine to medium coarse SAND (SW)
15	D	3-7 9-13	8	DS	16	Tan, saturated, medium dense, fine SAND (SP)
	D	2-7 10-16	9	DS	18	Brown, saturated, medium dense, fine to medium fine sAND (SW)
	D	1-6 10-14	10	DS	18	
20						

GROUT MIX
Cement ______ lbs.
Bentonite ______ lbs.
Water ______ gal.
Sand ______

SAMPLE CONDITIONS
D-DISINTEGRATED
I-INTACT
U-UNDISTURBED
L-LOST

SAMPLER TYPE
DS-DRIVEN SPLIT SPOON
PT-PRESSED SHELBY TUBE
CA-CONTINUOUS FLIGHT AUGER
RC-ROCK CORE

BORING METHOD
HSA-Hollow Stem Augers
CFA-Continuous Flight Augers
DC -Driving Casing
MD -Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # 11D (2 of 4)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-81-1362

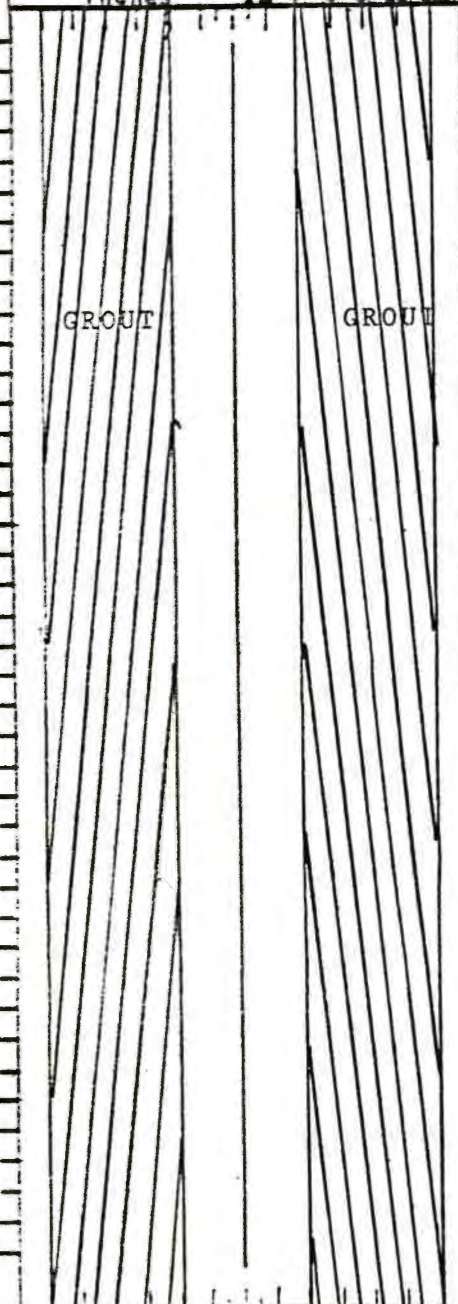
Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/14/86
Date Completed 3/17/86

Inside Diameter Inches 12 4 6 8 10 12



DEPTH SCALE	GW	Cond.	Blows/6"	No.	Type	Rec.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions
20		D	3-6 10-14	11	DS	16	Brown, saturated, medium dense, fine to medium fine SAND (SW) 22.0
		D	5-6 10-10	12	DS	7	Tan, saturated, medium dense, fine to medium fine sAND (SW) 24.0
25		D	3-5 7-7	13	DS	LOST	Grey, saturated, loose to medium dense, fine SAND (SP), trace fine gravel 26.0
		D	2-4 6-9	14	DS	11	Grey-white, saturated, medium dense, very fine SAND (SM), trace Clay 28.0
		D	3-4 10-14	15	DS	15	Grey-white, saturated, medium dense, Clayey fine to medium SAND (SC) 30.0
30		D	10-13 19-19	16	DS	14	Grey-white, saturated, medium dense to dense, Silty fine to medium SAND (SM) 32.0
		D	5-11 16-16	17	DS	11	White-grey, saturated, medium dense to dense, fine to medium fine SAND (SW) 34.0
35		D/I	3-6 9-11	18	DS	18	Grey, moist, stiff to very stiff CLAY (CL), trace SIlt 36.0
		I	4-4 4-10	19	DS	13	Grey, moist, medium stiff, Silty CLAY (CL) 38.0
40		D	10-13 25-30	20	DS	17	Grey, saturated, dense, fine SAND (SP) 40.0

GROUT MIX
Cement ________ lbs.
Bentonite ________ lbs.
Water ________ gal.
Sand ________

SAMPLE CONDITIONS
D-DISINTEGRATED
I-INTACT
U-UNDISTURBED
L-LOST

SAMPLER TYPE
DS-DRIVEN SPLIT SPOON
PT-PRESSED SHELBY TUBE
CA-CONTINUOUS FLIGHT AUGER
RC-ROCK CORE

BORING METHOD
HSA-Hollow Stem Augers
CFA-Continuous Flight Augers
DC -Driving Casing
MD -Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # 11D (3 of 4)
JOB # 31-61007

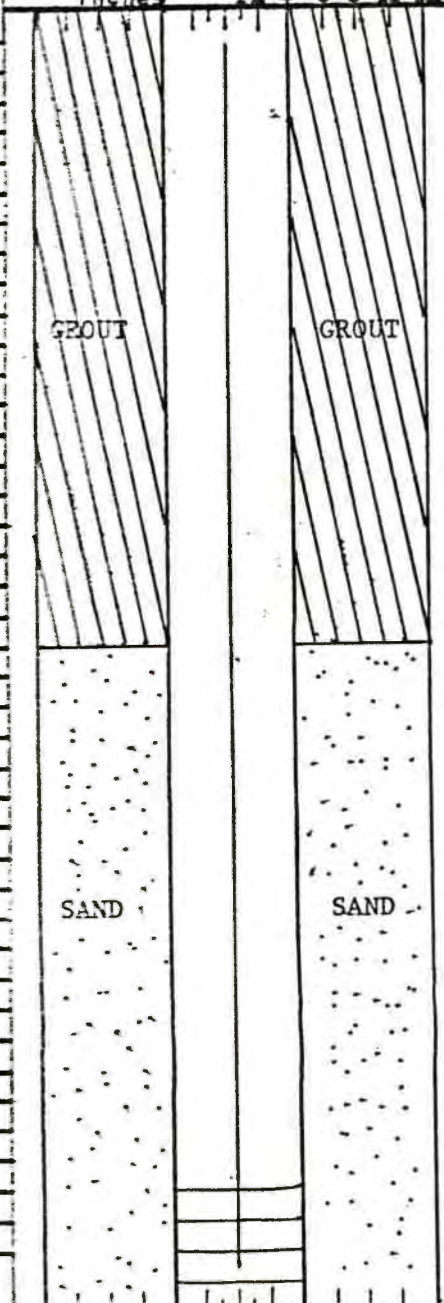
WELL DATA STATE PERMIT # WO-81-1362

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"
Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/14/86
Date Completed 3/17/86

Inside Diameter Inches 1 2 4 6 8 10 12



DEPTH SCALE	Cond.	Blows/6"	No.	Type	Rec.	SOIL DESCRIPTION (Color, Moisture, Density, Plasticity, Size, Proportions)
40	D/I	10-15 25-30	21	DS	18	Orange, tan, wet, dense, fine to medium coarse SAND (SM), trace Silt 42.0
	D/I	10-30 25-30	22	DS	18	Orange-brown, wet, very dense, fine to coarse Silty sAND (SM) trace gravel 44.0
45	D	11-21 31-31	23	DS	15	Grey-white, saturated, very dense, fine to medium fine SAND (SW) 46.0
	I	9-5 6-6	24	DS	18	Dark grey, moist, medium stiff CLAY (CH)
	I	3-4 4-4	25	DS	18	50.0
50	D	4-10 18-36	26	DS	18	Dark grey, wet, medium dense to dense, Clayey fien to medium coarse SAND (SC) 52.0
	D	13-30 47-48	27	DS	18	Dark grey, wet, very dense, fine to medium coarse SAND (SW) 54.0
55	D	10-25 38-38	28	DS	18	Tan, saturated, very dense, fine to medium SAND (SW) 56.0
	D	5-7 10-15	29	DS	18	Grey, wet, loose to medium dense, fine SAND (SP) 58.0
60	D	7-10 18-15	30	DS	18	Orange and grey, wet, medium dense, fine sAND (SP) 60.0

GROUT MIX
Cement ______ lbs.
Bentonite ______ lbs.
Water ______ gal.
Sand ______

SAMPLE CONDITIONS
D-DISINTEGRATED
I-INTACT
U-UNDISTURBED
L-LOST

SAMPLER TYPE
DS-DRIVEN SPLIT SPOON
PT-PRESSED SHELBY TUBE
CA-CONTINUOUS FLIGHT AUGER
RC-ROCK CORE

BORING METHOD
HSA-Hollow Stem Augers
CFA-Continuous Flight Augers
DC-Driving Casing
MD-Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # 11D (4 of 4)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-81-1362

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 in.
Pipe Size 2 in.

Foreman Bolling
Inspector J. Lentz
Date Started 3/14/86
Date Completed 3/17/86

Inside Diameter Inches 1 2 4 6 8 10 12	DEPTH SCALE	W.L.	Cond.	Blows/6"	No.	Type	Rec.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions
SAND / SAND	60		D	9-48 42-60	31	DS	18	Tan, wet, very dense, fine to medium fine sAND (SW) 62.0
			D	15-42 50-69	32	DS	15	Grey, wet, very dense, fine to medium coarse SAND (SW) 64.0
	65							Test boring terminated @ 64.0'
								Water on Rod @ 11.0'
	70							
	75							
	80							

GROUT MIX
Cement ________ lbs.
Bentonite ________ lbs.
Water ________ gal.
Sand ________

SAMPLE CONDITIONS
D-DISINTEGRATED
I-INTACT
U-UNDISTURBED
L-LOST

SAMPLER TYPE
DS-DRIVEN SPLIT SPOON
PT-PRESSED SHELBY TUBE
CA-CONTINUOUS FLIGHT AUGER
RC-ROCK CORE

BORING METHOD
HSA-Hollow Stem Augers
CFA-Continuous Flight Augers
DC -Driving Casing
MD -Mud Drilling

ATEC ASSOCIATES, INC.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-12 (1 of 4)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-81-1365

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/10/86
Date Completed 3/11/86

Inside Diameter Inches 12 4 6 8 10 12

GROUT GROUT

Depth Scale	Cond.	Blows/6"	No.	Type	Rec.	Soil Description (Color, Moisture, Density, Plasticity, Size, Proportions)
	D	2-3 5-7	1	DS	12	Tan, moist, loose, fine to medium SAND (S) 2.0
	D	2-4 6-8	2	DS	16	Tan-orange, moist, fine to medium fine SAND (S) 4.0
5	D	3-5 2-2	3	DS	18	Tan-orange, moist, loose, fine to medium Clayey SAND (SC) 6.0
	I	1-1 1-2	4	DS	18	Orange-grey, moist, very soft, CLAY (CH), trace medium to fine Sand 8.0
	I	1-1 1-2	-	DS	18	Tan, grey, moist, very soft, CLAY (CH), trace medium to coarse Sand 10.0
10	I/D	1-1 1-2	6	DS	18	Grey, moist, very soft, fine to medium Clayey SAND (SC), little Clay 12.0
	D	4-6 8-9	7	DS	18	Grey-white, saturated, medium loose, fine to medium SAND (S) 14.0
15	I/D	3-4 4-6	8	DS	24	White, wet, loose, medium to coarse SAND (SP), trace Clay 16.0
	I/D	2-4 6-7	9	DS	24	White, saturated, medium dense, medium to medium coarse SAND (SP), Clay lenses 18.0
20	D	2-3 7-10	10	DS	24	White, saturated, medium dense, medium fine to coarse SAND (SC), trace Clay 20.0

GROUT MIX
Cement ______ lbs.
Bentonite ______ lbs.
Water ______ gal.
Sand ______

SAMPLE CONDITIONS
D-DISINTEGRATED
I-INTACT
U-UNDISTURBED
L-LOST

SAMPLER TYPE
DS-DRIVEN SPLIT SPOON
PT-PRESSED SHELBY TUBE
CA-CONTINUOUS FLIGHT AUGER
RC-ROCK CORE

BORING METHOD
HSA-Hollow Stem Augers
CFA-Continuous Flight Augers
DC-Driving Casing
MD-Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-12 (2 of 4)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-81-1365

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/10/86
Date Completed 3/11/86

Inside Diameter Inches 1 2 4 6 8 10 12 — GROUT / GROUT

Depth Scale	Cond.	Blows/6"	No.	Type	Rec.	Soil Description (Color, Moisture, Density, Plasticity, Size, Proportions)
						White, saturated, medium dense medium fine to coarse SAND (SP) trace Clay
	I/D	3-4 7-11	11	DS	24	Tan, brown, fine to medium Clayey SAND (SC)
	D	4-6 8-9	12	DS	24	Orange and tan, saturated, medium dense, medium to medium coarse SAND (SP) 24.0
25	D	3-4 7-11	13	DS	24	Orange and tan, saturated, medium dense, medium to medium coarse SAND (SP) 26.0
	D	5-5 4-3	14	DS	24	Orange, grey, saturated, loose, medium to coarse SAND (S), trace Gravel 28.0
30	D	3-5 5-7	15	DS	24	Grey, saturated, medium dense, fine to medium fine SAND (S)
	D	3-5 8-10	16	DS	24	
	I/D	4-8 10-12	17	DS	20	
35	I/D	5-8 12-14	18	DS	18	
	I/D	3-5 10-20	19	DS	18	38.0
40	I/D	10-6 12-19	20	DS	20	Grey, wet, medium dense, medium coarse to coarse SAND (S), trace Gravel 40.0

GROUT MIX
Cement ______ lbs.
Bentonite ______ lbs.
Water ______ gal.
Sand ______

SAMPLE CONDITIONS
D–DISINTEGRATED
I–INTACT
U–UNDISTURBED
L–LOST

SAMPLER TYPE
DS–DRIVEN SPLIT SPOON
PT–PRESSED SHELBY TUBE
CA–CONTINUOUS FLIGHT AUGER
RC–ROCK CORE

BORING METHOD
HSA–Hollow Stem Augers
CFA–Continuous Flight Augers
DC –Driving Casing
MD –Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-12 (3 of 4)
JOB # 31-61007

WELL DATA **STATE PERMIT #** WO-81-1365

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 in.
Pipe Size 2 in.

Foreman Bolling
Inspector J. Lentz
Date Started 3/10/86
Date Completed 3/11/86

Inside Diameter Inches 1 2 4 6 8 10 12

GROUT | GROUT
BENTO-NITE | BENTO-NITE
SAND | SAND

Depth Scale	Cond.	Blows/6"	No.	Type	Rec.	Soil Description (Color, Moisture, Density, Plasticity, Size, Proportions)
						Grey, wet, dense, fine to medium fine SAND (S) 42.0
	D	5-7 7-16	21	DS	24	
	D	12-19 20-23	22	DS	24	Grey, wet, dense, fine to medium fine SAND (S), trace gravel 44.0
45	D	15-18 24-26	23	DS	24	Tan, wet, dense to very dense, fine to coarse SAND (S) 46.0
	D	18-30 42-45	24	DS	6	Tan, wet, dense to very dense, fine to coarse SAND (S) 48.0
	D	11-8 8-7	25	DS	8	Tan, brown, wet, medium dense, medium fine to medium SAND (S) 50.0
50	I	3-5 4-4	26	DS	18	Dark brown, moist, medium stiff CLAY (CH) 52.0
	I	6-11 12-12	27	DS	24	Dark grey, moist, Clayey fine SAND (SC) 54.0
55	I/D	4-4 5-24	28	DS	24	Dark grey, saturated, Clayey fine SAND 56.0
	I/D	10-17 24-32	29	DS	24	Orange-tan, moist, medium dense to dense, fine to medium SAND (S) 58.0
60	I/D	27-27 27-27	30	DS	24	Tan, moist, very dense, fine to coarse SAND

GROUT MIX
Cement ______ lbs.
Bentonite ______ lbs.
Water ______ gal.
Sand ______

SAMPLE CONDITIONS
D—DISINTEGRATED
I—INTACT
U—UNDISTURBED
L—LOST

SAMPLER TYPE
DS—DRIVEN SPLIT SPOON
PT—PRESSED SHELBY TUBE
CA—CONTINUOUS FLIGHT AUGER
RC—ROCK CORE

BORING METHOD
HSA—Hollow Stem Augers
CFA—Continuous Flight Augers
DC—Driving Casing
MD—Mud Drilling

ATEC Associates, Inc. of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-12 (4 of 4)
JOB # 31-61007

WELL DATA STATE PERMIT #

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/10/86
Date Completed 3/11/86

Inside Diameter Inches 1 2 4 6 8 10 12	Depth Scale	GW	Cond.	Blows/6"	No.	Type	Rec.	Soil Description (Color, Moisture, Density, Plasticity, Size, Proportions)
SAND / SAND	60							
			I/D	39-32 39-82	31	DS	24	Tan, moist, very dense, fine to coarse SAND (SP) 62.0
			D	9-14 16-21	32	DS	24	Grey, satuarated, dense, fine to medium SAND (S)
	65		D	10-21 19-24	33	DS	24	66.0
								Test boring termianted @ 66.0'
	70							
								Water on Rod @ 13.0'
	75							
	80							

GROUT MIX
Cement ________ lbs.
Bentonite ________ lbs.
Water ________ gal.
Sand ________

SAMPLE CONDITIONS
D–DISINTEGRATED
I–INTACT
U–UNDISTURBED
L–LOST

SAMPLER TYPE
DS–DRIVEN SPLIT SPOON
PT–PRESSED SHELBY TUBE
CA–CONTINUOUS FLIGHT AUGER
RC–ROCK CORE

BORING METHOD
HSA–Hollow Stem Augers
CFA–Continuous Flight Augers
DC –Driving Casing
MD –Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-13 (1 of 5)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-81-1367

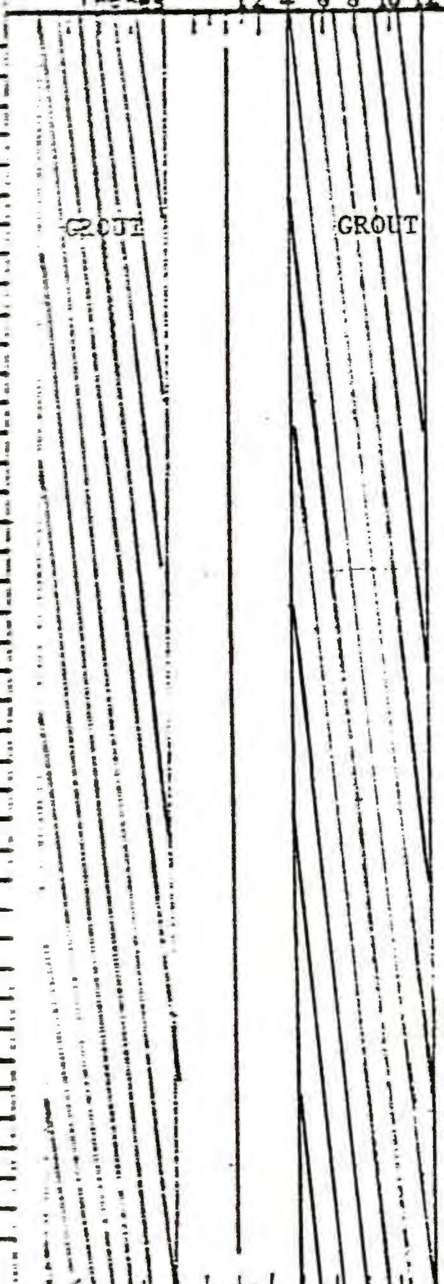
Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/13/86
Date Completed 3/14/86

Inside Diameter Inches 12 4 6 8 10 12



Depth Scale	Cond.	Blows/6"	No.	Type	Rec.	Soil Description (Color, Moisture, Density, Plasticity, Size, Proportions)
0	I	1-1 1-1	1	DS	16	Dark brown, moist, very loose Silty fine sAND (SM) 2.0
	D	2-2 3-3	2	DS	18	Orange brown, moist, loose to medium dense, fine to medium SAND (SW)
5	D	3-5 6-7	3	DS	16	
	D	3-6 6-10	4	DS	18	8.0
	D	5-8 10-13	5	DS	14	Tan, moist, medium dense, very fine to medium fine SAND (SP)
10	D	6-8 8-9	6	DS	20	12.0
	D	4-8 11-15	7	DS	20	Tan, saturated, medium dense, very fine to fine SAND (SP) 14.0
15	I/D	5-8 14-16	8	DS	20	Grey-tan, wet, medium dense, very fine to fine SAND (SP) 16.0
	I	5-3 3-3	9	DS	24	Orange, moist, soft, Sandy CLAY (CL) 18.0
	I	1-1	10	DS	24	Grey, wet, soft, CLAY (CH)
20						20.0

GROUT MIX
Cement ________ lbs.
Bentonite ________ lbs.
Water ________ gal.
Sand ________

SAMPLE CONDITIONS
D–DISINTEGRATED
I–INTACT
U–UNDISTURBED
L–LOST

SAMPLER TYPE
DS–DRIVEN SPLIT SPOON
PT–PRESSED SHELBY TUBE
CA–CONTINUOUS FLIGHT AUGER
RC–ROCK CORE

BORING METHOD
HSA–Hollow Stem Augers
CFA–Continuous Flight Augers
DC–Driving Casing
MD–Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-13 (2 of 5)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-81-1367

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/13/86
Date Completed 3/14/86

Inside Diameter Inches	Depth Scale	GW	Cond.	Blows/6"	No.	Type	Rec.	Soil Description (Color, Moisture, Density, Plasticity, Size, Proportions)
GROUT / GROUT	20		D	WOH 1 3-3	11	DS	24	Grey, wet, very soft, Sandy CLAY (CL) 22.0
			I/D	5-12 19-24	12	DS	24	Grey, wet, very soft, Sandy CLAY (CL) 24.0
	25		D	8-16 16-17	13	DS	22	Grey and white, saturated, medium dense to dense, Silty fine to medium fine SAND (SM)
			I/D	8-13 15-15	14	DS	18	
			I/D	6-9 11-16	15	DS	14	
	30		I/D	8-14 19-19	16	DS	20	
			I	8-16 21-19	17	DS	12	34.0
	35		I/D	6-16 17-17	18	DS	16	Tan, wet, dense, fine to medium fine sAND (SW) 36.0
			D	6-14 17-19	19	DS	18	Grey, saturaged, dense, medium fine to medium coarse SAND (SW) 38.0
			D	10-19 28-32	20	DS	16	Grey, saturated, dense to very dense, very fine to medium coarse SAND (SW)
	40							

GROUT MIX
Cement ________ lbs.
Bentonite ________ lbs.
Water ________ gal.
Sand ________

SAMPLE CONDITIONS
D–DISINTEGRATED
I–INTACT
U–UNDISTURBED
L–LOST

SAMPLER TYPE
DS–DRIVEN SPLIT SPOON
PT–PRESSED SHELBY TUBE
CA–CONTINUOUS FLIGHT AUGER
RC–ROCK CORE

BORING METHOD
HSA–Hollow Stem Augers
CFA–Continuous Flight Augers
DC–Driving Casing
MD–Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-13 (3 of 5)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-81-1367

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/13/86
Date Completed 3/14/86

Inside Diameter Inches 12 4 6 8 10 12 — GROUT / GROUT

Depth Scale	Cond.	Blows/6"	No.	Type	Rec.	Soil Description (Color, Moisture, Density, Plasticity, Size, Proportions)
40	I/D	9-8 9-11	21	DS	10	Grey-tan, saturated, medium dense, very fine to medium fine SAND (SW)
	I/D	6-12 14-19				
45	D	9-17 13-10	23	DS	12	46.0
	D	6-12 17-17	24	DS	16	Tan-grey, saturated, medium dense, very fine to fine SAND trace Mica (SW)
	D	4-9 13-15	25	DS	16	50.0
50	I/D	8-17 19-27	26	DS	14	Tan-grey, saturated, medium dense, medium fine to medium SAND (SW) 52.0
	I	9-24 23-27	27	DS	12	Grey, moist, very stiff to hard, Silty CLAY (CL), trace fine Sand 54.0
55	D	12-23 23-28	28	DS	14	Grey, wet, dense to very dense, fine to coarse SAND (SW), trace Gravel 56.0
	D	7-13 10-13	29	DS	12	Grey, saturated, medium dnese medium fine to medium SAND (SW), trace Gravel 58.0
	I/D	9-18 28-32	30	DS	16	Grey, wet, very dense, fine to coarse SAND (SW) 60.0
60						

GROUT MIX
Cement ______ lbs.
Bentonite ______ lbs.
Water ______ gal.
Sand ______

SAMPLE CONDITIONS
D—DISINTEGRATED
I—INTACT
U—UNDISTURBED
L—LOST

SAMPLER TYPE
DS—DRIVEN SPLIT SPOON
PT—PRESSED SHELBY TUBE
CA—CONTINUOUS FLIGHT AUGER
RC—ROCK CORE

BORING METHOD
HSA—Hollow Stem Augers
CFA—Continuous Flight Augers
DC—Driving Casing
MD—Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-13 (4 of 5)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-81-1367

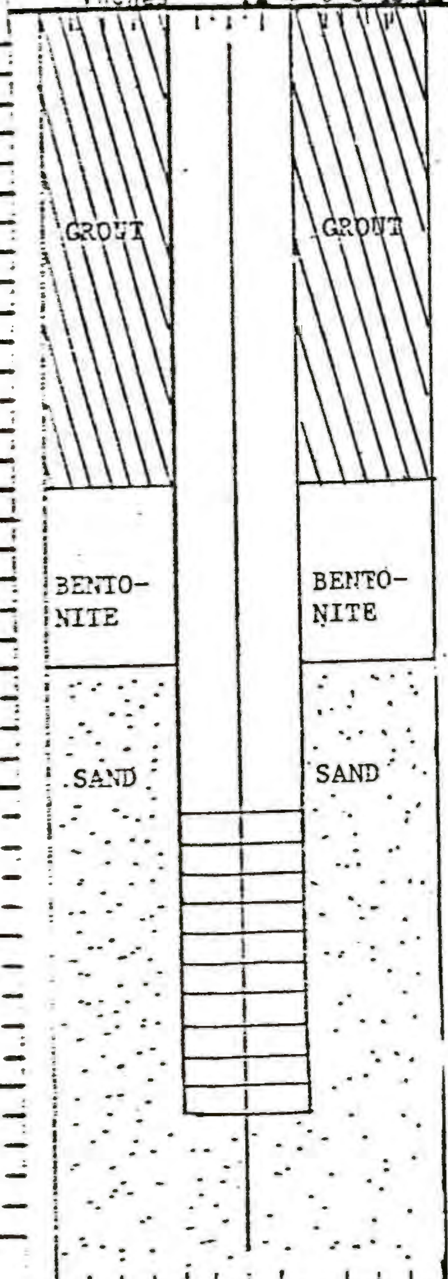
Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/13/86
Date Completed 3/14/86

Inside Diameter Inches 1 2 4 6 8 10 12



Depth Scale	Cond.	Blows/6"	No.	Type	Rec.	Soil Description (Color, Moisture, Density, Plasticity, Size, Proportions)
60	I	15-10 8-9	31	DS	12	Orange and tan, moist, medium dense, Silty fine SAND (SM), with trace Clay 62.0
	I	7-4 2-3	32	DS	24	Grey, wet, soft, fine Sandy CLAY (CL) 64.0
65	I	10-20 26-23	33	DS	24	Orange, moist, dense, Clayey fine to medium fine SAND (SC) 66.0
	I/D	13-16 16-26	34	DS	24	Tan-brown, moist, mdense, Clayey fine sAND (SC) 68.0
	D	7-12 12-19	35	DS	24	Orange and tan, moist, medium dense, mediun fine SAND (SM), trace Clay 70.0
70	D	6-11 16-21	36	DS	12	Grey, wet, dense, fine to medium coarse SAND (SW)
	I/D	11-17 21-20	37	DS	12	74.0
75	I/D	11-16 21-21	38	DS	14	Grey, saturated, dense, medium fine to medium SAND (SW) 76.0
	I	15-25 25-28	39	DS	16	Grey, wet, very dense, very fine to fine Silty sAND (SM) 78.0
80	D	14-35 35-40	40	DS	24	Orange and grey, moist, very dense, Silty very fine SAND (SM), trace Clay 80.0

GROUT MIX
Cement ________ lbs.
Bentonite ________ lbs.
Water ________ gal.
Sand ________

SAMPLE CONDITIONS
D—DISINTEGRATED
I—INTACT
U—UNDISTURBED
L—LOST

SAMPLER TYPE
DS—DRIVEN SPLIT SPOON
PT—PRESSED SHELBY TUBE
CA—CONTINUOUS FLIGHT AUGER
RC—ROCK CORE

BORING METHOD
HSA —Hollow Stem Augers
CFA—Continuous Flight Augers
DC —Driving Casing
MD —Mud Drilling

ATEC Associates, Inc. of Maryland

Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-13 (5 of 5)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-81-1367

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/13/86
Date Completed 3/14/86

Inside Diameter Inches 1 2 4 6 8 10 12	DEPTH SCALE	G W L	SAMPLE Cond.	Blows/6"	No.	Type	Rec.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions
SAND / SAND	80		D	18-29 53-51	41	DS	24	Grey and tan, wet, very dense, medium fine to medium SAND (SW) 82.0
								Test boring terminated @ 82.0'
	85							
	90							
	95							
	100							

GROUT MIX
Cement ______ lbs.
Bentonite ______ lbs.
Water ______ gal.
Sand ______

SAMPLE CONDITIONS
D–DISINTEGRATED
I–INTACT
U–UNDISTURBED
L–LOST

SAMPLER TYPE
DS–DRIVEN SPLIT SPOON
PT–PRESSED SHELBY TUBE
CA–CONTINUOUS FLIGHT AUGER
RC–ROCK CORE

BORING METHOD
HSA–Hollow Stem Augers
CFA–Continuous Flight Augers
DC –Driving Casing
MD –Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-14 (1 of 2)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-18-1368

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/12/86
Date Completed 3/12/86

Inside Diameter Inches 1 2 4 6 8 10 12 — GROUT GROUT

DEPTH SCALE	Cond.	Blows/6"	No.	Type	Rec.	SOIL DESCRIPTION (Color, Moisture, Density, Plasticity, Size, Proportions)
	I	4-4 4-9	1	DS	18	Dark brown, moist, loose, Silty fine SAND (SM), trace Organics — 2.0
	I	4-3 3-3	2	DS	18	Light brown, moist, loose, fine SAND (S) — 4.0
5	D	3-3 3-3	3	DS	18	Tan, brown, moist, loose, fine to medium coarse SAND (S)
	D	3-3 6-8	4	DS	18	8.0
	I/D	4-5 8-9	5	DS	18	Orange, moist, medium dense, fine to medium SAND (S) — 10.0
10	I/D	4-8 9-11	6	DS	20	Light tan, wet, medium dense, very fine SAND (S) — 12.0
	D	4-8 8-5	7	DS	20	Light tan, saturated medium dense, very fine SAND (S) — 14.0
15	D	1-1/18	8	DS	24	Orange and brown, saturated, very soft, CLAY (CH, trace fine Sand — 16.0
	I	WOH 1/10-1	9	DS	24	Brown, wet, very soft, CLAY (CL) — 18.0
20	I	1-1 1-2	10	DS	24	Dark grey, wet, very soft, Silty CLAY (CL) — 20.0

GROUT MIX
Cement ______ lbs.
Bentonite ______ lbs.
Water ______ gal.
Sand ______

SAMPLE CONDITIONS
D–DISINTEGRATED
I–INTACT
U–UNDISTURBED
L–LOST

SAMPLER TYPE
DS–DRIVEN SPLIT SPOON
PT–PRESSED SHELBY TUBE
CA–CONTINUOUS FLIGHT AUGER
RC–ROCK CORE

BORING METHOD
HSA–Hollow Stem Augers
CFA–Continuous Flight Augers
DC–Driving Casing
MD–Mud Drilling

ATEC Associates, Inc.
of Maryland
Geotechnical and Materials Engineers

RECORD OF SUBSURFACE EXPLORATION AND WELL INSTALLATION

CONTRACTED WITH Harrington Associates
PROJECT NAME Berlin Landfill
LOCATION Berlin, Maryland

BORING # B-14 (2 of 2)
JOB # 31-61007

WELL DATA STATE PERMIT # WO-18-1368

Material PVC
Type Sch. 40
Screen Slot .020
Screen Dia. 4"

Pipe Dia. 4"
Hole Dia. 12"
Seal Bentonite
Filter #2M Sand

SAMPLER
Hammer Wt. 140 Lbs.
Hammer Drop 30 In.
Pipe Size 2 In.

Foreman Bolling
Inspector J. Lentz
Date Started 3/12/86
Date Completed 3/12/86

Inside Diameter Inches 12 4 6 8 10 12

Well column: GROUT / GROUT; BENTO-NITE / BENTO-NITE; SAND / SAND

DEPTH SCALE	GW	Cond.	Blows/6"	No.	Type	Rec.	SOIL DESCRIPTION Color, Moisture, Density, Plasticity, Size, Proportions
		I/D	WOH 1 1-2	11	DS	24	Grey, wet, very soft, Silty fine SAND (SM) 22.0
		D	1-2 4-10	12	DS	18	Grey, saturated, loose, fine to medium fine sAND (S) 24.0
25		D	2-4 5-6	13	DS	18	Orange, tan, saturated, loose, fine to medium SAND (S) 26.0
		D	3-3 4-4	14	DS	16	Grey, saturated, loose, fine to medium fine SAND (S)
		D	2-4 5-7	15	DS	18	30.0
30		D	2-5 7-7	16	DS	18	Grey, wet, medium dense, fine to medium coarse SAND (S) 32.0
		D	6-10 19-19	17	DS	20	Grey, saturated, dense, to very dense SAND (S)
35		D	10-23 24-27	18	DS	14	
		D	10-19 19-21	19	DS	20	38.0
40							Test boring terminated @ 38.0' Water on Rod @ 11.0'

GROUT MIX
Cement ______ lbs.
Bentonite ______ lbs.
Water ______ gal.
Sand ______

SAMPLE CONDITIONS
D-DISINTEGRATED
I-INTACT
U-UNDISTURBED
L-LOST

SAMPLER TYPE
DS-DRIVEN SPLIT SPOON
PT-PRESSED SHELBY TUBE
CA-CONTINUOUS FLIGHT AUGER
RC-ROCK CORE

BORING METHOD
HSA-Hollow Stem Augers
CFA-Continuous Flight Augers
DC -Driving Casing
MD -Mud Drilling

[illegible] -483

STATE OF [illegible]
WELL COMPLETION RE[illegible]
FILL IN THIS FORM COMPLETE
PLEASE PRINT OR TYPE

THIS NUMBER IS TO BE [illegible] COLS 1-6 ON ALL CARDS

COUNTY NUMBER: 21 [illegible]

PERMIT NO FROM "PERMIT TO DRILL WELL": W O - 8 1 - 1 3 6 2

DATE Received	DATE WELL COMPLETED	Depth of Well (TO NEAREST FOOT)
	0 3 0 7 8 6	6 4

OWNER: Worcester County (last name) Commissioners (first name)
TOWN: Berlin B-11 D
STREET OR RFD:
SUBDIVISION:
SECTION:
LOT:

WELL LOG

Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (use additional sheets if needed)	FEET FROM	FEET TO	Check if water bearing
Brown & gray sand	0	34	✓
Gray clay	34	38	
Gray & Tan sand	38	46	✓
Gray clay	46	50	
Gray & tan sand	50	64	✓

CIRCLE APPROPRIATE LETTER

- A — A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E — ELECTRIC LOG OBTAINED
- P — TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 10.17.13 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

DRILLERS IDENT. NO. 354

[signature]

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

[signature] A. Baker

SITE SUPERVISOR (sign. of driller or journeyman [illegible] if different from permittee)

GROUTING RECORD

WELL HAS BEEN GROUTED (Circle Appropriate Box): **Y** (yes) / N (no)

TYPE OF GROUTING MATERIAL: CEMENT **CM** — BENTONITE CLAY **BC**

NO. OF BAGS: 8 — NO. OF POUNDS: 80

GALLONS OF WATER: 64

DEPTH OF GROUT SEAL (to nearest foot): from 0 ft. (TOP) to 50 ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD

casing types — insert appropriate code below: ST STEEL, CO CONCRETE, PL PLASTIC, OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)	Total depth of main casing (nearest foot)
P L	4	59

OTHER CASING (if used) — EACH CASING

diameter inch	depth (feet) from	to

SCREEN RECORD

screen type or open hole — insert appropriate code below: ST STEEL, BR BRASS BRONZE, HO OPEN HOLE, PL PLASTIC, OT OTHER

C 2

DEPTH (nearest ft.)

EACH SCREEN	Type	From	To
1	P L	59	64
2			
3			

SLOT SIZE 1. .020 2. ____ 3. ____

DIAMETER OF SCREEN: 4 (NEAREST INCH)

GRAVEL PACK from 50 to 64

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

OEP USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T — TELESCOPE CASING; (E.R.O.S.) — LOG INDICATOR; WQ — OTHER DATA

C 3

PUMPING TEST

HOURS PUMPED (nearest hour): 0

PUMPING RATE (gal. per min. to nearest gal.): 0

METHOD USED TO MEASURE PUMPING RATE:

WATER LEVEL (distance from land surface)

BEFORE PUMPING:

WHEN PUMPING:

TYPE OF PUMP USED (for test): A air, P piston, T turbine, C centrifugal, R rotary, O other (describe below), J jet, S submersible

PUMP INSTALLED

DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO): YES **NO**

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS EXCEPT HOME USE

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX-SEE ABOVE:

CAPACITY: GALLONS PER MINUTE (to nearest gallon):

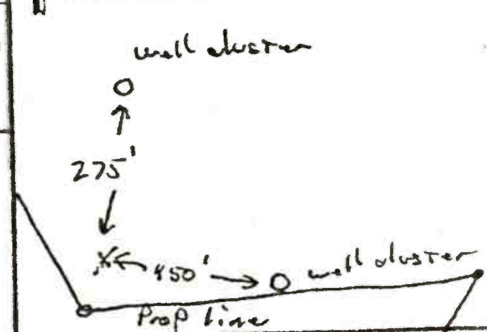
PUMP HORSE POWER:

PUMP COLUMN LENGTH (nearest ft.):

CASING HEIGHT (circle appropriate box and enter casing height): **+** above / − below LAND SURFACE: 2 (nearest foot)

LOCATION OF WELL ON LOT

SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)



06980 SEQUENCE NO. (OEP USE ONLY)

THIS NUMBER IS TO BE PUNCHED IN COLS. 3-8 ON ALL CARDS

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER 210.05-86

PERMIT NO. FROM "PERMIT TO DRILL WELL" WO-81-1365

DATE Received

DATE WELL COMPLETED 031186

Depth of Well 66 (TO NEAREST FOOT)

OWNER Worcester County Commissioners (last name / first name) TOWN Berlin B-12 D

STREET OR RFD

SUBDIVISION SECTION LOT

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (use additional sheets if needed)	FEET FROM	FEET TO	Check if water bearing
Tan sand	0	6	
Tan clay	6	10	
Gray and tan sand	10	50	✓
k. brown clay	50	52	
Gray-tan sand	52	66	✓

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box) yes Y (circled) no N

TYPE OF GROUTING MATERIAL

CEMENT CM (circled) BENTONITE CLAY BC (circled)

NO. OF BAGS 15 NO. OF POUNDS 150

GALLONS OF WATER 120

DEPTH OF GROUT SEAL (to nearest foot) from 0 ft. (TOP) to 56 ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below: ST STEEL, CO CONCRETE, PL PLASTIC, OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)	Total depth of main casing (nearest foot)
PL	4	61

OTHER CASING (if used)

EACH CASING	diameter inch	depth (feet) from	to

SCREEN RECORD
screen type or open hole insert appropriate code below: ST STEEL, BR BRASS BRONZE, HO OPEN HOLE, PL PLASTIC, OT OTHER

C2

EACH SCREEN	type	DEPTH (nearest ft.) from	to
1	PL	61	66
2			
3			

SLOT SIZE 1 .020 2 ___ 3 ___

DIAMETER OF SCREEN 4 (NEAREST INCH)

GRAVEL PACK from 59 to 66

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

PUMPING TEST
C3

HOURS PUMPED (nearest hour) 0

PUMPING RATE (gal. per min. to nearest gal.) 0

METHOD USED TO MEASURE PUMPING RATE

WATER LEVEL (distance from land surface)

BEFORE PUMPING

WHEN PUMPING

TYPE OF PUMP USED (for test)

A air, P piston, T turbine, C centrifugal, R rotary, O other (describe below), J jet, S submersible

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO) YES NO (circled)

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS EXCEPT HOME USE

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX-SEE ABOVE:

CAPACITY: GALLONS PER MINUTE (to nearest gallon)

PUMP HORSE POWER

PUMP COLUMN LENGTH (nearest ft.)

CASING HEIGHT (circle appropriate box and enter casing height) + above (circled) / − below LAND SURFACE 2 (nearest foot)

CIRCLE APPROPRIATE LETTER

A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED

E ELECTRIC LOG OBTAINED

P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 10.17.13 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE

DRILLERS IDENT. NO. 354

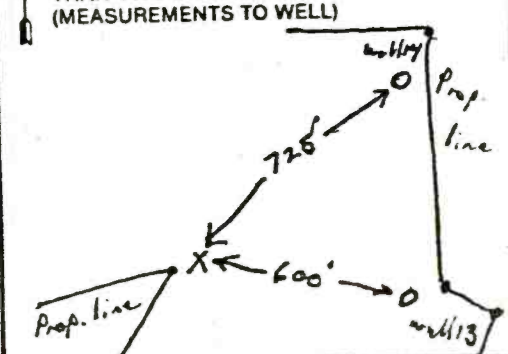
DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION) [signature]

SITE SUPERVISOR (sign of driller or journeyman ...) [signature]

OEP USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T TELESCOPE CASING (E.R.O.S.) LOG INDICATOR WO OTHER DATA

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)



08978 SEQUENCE NO. USE ONLY

THIS NUMBER IS TO BE PUNCHED COLS. 3-8 ON ALL CARDS

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED

COUNTY NUMBER 210.05-86

DATE Received: ____

DATE WELL COMPLETED: 03 14 86

Depth of Well: 78 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL": WO-81-1367

OWNER: Worcester County (last name) Commissioners (first name)

STREET OR RFD ____ TOWN Berlin B-BD

SUBDIVISION ____ SECTION ____ LOT ____

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	Check if water bearing
[illegible] + tan sand	0	16	
Gray clay	16	24	
Tan & gray sand	24	52	✓
Gray silty clay	52	54	
Tan sand	54	62	✓
Gray clay	62	64	
Tan & gray sand	64	78	✓

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes Y / no N — Y circled

TYPE OF GROUTING MATERIAL: CEMENT CM (circled) BENTONITE CLAY BC (circled)

NO. OF BAGS 19 NO. OF POUNDS 190

GALLONS OF WATER 152

DEPTH OF GROUT SEAL (to nearest foot): from 0 ft. (TOP) to 67 ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD
casing types — insert appropriate code below: ST STEEL, CO CONCRETE, PL PLASTIC, OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)	Total depth of main casing (nearest foot)
PL	4	73

OTHER CASING (if used) — EACH CASING: diameter inch; depth (feet) from ____ to ____

SCREEN RECORD
screen type or open hole — insert appropriate code below: ST STEEL, BR BRASS BRONZE, HO OPEN HOLE, PL PLASTIC, OT OTHER

C2

EACH SCREEN	Type	DEPTH (nearest ft.) from	to
1	PL	73	78
2			
3			

SLOT SIZE 1 .020 2 ____ 3 ____

DIAMETER OF SCREEN 4 (NEAREST INCH)

GRAVEL PACK from 70 to 78

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68 ____

C3 PUMPING TEST
HOURS PUMPED (nearest hour) 0

PUMPING RATE (gal. per min. to nearest gal.) 0

METHOD USED TO MEASURE PUMPING RATE ____

WATER LEVEL (distance from land surface): BEFORE PUMPING ____ WHEN PUMPING ____

TYPE OF PUMP USED (for test): A air, P piston, T turbine, C centrifugal, R rotary, O other (describe below), J jet, S submersible

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO): YES NO — NO circled

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS EXCEPT HOME USE

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX - SEE ABOVE: ____

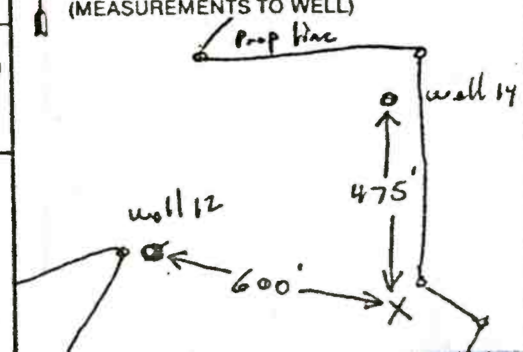
CAPACITY: GALLONS PER MINUTE (to nearest gallon) ____

PUMP HORSE POWER ____

PUMP COLUMN LENGTH (nearest ft.) ____

CASING HEIGHT (circle appropriate box and enter casing height): + above (circled) / − below LAND SURFACE 2 (nearest foot)

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)



CIRCLE APPROPRIATE LETTER
- A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E ELECTRIC LOG OBTAINED
- P TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 10.17.13 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE

DRILLERS IDENT. NO. 354

[signature]

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

[signature]

SITE SUPERVISOR (sign. of driller or journeyman ... if different from permittee)

OEP USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T — 70 TELESCOPE CASING; (E.R.O.S.) 72 LOG INDICATOR; WQ 74 75 76 OTHER DATA

1 03877 | TO BE FILLED IN BY OEP USE ONLY

THIS NUMBER IS TO BE PUNCHED IN COLS 38 ON ALL CARDS.

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED

COUNTY NUMBER 210.05 38

DATE Received: ______

DATE WELL COMPLETED: 031286

Depth of Well: 38 (TO NEAREST FOOT)

PERMIT NO. FROM "PERMIT TO DRILL WELL": WO-81-1368

OWNER: Worcester County (last name) Commissioners (first name)

STREET OR RFD ______ TOWN Berlin B-14

SUBDIVISION ______ SECTION ______ LOT ______

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (use additional sheets if needed)	FEET FROM	FEET TO	Check if water bearing
Tan-br. sand	0	14	
Brown and gray clay	14	20	
Gray to tan sand	20	38	✓

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes **Y** / no N

TYPE OF GROUTING MATERIAL: **CEMENT CM** / **BENTONITE CLAY BC**

NO. OF BAGS 5 NO. OF POUNDS ~~400~~ 50

GALLONS OF WATER 40

DEPTH OF GROUT SEAL (to nearest foot): from 0 ft. (TOP) to 24 ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD
casing types — insert appropriate code below: ST STEEL, CO CONCRETE, **PL PLASTIC**, OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)	Total depth of main casing (nearest foot)
PL	4	28

OTHER CASING (if used): diameter inch; depth (feet) from / to — EACH CASING: ______

SCREEN RECORD
screen type or open hole — insert appropriate code below: ST STEEL, BR BRASS BRONZE, HO OPEN HOLE, PL PLASTIC, OT OTHER

C2

EACH SCREEN	Type	DEPTH (nearest ft.) from	to
1	PL	28	38
2			
3			

SLOT SIZE 1 .020 2 ____ 3 ____

DIAMETER OF SCREEN 4 (NEAREST INCH)

C3 — PUMPING TEST
HOURS PUMPED (nearest hour): 0

PUMPING RATE (gal. per min. to nearest gal.): 0

METHOD USED TO MEASURE PUMPING RATE ______

WATER LEVEL (distance from land surface): BEFORE PUMPING ____ WHEN PUMPING ____

TYPE OF PUMP USED (for test): A air, P piston, T turbine, C centrifugal, R rotary, O other (describe below), J jet, S submersible

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO): YES **NO**

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS EXCEPT HOME USE

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX-SEE ABOVE: ____

CAPACITY: GALLONS PER MINUTE (to nearest gallon): ____

PUMP HORSE POWER: ____

PUMP COLUMN LENGTH (nearest ft.): ____

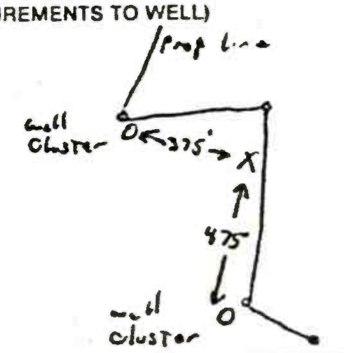
CASING HEIGHT (circle appropriate box and enter casing height): **+ above** / − below LAND SURFACE: 2 (nearest foot)

CIRCLE APPROPRIATE LETTER
- A A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E ELECTRIC LOG OBTAINED
- P TEST WELL CONVERTED TO PRODUCTION WELL

GRAVEL PACK from ~~26~~ 26 to ~~28~~ 38

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68: ____

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)



I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 10.17.13 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE

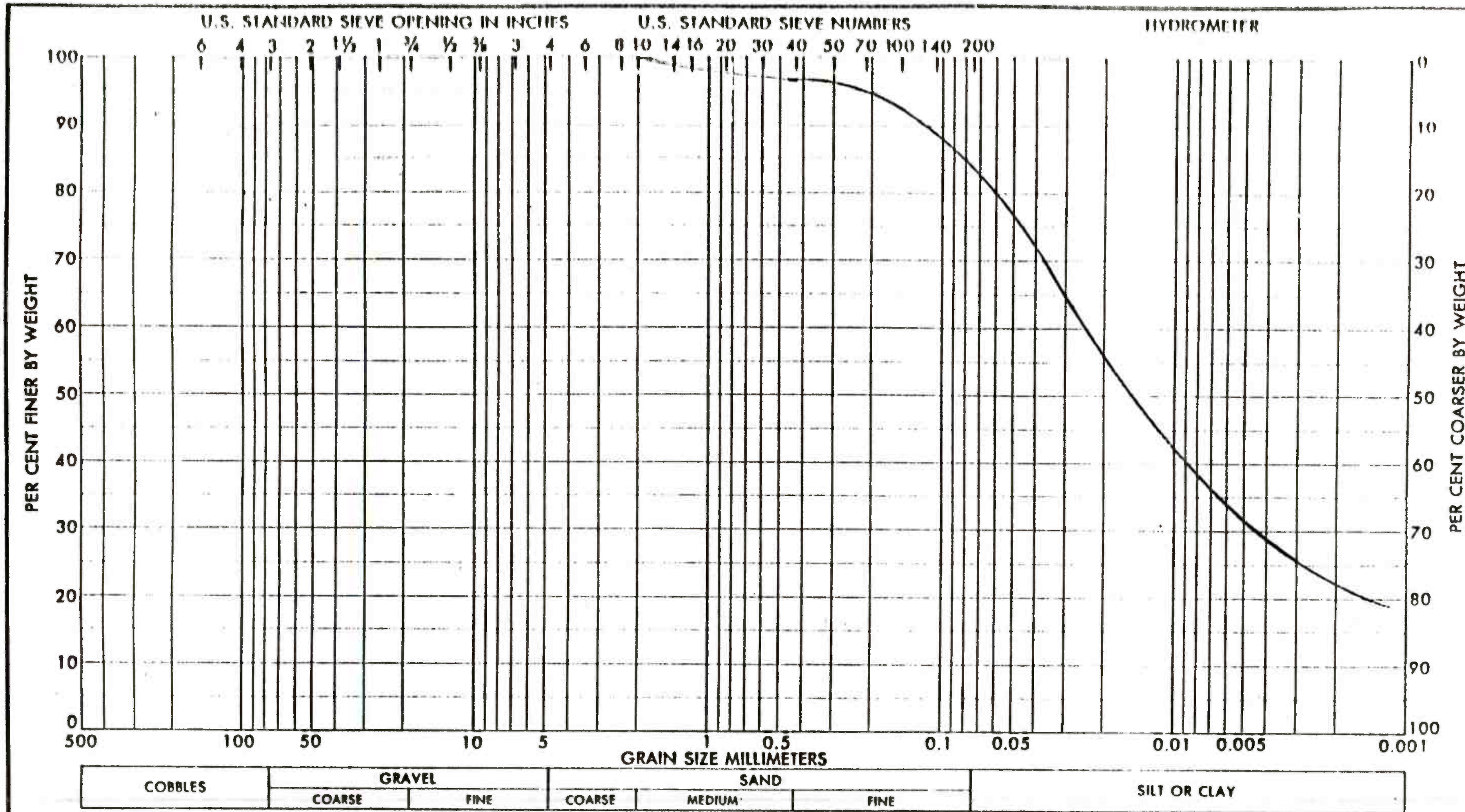
DRILLERS IDENT. NO. 354

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

SITE SUPERVISOR (sign. of driller or journeyman if different from permittee)

OEP USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T — TELESCOPE CASING; (E.R.O.S.) LOG INDICATOR; WQ OTHER DATA



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
18	34.0-36.0	CL	28.6	42	22	20

GRADATION CURVES

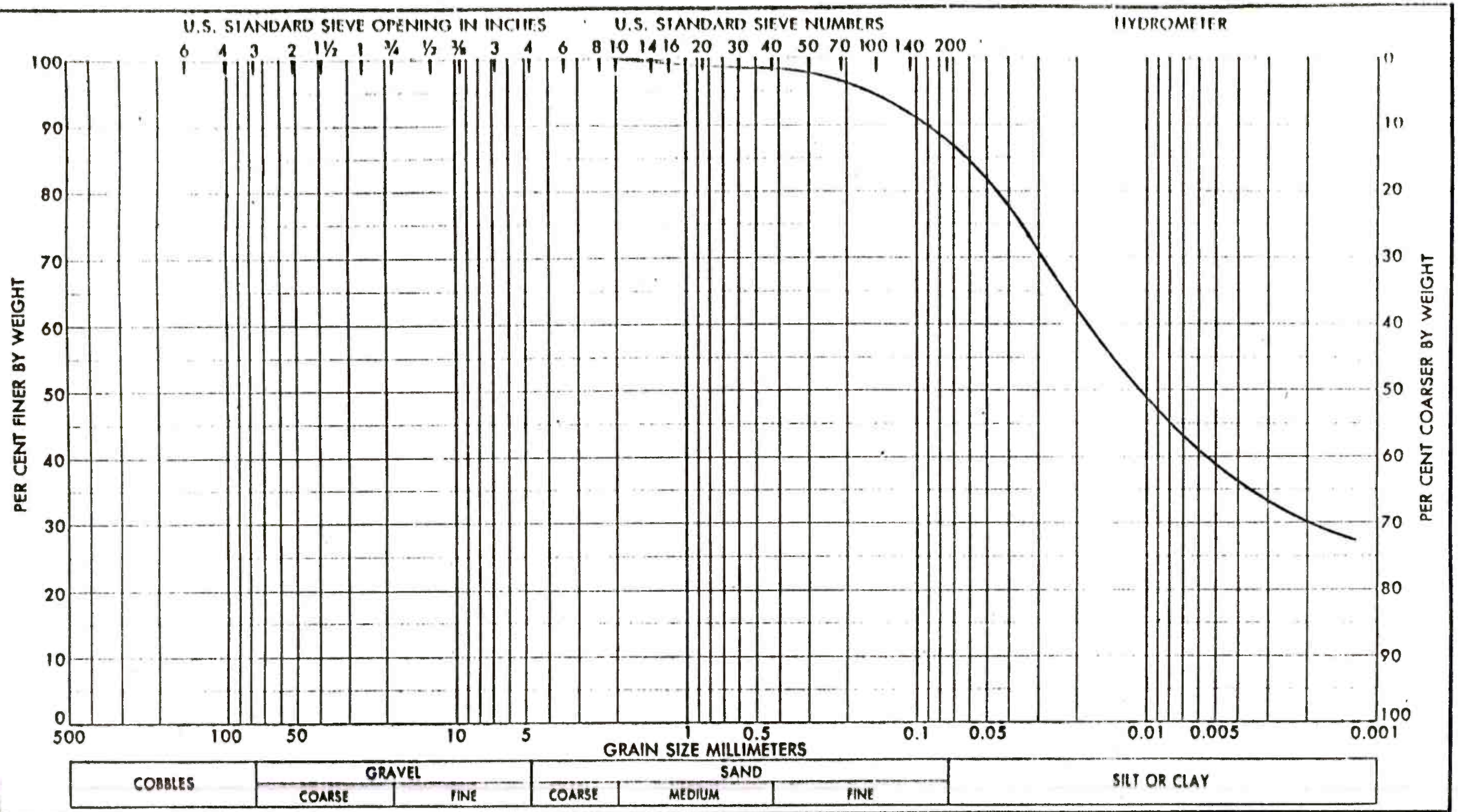
PROJECT Rubble Fill Site
Worcester County
AREA 31-61007
BORING NO. 11D
DATE 4-14-86

Coefficient of Permeability K=2.91 x 10-8 cm./sec.

Total Cation Exchange Capacity = 23.1 meq./100 grams

Specific Gravity = 2.693

Dry Density = 94.7 pcf



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
24	46.0-48.0	CH	28.9	50	21	29

GRADATION CURVES

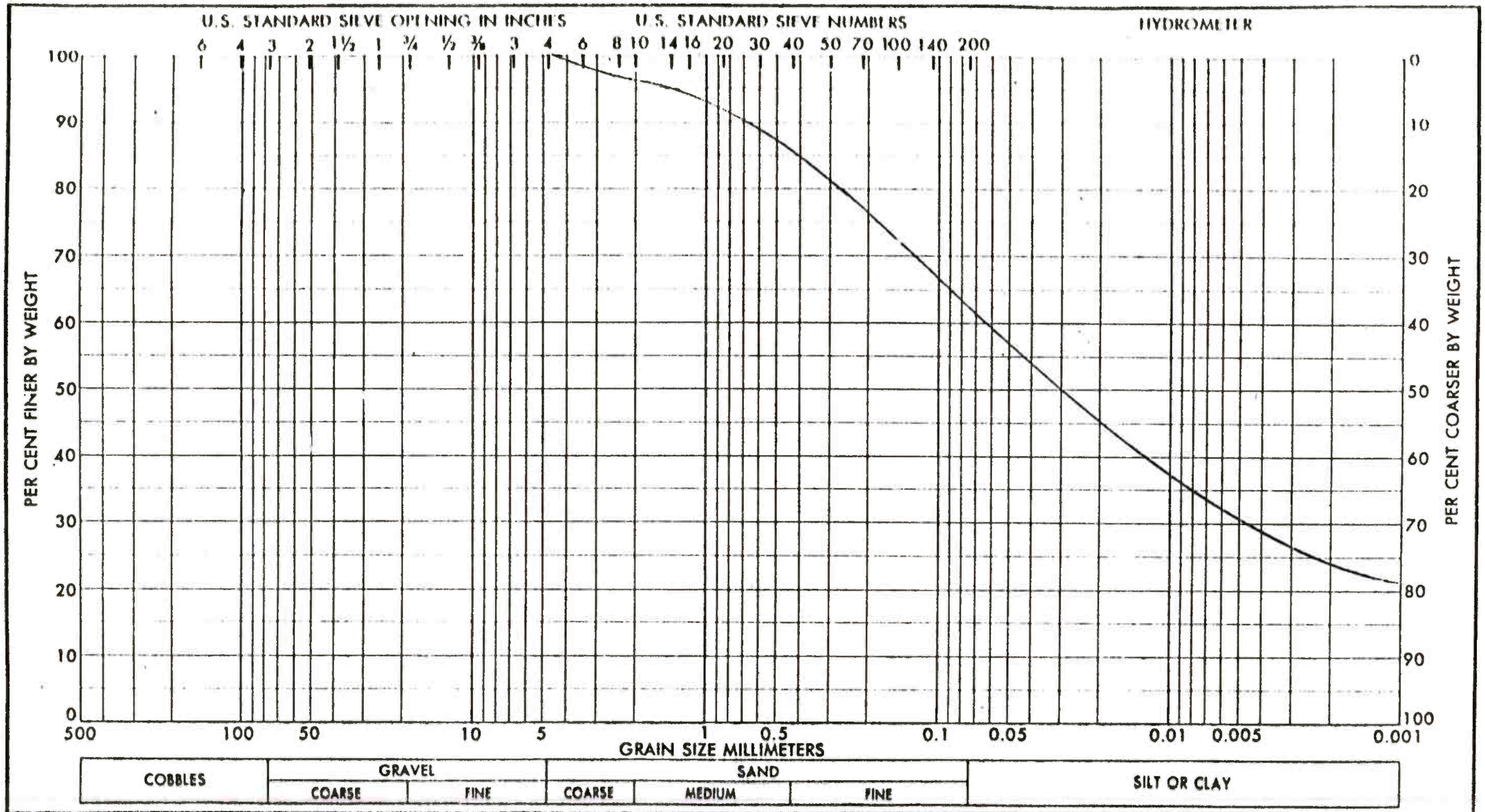
PROJECT Rubble Fill Site
Worcester County
AREA 31-61007
BORING NO. 11D
DATE 4-15-86

Coefficient of Permeability K = 1.16 x 10-8 cm./sec.

Total Cation Exchange Capacity = 43.3 meq./100 grams

Specific Gravity = 2.702

Dry Density = 94.7 pcf



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
4	6.0-8.0	CL	28.8	35	19	16

GRADATION CURVES

PROJECT Proposed Rubble Fill Site

31-61007

AREA Worcester County

BORING NO. 12

DATE 4-1-86

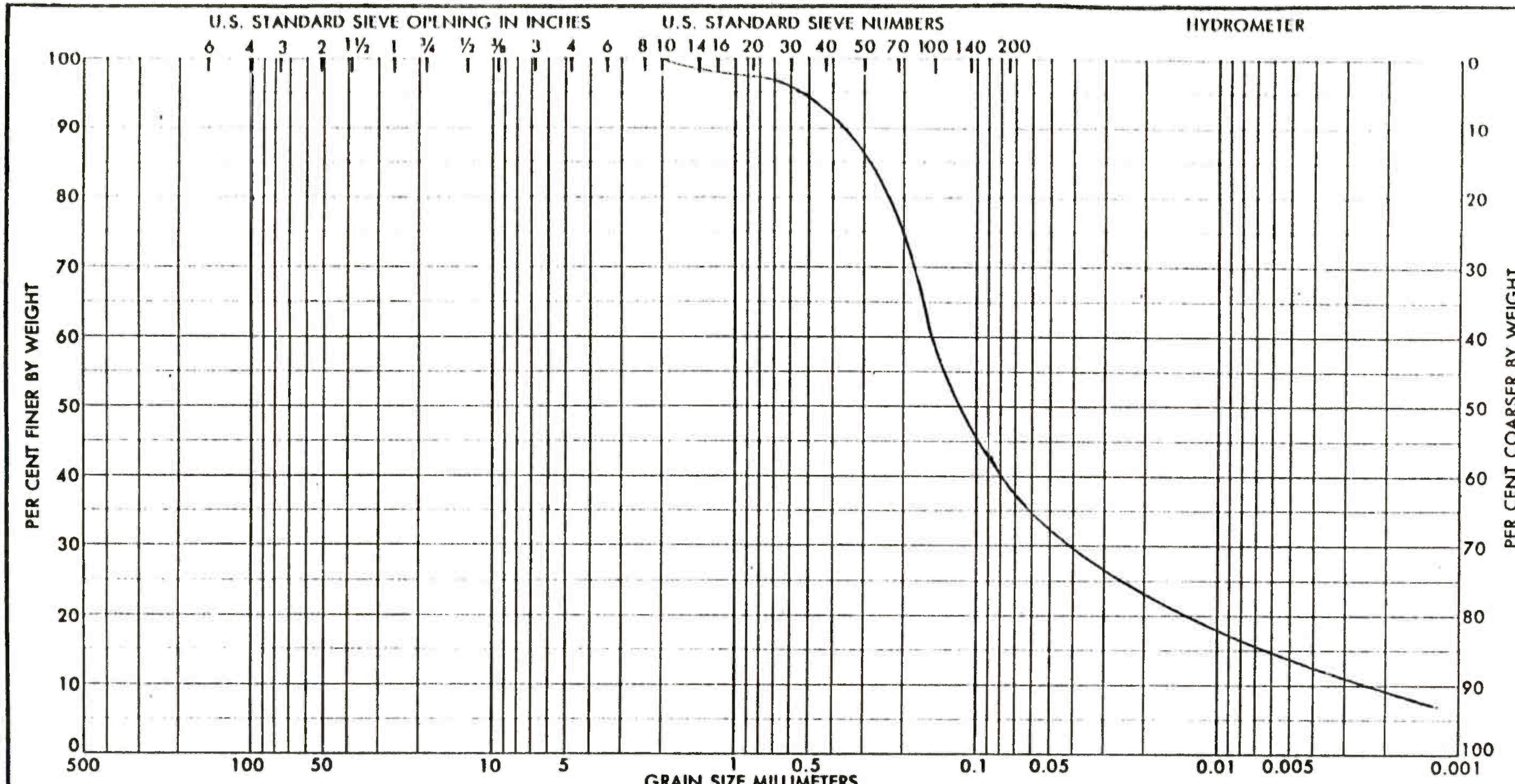
Coefficient of Permeability, K = 1.26 x 10-8 cm./sec.

Total Cation Exchange Capacity = 45.4 meq./100 grams

Specific Gravity = 2.742

Dry Density = 92.7 pcf

FORM 105



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
26	52.0-54.0	SM	17.5	20	17	3

GRADATION CURVES

PROJECT Proposed Rubble Fill Site
31-61007
AREA Worcester County
BORING NO. 12
DATE 4-1-86

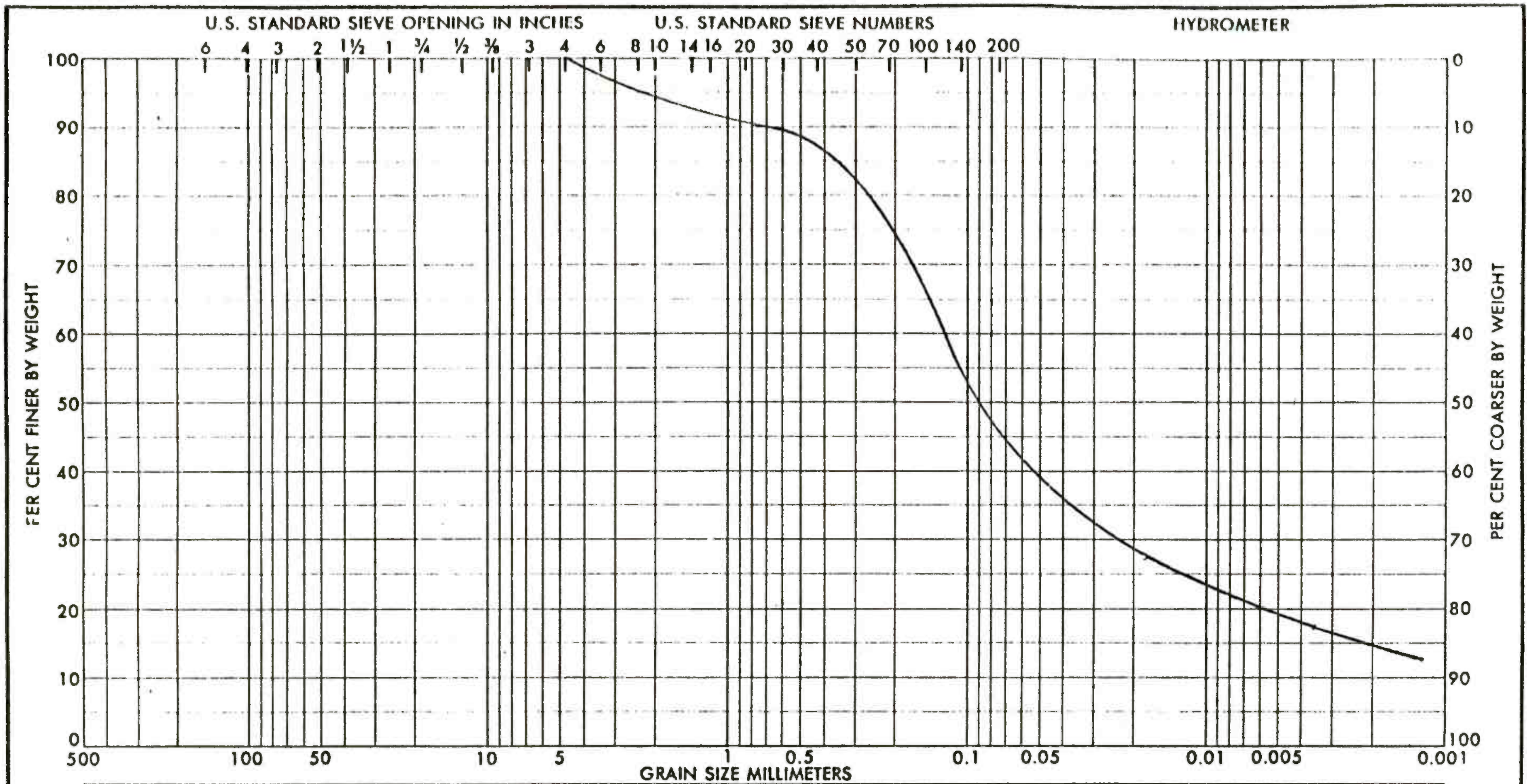
Coefficient of Permeability, K = 1.78 x 10-7 cm./sec.

Total Cation Exchange Capacity = 24.4 meq./100 grams

Specific Gravity = 2.763

Dry Density = 107.9 pcf

FORM 105



COBBLES	GRAVEL		SAND			SILT OR CLAY
	COARSE	FINE	COARSE	MEDIUM	FINE	

SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
10	18.0-20.0	SC	25.9	26	13	13

PROJECT Proposed Rubble Fill Site

31-61007

AREA Worcester County

BORING NO. 13

DATE 4-1-86

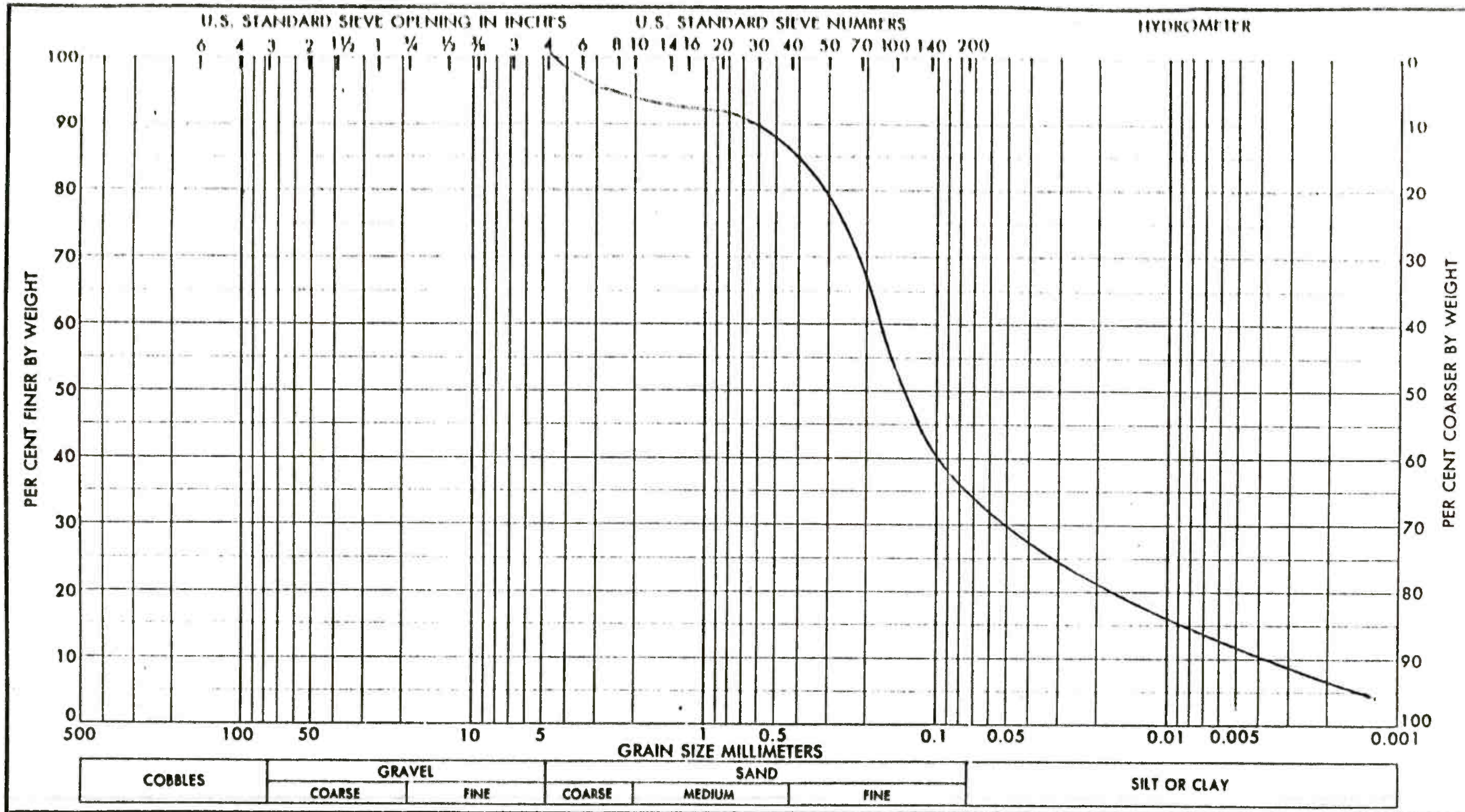
GRADATION CURVES

Coefficient of Permeability, K = 1.08 x 10-7 cm./sec.

Total Cation Exchange Capacity = 35.8 meq./100 grams

Specific gravity = 2.740
Dry Density = 99.7 pcf

FORM 105



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
32	62.0-64.0	SM	30.1	25	19	6

GRADATION CURVES

PROJECT	Proposed Rubble Fill Site
	31-61007
AREA	Worcester County
BORING NO.	13
DATE	4-1-86

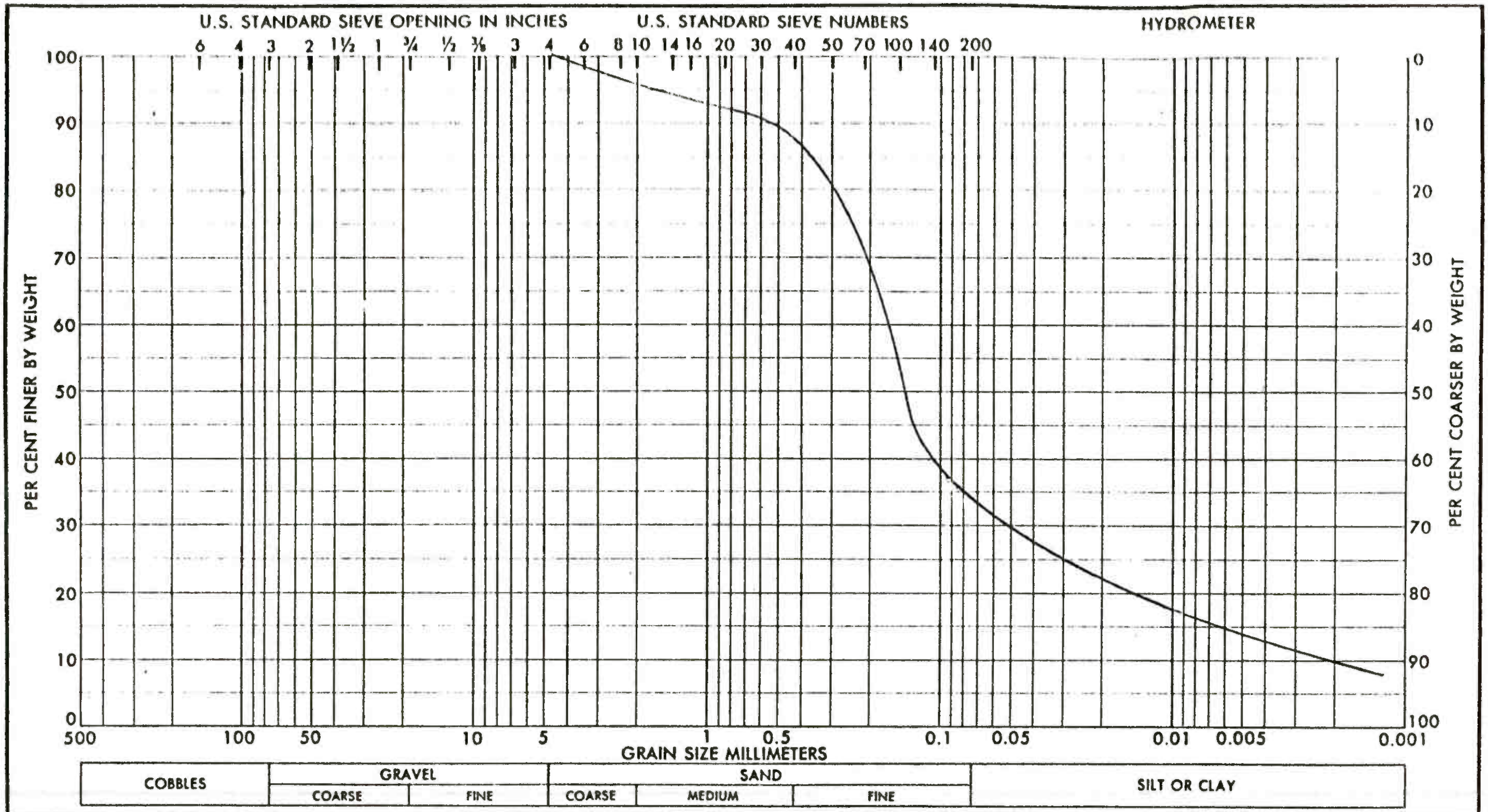
Coefficient of Permeability, K = 3.01 x 10-7 cm./sec.

Total Cation Exchange Capacity = 26.2 meq./100 grams

Specific Gravity = 2.727

Dry Density = 90.0

FORM 105



SAMPLE NO.	ELEV OR DEPTH	CLASSIFICATION	NAT W%	LL	PL	PI
10	18.0-20.0	SM	24.8	19	14	5

GRADATION CURVES

PROJECT Proposed Rubble Fill Site
31-61007
AREA Worcester County
BORING NO. 14
DATE 4-1-86

Coefficient of Permeability, K = 2.14 x 10-7 cm./sec.

Total Cation Exchange Capacity = 26.3 meq./100 grams

Specific Gravity = 2.684

Dry Density = 99.4 pcf

FORM 105

APPENDIX D

HISTORICAL WATER LEVELS

(Harrington, Lacey and Associates)

(May 22, 1980 to August 6, 1981)

BERLIN SANITARY LANDFILL

Groundwater Level Monitoring Data
Elevation in Feet Above Mean Sea Level

WELL POINT NO.	Ground Elev. In Feet Above Mean Sea Level	MONITORING DATA									
		5/22/80	6/23/80	8/1/80	9/5/80	10/2/80	11/3/80	12/2/80	1/5/81	2/3/81	3/9/81
B-1	26.67	18.73	17.47	15.49	14.15	13.44	13.56	13.50	13.15	12.73	13.99
B-2	27.03	16.03	14.86	13.28	11.86	11.43	11.40	11.53	11.24	10.99	12.03
B-3	32.67	18.67	17.40	15.67	14.09	13.97	13.54	13.84	13.80	13.26	14.27
B-4	25.53	17.73	16.51	14.93	13.25	13.38	13.10	13.40	13.09	12.84	13.83
B-5	27.51	18.24	16.91	15.21	13.33	13.21	12.88	12.73	13.00	12.79	13.81
B-6	27.04	18.69	17.54	15.74	13.91	13.79	13.46	13.96	13.58	13.25	14.24
B-7	20.15	19.05	16.85	15.05	12.66	12.53	12.22	12.85	12.45	12.16	13.25
B-8	21.58	19.23	17.57	15.88	13.75	13.88	13.65	14.00	13.59	13.30	14.28
B-9	17.31	13.81	13.16	11.76	9.55	10.01	10.03	10.34	10.47	10.05	11.16
B-10	26.73	12.96	11.96	10.66	9.08	8.96	9.23	9.63	9.29	9.04	10.16

TABLE 2

Berlin Sanitary Landfill
Groundwater Level Monitoring Data
Elevation In Feet Above Mean Sea Level

WELL POINT NO.	Ground Elev. In Feet Above Mean Sea Level	MONITORING DATA									
		4/7/81	5/6/81	6/5/81	7/9/81	8-6-81					
B-1	26.67	13.99	14.09	13.79	12.36	13.03					
B-2	27.03	11.93	12.18	11.93	11.86	11.49					
B-3	32.67	13.97	14.62	13.37	14.22	13.89					
B-4	25.53	14.03	13.93	13.23	12.86	12.62					
B-5	27.51	13.81	13.86	13.51	12.71	13.05					
B-6	27.04	14.24	14.39	14.04	13.29	13.54					
B-7	20.15	13.30	13.30	12.15	12.28	11.62					
B-8	21.58	14.38	14.28	13.28	13.21	**					
B-9	17.31	11.06	*	*	*	*					
B-10	26.73	10.16	9.96	9.56	9.54	9.30					

* B-9 Vandalized 5/6/81
** B-8 Vandalized 8-6-81

TABLE 2 (Continued)

November 13, 2024

Sharmin Sultana
EA Engineering
225 Schilling Cir
Hunt Valley, MD 21031

RE: Tracking Number: 2024-02892
Request Received November 4, 2024
Worcester County Berlin, Snow Hill, Pocomoke Landfills

Dear Sharmin Sultana:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

After conducting a thorough search of our files, MDE has no records responsive to your request. There were no charges incurred as a result of this search.

When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please email zachary.lansing@maryland.gov.

Sincerely,

Zachary Lansing

Zachary Lansing
PIA Liaison
Water & Science Administration

Appendix C

MDE Monitoring Parameters Tables I and II

MDE MONITORING PARAMETERS - TABLE I

Volatile Organic Compound Monitoring Parameters	Units	PQL	MCL	NCTS	Cleanup STD
Acetone	µg/L	5.0			1400
Acrylonitrile	µg/L	5.0		0.51	
Benzene	µg/L	1.0	5.0	22	5.0
Bromochloromethane	µg/L	1.0			
Bromomethane	µg/L	1.0			0.75
2-Butanone	µg/L	5.0			560
Carbon disulfide	µg/L	1.0			81
Carbon tetrachloride	µg/L	1.0	5.0	2.3	5.0
Chlorobenzene	µg/L	1.0	100	130	100
Chloroethane	µg/L	1.0			
Chloromethane	µg/L	1.0			19
1,2-Dibromo-3-chloropropane; (DBCP)	µg/L	0.04	0.2		0.20
1,2-Dibromoethane; (EDB)	µg/L	0.04	0.05		0.050
Dibromomethane	µg/L	1.0			
1,2-Dichlorobenzene	µg/L	1.0	600	420	
1,4-Dichlorobenzene	µg/L	1.0	75	63	
trans-1,4-Dichloro-2-butene	µg/L	5.0			
1,1-Dichloroethane	µg/L	1.0			2.8
1,2-Dichloroethane	µg/L	1.0	5.0	3.8	5.0
1,1-Dichloroethene	µg/L	1.0	7.0	330	7.0
cis-1,2-Dichloroethene	µg/L	1.0	70		70
trans-1,2-Dichloroethene	µg/L	1.0	100	140	100
Methylene chloride	µg/L	1.0	5.0	46	5.0
Methyl *tert*-butyl ether; (MTBE)	µg/L	2.0			20
1,2-Dichloropropane	µg/L	1.0	5.0	5.0	5.0
trans-1,3-Dichloropropene	µg/L	1.0			
cis-1,3-Dichloropropene	µg/L	1.0			
Ethylbenzene	µg/L	1.0	700	530	700
2-Hexanone	µg/L	5.0			
Iodomethane	µg/L	1.0			
4-Methyl-2-pentanone	µg/L	5.0			630
Styrene	µg/L	1.0	100		100
1,1,1,2-Tetrachloroethane	µg/L	1.0			
1,1,2,2-Tetrachloroethane	µg/L	1.0		1.7	0.076
Tetrachloroethene; (PCE)	µg/L	1.0	5.0	6.9	5.0
Toluene	µg/L	1.0	1000	1300	1000
1,1,1-Trichloroethane	µg/L	1.0	200	200	200
1,1,2-Trichloroethane	µg/L	1.0	5.0	5.9	5.0
Trichloroethene; (TCE)	µg/L	1.0	5.0	25	5.0
Trichlorofluoromethane; (CFC-11)	µg/L	1.0			
1,2,3-Trichloropropane	µg/L	1.0			
Vinyl acetate	µg/L	1.0			
Vinyl chloride	µg/L	1.0	2.0	0.25	2.0
o-Xylene	µg/L	1.0	10,000 (total)		10,000
m-+*p*-Xylenes	µg/L	1.0			
Bromodichloromethane	µg/L	1.0	80 (total)	80 (total)	80
Dibromochloromethane	µg/L	1.0			80
Bromoform	µg/L	1.0			80
Chloroform	µg/L	1.0			80

PQL = Practical Quantitation Limit
MCL = Maximum Contaminant Level
NCTS = Numerical Criteria for Toxic Substances in Surface Waters
Cleanup STD = MDE Cleanup Standards for Groundwater (for Assessment Monitoring)
µg/L = microgram per liter (parts per billion, ppb)

MDE MONITORING PARAMETERS - TABLE I (cont.)

Per- and Polyfluoroalkyl Substances (PFAS)	Units	PQL	MCL	HI MCL[1]	HBWC
Perfluorooctanoic acid (PFOA)	ng/L	4.0	4.0		
Perfluorooctanesulfonic acid (PFOS)	ng/L	4.0	4.0		
Perfluorononanoic acid (PFNA)	ng/L	4.0	10	1.0 (unitless)	10
Perfluorohexanesulfonic acid (PFHxS)	ng/L	3.0	10		10
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	ng/L	5.0	10		10
Perfluorobutanesulfonic acid (PFBS)	ng/L	3.0			2000

PQL = Practical Quantitation Limit (Method 1633)
MCL = Maximum Contaminant Level
HI MCL = Hazard Index MCL (Mixture of two or more: PFNA, PFHxS, HFPO-DA, and PFBS)
HBWC = Health-Based Water Concentrations
ng/L = nanogram per liter (parts per trillion, ppt)

Note:
1 – A running annual average hazard index value greater than 1.0 is a violation of the HI MCL. Hazard Index level for two or more of four PFAS as a mixture: PFNA, PFHxS, HFPO-DA, and PFBS.
Formula: Hazard Index Value = ((PFNA ng/L)/(10 ng/L)) + ((PFHxS ng/L)/(10 ng/L)) + (GenX ng/L)/(10 ng/L)) + ((PFBS ng/L)/(2000 ng/L))

To calculate the Hazard Index, follow the steps:

1. Step 1. Divide the measured concentration of HFPO-DA(GenX) by its health-based value of 10 ppt.
2. Step 2. Divide the measured concentration of PFBS by its health- based value of 2000 ppt.
3. Step 3. Divide the measured concentration of PFNA by its health-based value of 10 ppt.
4. Step 4. Divide the measured concentration of PFHxS by its health-based value of 10 ppt.
5. Step 5. Add the ratios from steps 1, 2, 3 and 4 together using the Health Index Value
6. Step 6. Compliance with the Hazard Index MCL is determined by a running annual average. To determine the running annual average, repeat steps 1-5 for each sample collected in the past year and calculate the average of these Hazard Index results.
7. Step 7. If the running annual average Hazard Index is greater than the MCL of 1, it is a violation of the Hazard Index MCL

For Reference: Understanding the Final PFAS National Primary Drinking Water Regulation Hazard Index Maximum Contaminant Level:
https://www.epa.gov/system/files/documents/2024-04/pfas-npdwr_fact-sheet_hazard-index_4.8.24.pdf

MDE MONITORING PARAMETERS - TABLE II

Elements & Indicator Monitoring Parameters	Units	PQL	MCL / SMCL	NCTS[1]	Cleanup STD
Total Antimony	µg/L	2	6	5.6	6.0
Total Arsenic	µg/L	2	10	0.18	10
Total Barium	µg/L	10	2000	1000	2000
Total Beryllium	µg/L	2	4	4.0	4.0
Total Cadmium	µg/L	4	5	0.25	5.0
Total Calcium*	µg/L	80			
Total Chromium	µg/L	10	100	100	100
Total Cobalt*	µg/L	10			
Total Copper+	µg/L	10	1300 (AL)	9	1300
Total Iron**	µg/L	5	300		1400
Total Lead	µg/L	2	15 (AL)	2.5	15
Total Magnesium*	µg/L	4			
Total Manganese**	µg/L	10	50		43
Total Mercury	µg/L	0.2	2	0.77	2.0
Total Nickel+	µg/L	11	100	52	39
Total Potassium*	µg/L	390			
Total Selenium	µg/L	35	50	5	50
Total Silver**	µg/L	10	100	3.2	9.4
Total Sodium*	µg/L	200			
Total Thallium	µg/L	2	2	0.24	2.0
Total Vanadium*	µg/L	10			8.6
Total Zinc**	µg/L	10	5000	120	600
Alkalinity*	mg/L	1.0			
Ammonia (as N)*	mg/L	1.0		See note[2]	
Chemical oxygen demand*	mg/L	10			
Chloride**	mg/L	0.39	250		
Hardness*	mg/L	0.50			
Nitrate (as N)	mg/L	0.06	10		
pH**	SU	0.1	<6.5 or >8.5		
Specific conductance*	µS/cm	1.0			
Sulfate**	mg/L	0.38	250		
Total dissolved solids**	mg/L	10	500		
Turbidity	NTU	0.11	5		

Primary MCL
* = No MCL
* * = Secondary MCL
+ = No MCL but recommended level by EPA

PQL = Practical Quantitation Limit
MCL = Maximum Contaminant Level
SMCL = Secondary Maximum Contaminant Level
NCTS = Numerical Criteria for Toxic Substances in Surface Waters
Cleanup STD = MDE Cleanup Standards for Groundwater (for Assessment Monitoring)
AL = Action Level
µg/L = microgram per liter (parts per billion, ppb)
mg/L = milligram per liter (parts per million, ppm)
µS/cm = microsiemens per centimeter
NTU = Nephelometric Turbidity Unit
SU = Standard Unit (logarithmic unit)

Note:
1 - Per COMAR 26.08.02.03-2F(1) - The metals shall be measured as dissolved metal …
2 - See COMAR 26.08.02.03-2 for ammonia

This page intentionally left blank

Appendix D

Blank Low-Flow Sampling Form

EA Engineering, Science, and Technology, Inc.

WELL PURGING AND SAMPLING RECORD

WELL ID ________________________________ SAMPLE NO. ____________________________

WELL/SITE DESCRIPTION ____

DATE _____/_____/_____ TIME _______________ AIR TEMP. ________________________

WELL DEPTH ______________________ ft WELL DIAMETER ______________________ in

WATER DEPTH ____________________ ft WATER COLUMN HE____________________ ft

PUMP RATE ______________________ LPM PUMP TIME __________________________ min

WELL WENT DRY? ( ) Yes ( ) No

STABILIZATION CRITERIA:

Turbidity (10% for values greater than 5 NTUs; if three Turbidity values are less than 5 NTUs, consider the values as stabilized).
Dissolved Oxygen (10% for values greater than 0.5 mg/L, if three Dissolved Oxygen values are less than 0.5 mg/L, consider the values as stabilized).
Specific Conductance (3%), Temperature (3%), pH (± 0.1 unit), Oxidation/Reduction Potential (±10 millivolts).

Date	Time	Volume Removed Unit: Gal	pH --	Cond. µS/cm	Temp. ºC	ORP mV	Turb. NTU	DO mg/L	Depth to Water from TOC	Pump Rate GPM

COMMENTS ____

____

____

SIGNATURE ______________________________

This page intentionally left blank

Appendix E

Example Blank Chain-of-Custody Form

This page intentionally left blank

Company Name: EA Engineering	Project Manager: Darl Kolar	CHAIN-OF-CUSTODY RECORD
Project Name (Landfill Name):	Project ID: 6250915	Maryland Spectral Services, Inc. 1500 Caton Center Drive, Suite G Baltimore, MD 21227 410–247–7600 • Fax 410–247–7602 reporting@mdspectral.com
Sampler(s):	P.O. Number:	Matrix Codes: NW (non-potable water), DW (drinking water)

Field Sample ID	Date	Time	DW	Water	Soil	Other	No. of Containers	Turbidity pH Conductivity	Diss Solids Alkalinity	Chloride Sulfate	Nitrate Ammonia COD	6020 MDE Table II Metals	**8260D** VOCs and 8011*	1633 **PFAS**				Preservative	Field Notes	MSS Lab ID
				X																
				X																
				X																
				X																
				X																
				X																
				X																
				X																
				X																

Analysis Requested

* Please analyze 2 VOCs (1,2-Dibromo-3-chloropropane and 1, 2 Dibromoethane) by method 8011 in addition to method 8260D.

Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*	Relinquished by: *(Signature)*	Date/Time	Received by: *(Signature)*
(Printed)		*(Printed)*	*(Printed)*		*(Printed)*

Relinquished by: *(Signature)*	Date/Time	Received by Lab: *(Signature)*
(Printed)		*(Printed)*

Turn Around Time:

- ☐ Normal (7 day)
- ☐ 5 day
- ☐ 4 day
- ☐ 3 day
- ☐ Rush (2 day)
- ☐ Next Day
- ☐ Other: _____
- ☐ Specific Due Date: ______

Lab Use:

Temp: _____°C

- ☐ Received on Ice
- ☐ Received same day

Delivery Method:

- ☐ Courier
- ☐ Client
- ☐ UPS
- ☐ FedEx
- ☐ USPS
- ☐ Other:_____

Special Instructions/QC Requirements & Comments:

Sample Disposal:

- ☐ Return to Client
- ☐ Disposal by lab
- ☐ Archive for _____ days

This page intentionally left blank

Appendix F

PQL Variance Request Letter from MDE

This page intentionally left blank

November 26, 2024

CERTIFIED MAIL
Return Receipt Requested

Dallas Baker, P.E., Director
Department of Public Works
7091 Central Site Lane
Newark, MD 21841

Dear Dallas Baker:

This letter pertains to the July 17, 2024, variance request letters (Request) requesting alternate Practical Quantitation Limits (PQL) concentration levels for monitoring parameters total magnesium, alkalinity, chloride, and turbidity at the Berlin, Pocomoke, and Snow Hill Municipal Landfills of Worcester County, Maryland.

The Maryland Department of the Environment (MDE) has reviewed the Request and hereby approves the alternate PQL Request for 5 years using methods 6020B (total magnesium), 2320 B-2021 (alkalinity), 180.1 Rev. 2.0 (turbidity), and 300.0 Rev. 2.1 (chloride). Following this period, parameters with an alternate PQL may be reviewed every 5 years to justify continued approval and to assess whether a more sensitive method or a qualified laboratory is necessary. This review will ensure that the reporting limits remain less than or equal to the PQLs listed in MDE Monitoring Parameters Table I or II.

MDE appreciates your cooperation regarding this matter. If you have any questions or need clarification, please contact Chris Manning, project manager, at christopher.manning@maryland.gov. Alternatively, you can contact Dr. Binyam Woldemichael, section head of Investigations and Remediation, at binyam.woldemichael@maryland.gov. You can reach both by phone at 410-537-3315.

Sincerely,

Andrew Grenzer, Chief
Solid Waste Operations Division

cc: David Candy, Superintendent, Worcester County Department of Public Works
Darl Kolar, P.E., BCEE, Project Manager, EA
Stephanie Cobbs Williams, Acting Director, Land and Materials Administration (LMA), MDE
Brian Coblentz, Compliance Division Chief, Solid Waste Program, LMA, MDE

This page intentionally left blank

Appendix G

Blank Instrument (YSI) Calibration Form

This page intentionally left blank

Specific Conductivity

DATE	TIME	METER	CALIBRATED	READING	INITIALS

pH

DATE	TIME	METER	CALIBRATED	READING	INITIALS

Oxidation Reduction Potential (ORP)

DATE	TIME	METER	CALIBRATED	READING	INITIALS

Turbidity

DATE	TIME	METER	CALIBRATED	READING	INITIALS

Dissolved Oxygen (DO)

DATE	TIME	METER	CALIBRATED	READING	INITIALS

ProDSS General Specifications

Size	Instrument: 8.3 cm width x 21.6 cm length x 5.6 cm depth (3.27 in x 8.5 in x 2.21 in) Bulkhead with sensors, without depth (no guard): 33.3 cm (13.11 in) length - the length with the ISE sensors is 34.04 cm (13.4 in) Bulkhead with sensors, with depth (no guard): 35.84 cm (14.11 in) length - the length with the ISE sensors is 36.58 cm (14.4 in) Bulkhead with guard, without depth: 42.82 cm (16.86 in) length and 4.75 cm (1.87 in) outer diameter Bulkhead with guard, with depth: 45.36 cm (17.86 in) length and 4.75 cm (1.87 in) outer diameter
Weight with batteries	567 grams (1.25 lbs)
Power	Rechargeable lithium-ion battery pack provides ~48 hours with the handheld only and ~20 hours with the handheld, cable and four sensors; battery recharge time is ~9 hours with the AC power adapter The instrument can also be powered via AC or external power pack through the USB port
Instrument operating temperature	0 to 50 °C (32 to 122 °F)
Instrument storage temperature	0 to 45 °C (32 to 113 °F) with battery installed; 0 to 60 °C (32 to 140 °F) without battery installed
Display	Color, LCD graphic display; 3.9 cm width x 6.5 cm height
USB port	Built-in micro USB On-The-Go port for PC connection, recharging/powering the ProDSS and connecting directly to a USB stick
Cables	Available with or without depth sensor in 1, 4, 10, 20, 30, 40, 50, 60, 70, 80, 90, and 100-meters
Sensor ports	4 universal sensor ports on each cable; can accept any ProDSS sensor
Warranty	3-year instrument; 2-year bulkhead, cable assembly, and sensors; 1-year pH and pH/ORP sensor modules, ODO sensor caps, and Li-ion battery pack; 6-months ammonium, nitrate, and chloride sensor modules
Memory	> 100000 data sets
Logging modes	Single point or continuous with autostable feature
GLP compliance	Yes; 400 detailed GLP records can be stored and are available to view, download, and print.
Languages	English, Spanish, Portuguese, French, German, Italian, Japanese, Norwegian, Simplified Chinese, Traditional Chinese
Certifications	CEC, CE; RoHS; IP-67; WEEE; FCC; UN Part III, Section 38.3, Test methods for lithium-ion batteries (Class 9)
GPS	Optional internal GPS; coordinates are stored with measurement data and site lists
Sites and data ID	100 user-defined sites and 100 user-defined data ID tags

ProDSS System Specifications (Instrument, Sensor, and Cable)

Sensor/Parameter	Range	Accuracy	Resolution	Units
Temperature	-5 to 70 °C (temperature compensation range for DO mg/L measurement: -5 to 50 °C)	±0.2 °C	0.1 °C or 0.1 °F (user selectable)	°C, °F, K
pH	0 to 14 pH units	±0.2 pH units	0.01 pH units	pH, pH mV
ORP	-1999 to 1999 mV	±20 mV	0.1 mV	mV
Dissolved Oxygen	0 to 500%, 0 to 50 mg/L	0 to 200%: ±1% of reading or 1% saturation, whichever is greater 200 to 500%: ±8% of reading 0 to 20 mg/L: ±0.1 mg/L or 1% of reading, whichever is greater 20 to 50 mg/L: ±8% of reading	0.01 mg/L and 0.1%, or 0.1 mg/L and 1% (user selectable)	% saturation, % saturation local, mg/L, ppm
Barometer	375 to 825 mmHg	±1.5 mmHg from 0 to 50 °C	0.1 mmHg	mmHg, inHg, mbar, psi, kPa, atm
Conductivity	0 to 200 mS/cm	0 - 100 mS/cm: ±0.5% of reading or .001 mS/cm, whichever is greater 100 - 200 mS/cm: ±1.0% of reading	0.001, 0.01 or 0.1 µS/cm (range dependent)	µS/cm, mS/cm
Specific Conductance*	0 to 200 mS/cm	0 - 100 mS/cm: ±0.5% of reading or .001 mS/cm, whichever is greater 100 - 200 mS/cm: ±1.0% of reading. User selectable reference temperature (15 to 25 °C; default 25 °C) and compensation coefficient (0 to 4%/°C; default 1.91%)	0.001, 0.01, 0.1 mS/cm	µS/cm or mS/cm
Salinity*	0 to 70 ppt	±1.0% of reading or ±0.1 ppt, whichever is greater	0.01 ppt	ppt or PSU
Total Dissolved Solids (TDS)*	0 to 100 g/L	Calculated from specific conductance and a user-selectable TDS multiplier (0.30 to 1.00; default 0.65)	0.001, 0.01, 0.1 g/L	mg/L, g/L, kg/L
Resistivity*	0 to 2 Mohms	±0.1% Full Scale	0.001, 0.01, 0.1 ohms	ohm-cm, kohm-cm, Mohm-cm
Seawater Density*	0.0 to 50.0 sigma, sigma T	-	0.1 sigma or sigma T	Sigma, Sigma T
Turbidity	0 to 4000 FNU	0 to 999 FNU: 0.3 FNU or ±2% of reading, whichever is greater 1000 to 4000 FNU: ±5% of reading	0.1 FNU	FNU, NTU
Total Suspended Solids (TSS)*	-	User correlated from turbidity field measurements and lab TSS measurements from grab samples	0.01, 0.1 mg/L	mg/L
Ammonium**	0 to 200 mg/L NH_4-N	±10% of reading or 2 mg/L, whichever is greater	0.01 mg/L	NH_4-N mg/L, NH_4-N mV
Ammonia*	0 to 200 mg/L NH_3-N	-	0.01 mg/L	NH_3-N mg/L
Chloride**	0 to 18000 mg/L Cl	±15% of reading or 5 mg/L, whichever is greater	0.01 mg/L	Cl mg/L, Cl mV
Nitrate**	0 to 200 mg/L NO_3-N	±10% of reading or 2 mg/L, whichever is greater	0.01 mg/L	NO_3-N mg/L, NO_3-N mV
Depth	0 to 328 feet (0 to 100 m)	±0.013 ft (±0.004 m) for 1, 4, and 10 m cables ±0.13 ft (±0.04 m) for cables 20 m and longer	0.001 m or 0.01 ft	m, ft

*Derived/calculated parameter **ISEs for freshwater only; 20 meter maximum depth

ProDSS System Specifications (Instrument, Sensor, and Cable)

Sensor/Parameter	Sensor Type/Measurement Method	Calibration	Maximum Depth	Warranty
Temperature	Thermistor, installed on conductivity sensor	Not available	100 m	2 years for conductivity/temperature sensor
pH	Combination glass bulb electrode, Ag/AgCl reference electrode with gelled electrolyte	1, 2, or 3 point	100 m	2 years for pH and pH/ORP sensors 1 year for pH and pH/ORP sensor modules
ORP	Platinum button with Ag/AgCl reference	1 point	100 m	2 years for pH/ORP sensor 1 year for pH/ORP sensor module
Dissolved Oxygen	Optical luminescence - lifetime method	1 or 2 point	100 m	2 years for optical DO sensor 1 year for optical DO sensor cap
Barometer	-	1 point	-	3 years, integrated into ProDSS handheld
Conductivity	Four nickel electrode cell	1 point	100 m	2 years for conductivity/temperature sensor
Specific Conductance*	Calculated from conductivity and temperature	1 point	-	-
Salinity*	Calculated from conductivity and temperature	1 point	-	-
Total Dissolved Solids (TDS)*	Calculated from specific conductance and a user-selectable TDS multiplier (0.30 to 1.00; default 0.65)	-	-	-
Resistivity*	Calculated from conductivity and temperature	-	-	-
Seawater Density*	Sigma is calculated from salinity, temperature, and pressure (depth) Sigma T is calculated from salinity and temperature	-	-	-
Turbidity	Nephelometric - Optical, 90° scatter Meets ISO 7027	1, 2, or 3 point	-	2 years for turbidity sensor
Total Suspended Solids (TSS)*	User correlated from turbidity field measurements and lab TSS measurements from grab samples	-	-	-
Ammonium**	Ion selective electrode	1, 2, or 3 point	20 m	2 years for ammonium sensor 6 months for ammonium sensor module
Ammonia*	Calculated from ammonium, temperature, salinity, and pH	-	-	-
Chloride**	Ion selective electrode	1, 2, or 3 point	20 m	2 years for chloride sensor 6 months for chloride sensor module
Nitrate**	Ion selective electrode	1, 2, or 3 point	20 m	2 years for nitrate sensor 6 months for nitrate sensor module
Depth	Pressure transducer	1 point	-	2 years, integrated into cable assembly

*Derived/calculated parameter
**ISEs for freshwater only ; 20 meter maximum depth

ProDSS Calibration Guide

YSI

a xylem brand

Contents

Introduction

This guide provides helpful instructions, tips and troubleshooting suggestions for calibrating a ProDSS instrument. For more detailed information on calibration and information on how to setup and operate a ProDSS, please refer to the ProDSS User Manual.

Calibration Worksheet

The Calibration Worksheet on the following pages is provided for your convenience. This can help document your calibration and track the performance of your sensors. Please follow the detailed calibration procedures in the ProDSS manual or your facility's standard operating procedure (SOP) to ensure all calibrations are as accurate and as consistent as possible.

Refer to the YSI Solution Expiration Dates document to ensure your calibration solutions are fresh. In addition to using fresh standards, never accept out-of-range or questionable calibration results.

Calibration Date______________________ **Technician:**___________________

Handheld Serial Number:____________ **Handheld Software Version:**__________

Cable Serial Number:________________

Temperature

*Reading when sensor is dry and in room temp air:*_________ *Accurate?* ***Y N***

Conductivity

*Reading when sensor is dry and in room temp air:*_________ *Acceptable value is less than* ***1 µS/cm***

*Actual Reading in solution before calibration is accepted:*_________

*Reading in calibration solution after calibration is completed:*___________

Conductivity Cell Constant in GLP record after calibration:*_________

Acceptable range for ProDSS conductivity/temperature sensors (626902) is ***4.5*** *to* ***6.5***

Acceptable range for integral (i.e. built-in) sensors on ODO/CT assemblies is ***4.4*** *to* ***6.4***

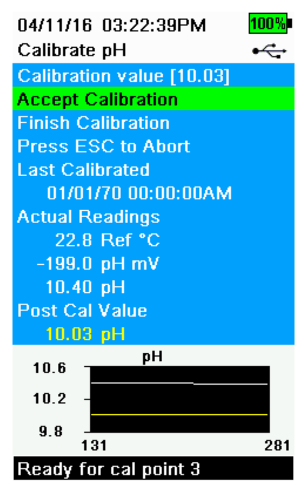
Optical Dissolved Oxygen

*Barometric pressure:*___________

*Actual Reading before DO% calibration is accepted:*___________

*Reading in DO% calibration environment after calibration is completed:*___________

*ODO gain in GLP record after calibration:*_________ *Acceptable range is* ***0.75*** *to* ***1.50***



pH

		Actual Readings during calibration		
Buffer	Calibration Value	pH	pH mV**	Acceptable pH mV in buffer
7				-50 mV to 50 mV
4				+165 to +180 from pH 7 buffer mV value
10				-165 to -180 from pH 7 buffer mV value

*pH slope in GLP record after calibration:*___________ *Acceptable range is ~* ***55*** *to* ***60*** *pH/mV (Ideal is 59.16 mV/pH)*

ORP

*Actual Reading in solution before calibration is accepted:*_________

*Reading in calibration solution after calibration is completed:*_________

*ORP Cal Offset in GLP record after calibration:*_________ *Acceptable range is* ***-100*** *to* ***50***

**GLP stands for Good Laboratory Practice file. This calibration record contains important information about the calibration result.*

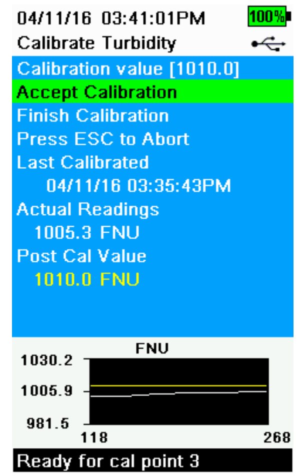
***The pH mV at the time of calibration (Sensor Value) can also be seen in the final pH GLP record.*

Turbidity

Calibration value (FNU)*	Actual Reading during calibration
0	
12.4*	
124*	
1010	

Acceptable range for **Actual Reading** during calibration of the first point is **-10** to **10** FNU

***Note:** *The turbidity sensor can be calibrated to 3 points. Either 12.4 or 124 FNU standard can be used for the second point, but not both. Other calibration values can be used when calibrating.*



Depth (Completed in Air)

Actual Reading before calibration is accepted:__________

Reading in air after calibration is completed:___________

Ammonium

	Actual Readings during calibration		
Concentration** (i.e. Calibration Value)	mg/L	mV***	Acceptable mV when the sensor is new
1st point: 1 mg/L			-20 mV to 20 mV
2nd point: 100 mg/L			+90 to +130 from mV value in 1 mg/L standard

Nitrate

	Actual Readings during calibration		
Concentration** (i.e. Calibration Value)	mg/L	mV***	Acceptable mV when the sensor is new
1st point: 1 mg/L			180 mV to 220 mV
2nd point: 100 mg/L			-90 to -130 from mV value in 1 mg/L standard

Chloride

	Actual Readings during calibration		
Concentration** (i.e. Calibration Value)	mg/L	mV***	Acceptable mV when the sensor is new
1st point: 10 mg/L			205 mV to 245 mV
2nd point: 1,000 mg/L			-80 to -130 from mV value in 10 mg/L standard

***Other standard concentrations can be used. A 2 point calibration without chilling a third calibration solution is extremely accurate and is the preferred method. However, if there is a large temperature variation during sampling, a chilled third calibration point is recommended.*

****The mV at the time of calibration (Sensor Value) for each point can also be seen in the GLP record after a calibration is complete.*

Temperature

Calibration Tips

Before calibrating any other ProDSS sensor, verify the temperature sensor is reading accurately by comparing it to a traceable thermometer or other known reference in a water bath.

With the exception of the turbidity and TSS, accurate temperature compensation is required for all parameters, so temperature accuracy should be verified and recorded each time the ProDSS is calibrated. Be sure to consider the specification tolerances of both the ProDSS temperature sensor and the thermometer when comparing the measurements.

The ProDSS temperature sensor cannot be calibrated nor should calibration be required.

Troubleshooting Tips

If the temperature sensor is not reading accurately, ensure that it is clean and free of debris. The conductivity cleaning brush and warm water with mild detergent can be used to scrub the temperature sensor if needed. Alternatively, you can use a toothbrush to clean the sensor.

ProDSS 4 port cables feature a replaceable conductivity/temperature sensor (626902), while all other ProDSS cables have integral (i.e. built-in) temperature sensors. If using a ProDSS 4 port cable and your temperature sensor is not reading accurately even after cleaning, remove the conductivity/temperature sensor from the cable and inspect the sensor port and sensor connector for any damage or moisture. Please follow the section on Cleaning a Sensor Port if needed.

Conductivity

The conductivity calibration should be verified every day the instrument is used. However, the conductivity sensor is very stable and may hold its calibration for several weeks.

Calibration Tips

1. It is not necessary to calibrate conductivity, specific conductance and salinity. Calibrating one of these parameters will simultaneously calibrate the others. YSI recommends calibrating specific conductance (temperature compensated conductivity) for greatest ease and accuracy.
2. Ensure the conductivity sensor is clean and dry before performing a specific conductance calibration.
3. Always use fresh, traceable conductivity calibration solution when calibrating the conductivity sensor.
    a. The shelf life of conductivity solution is one month after being opened. This is due to potential changes in the value of the solution caused by evaporation which can occur after opening the bottle. Be sure to write the open date on the bottle so you know that you are using good calibration solution.

   b. Never calibrate with a conductivity solution that is less than 1.0 mS/cm. You are setting the slope on a linear device so a good, strong conductivity signal will give you the best performance. Use 1.0 mS/cm for fresh water, 10 mS/cm for brackish to estuarine water and 50 mS/cm for salt water. Please note that 1.0 mS (millisiemens) = 1000 uS (microsiemens).

4. Pre-rinse the cal cup and sensors with a small amount of calibration standard or rinse standard and discard.
5. The calibration solution must cover the top vent holes of the conductivity sensor. If the entire sensor is not in solution, the instrument will read approximately half the expected value.
   a. If using a ProDSS 4 port cable, the top vent hole is located on the side of the combination conductivity/temperature sensor (i.e. 626902 sensor). Filling the ProDSS calibration cup to line 2 (i.e. the top line) when the cup is empty will ensure the vent hole is covered.

   or

   b. If using the ODO/CT assembly, ensure the vent holes at the top of the sensor are completely immersed and the solution level is at least 1/2 inch higher than these top vent holes.
6. After placing the sensor into the solution, gently move the sensor up and down to remove any air bubbles that may be trapped in the conductivity sensor.
7. If calibrating Specific Conductance, enter the value of the conductivity solution as it is listed for 25 °C. Make sure you are entering the correct units. 1 mS = 1,000 uS.
8. If you receive a warning message stating that the calibration is questionable, do not continue with the calibration. Instead, select 'No' and investigate what is causing the questionable results. If you accept a questionable calibration, your conductivity readings (and your DO mg/L readings) will be erroneous. Typical causes for this error message include: incorrect entries (entering 1000 uS/cm instead of 1.0 mS/cm), not using enough solution to cover the vent holes, air bubbles trapped in the sensor, calibrating in conductivity instead of specific conductance, dirty conductivity electrodes, and/or bad calibration solution.
9. After accepting a good calibration, navigate to the GLP file and check the conductivity cell constant for the calibration. The cell constant should be 5.0 to 6.0 for highest accuracy (4.9 to 5.9 on ODO/CT probe and cable assemblies). However, 4.5 to 6.5 is the acceptable range (4.4 to 6.4 on ODO/CT cables).

Troubleshooting Tips

If you get an error message during calibration, be sure that you are:

1. Entering the correct calibration value (1 mS/cm = 1000 uS/cm).
2. Calibrating in Specific Conductance mode.
3. Using enough solution to cover the vent holes on the sensor.
4. Dislodging any air bubbles that could be trapped in the sensor.
5. Using a fresh, traceable conductivity calibration solution.

If you are following the above recommendations and still receiving an error message, check the conductivity sensor to make sure it is clean. A clean conductivity sensor should read less than 1 uS/cm in dry air. If your sensor is dry and giving you a reading higher than 1 uS/cm in air, it should be cleaned.

Any significant jump or change in the conductivity cell constant from one calibration to the next usually indicates a problem with the calibration and/or sensor. If you are sure that your calibration standard is good and your calibration process is correct, then your sensor may need to be cleaned.

Cleaning the Conductivity Sensor

The openings that allow sample access to the conductivity electrodes should be cleaned regularly. The small cleaning brush included with each new conductivity sensor and cable is intended for this purpose. Dip the brush in clean water and insert it into each hole 10 to 12 times. In the event that deposits have formed on the electrodes, it may be necessary to use a mild detergent (laboratory grade soap or bathroom foaming tile cleaner) with the brush. Rinse thoroughly with clean water, then check the response and accuracy of the conductivity sensor with calibration solution.

Cables with user-replaceable sensors

If using a 4 port cable and your conductivity sensor is not calibrating or is reading > 1 uS/cm in dry air after being cleaned, remove the conductivity/temperature sensor from the cable and inspect the sensor port and sensor connector for any damage or moisture. Please follow the section on Cleaning a Sensor Port if needed.

Cables with integral (i.e. built-in) sensors

If your conductivity sensor is not calibrating or is reading > 1 uS/cm in dry air after performing a sensor cleaning, contact your local YSI Representative or a YSI Authorized Service Center.

pH

The pH calibration should be verified every day the instrument is used. However, a new pH sensor may be capable of holding its calibration for several days.

pH Calibration Tips

1. The pH sensor can be calibrated with up to three calibration points.
2. Calibration can be accomplished in any buffer order.
3. pH 7 buffer should be used regardless of how many calibration points you use; however, it does not have to be the first point.
4. In most cases, a two-point calibration is all that is required (4 and 7 or 7 and 10). You can bracket the expected in-situ pH values. Use a three-point calibration with 4, 7 and 10 if the in-situ pH values are unknown or if you expect the in-situ values to be on both sides of the pH scale.

5. Rinse the sensors and cal cup with a small amount of pH buffer. Fill the cup so that the pH sensor tip and the temperature sensor are submerged in buffer.
6. Calibration values will not have to be entered if using a USA (4, 7, 10) or a NIST (4.01, 6.86, 9.18) buffer set, as the ProDSS will automatically recognize these buffers and will compensate the calibration value for temperature. The buffer set can be changed in the pH Sensor Setup menu.
7. Record the pH millivolts for each calibration point. The acceptable mV outputs for each buffer are shown below.

   pH 7 mV value = 0 mV +/- 50 mV
   pH 4 mV value = +165 to +180 from pH 7 buffer mV value
   pH 10 mV value = -165 to -180 from pH 7 buffer mV value

   - A value of +50 or -50 mVs in buffer 7 does not indicate a bad sensor.
   - The mV span between pH 4 and 7 and 7 and 10 mV values should be ≈ 165 to 180 mV. 177 is the ideal distance. The slope can be 55 to 60 mV per pH unit with an ideal of 59 mV per pH unit.
   - If the mV span between pH 4 and 7 or 7 and 10 drops below 160, clean the sensor and try to recalibrate.
8. Wait for the measurement to stabilize in each buffer and then press Enter to accept each calibration point.
9. Rinse the sensor and cal cup with a small amount of the next buffer between calibration points.
10. If you want to finish calibration after 1 or 2 points, select **Finish Calibration**. Otherwise, the calibration will automatically be completed after accepting the third point in a 3 point calibration.
11. If you receive a warning message stating that the calibration is questionable, do not continue with the calibration. Instead, select 'No' and investigate what is causing the questionable results. If you accept a questionable calibration, your pH readings will be erroneous. Typical causes for this error message include: incorrect buffer set selected, a dirty sensor, or bad buffer solution.
12. After accepting a good calibration, navigate to the GLP file and check the pH Slope and Slope % of ideal. A good slope should be between 55 and 60 mVs while the ideal is 59 mV. If the slope drops below 53, the sensor should be reconditioned and recalibrated.

pH Troubleshooting Tips

Typical working life for pH sensors is approximately 12-24 months depending on usage, storage and maintenance. Proper storage and maintenance generally extends the sensor's working life.

Clean and recondition the sensor if a slow response in the field has been reported or if it takes more than 90 seconds to stabilize in pH buffer.

If you get an error message during a pH calibration, check the following:

1. Ensure the pH buffers are good and not expired.
2. The correct buffer set is enabled.
3. Check for damage to the glass bulb or the electrode body.
4. Ensure the sensor module is installed correctly, especially if it has recently been replaced.
5. If you continue to get error messages during calibration, clean and recondition the sensor.

Cleaning and Reconditioning the pH, ORP or pH/ORP Sensor

If the pH or pH/ORP sensor has been allowed to dry out or has been stored in distilled or deionized water for an extended period of time, soak the sensor in buffer 4 overnight to try and restore functionality.

Cleaning is required whenever deposits or contaminants appear on the glass and/or platinum surfaces or when the sensor's response slows. The cleaning can be chemical and/or mechanical. Removing the sensor from the cable may make cleaning easier. Initially, moisten a soft clean cloth, lens cleaning tissue or cotton swab to remove all foreign material from the glass bulb and/or platinum button. Then use a moistened cotton swab to carefully remove any material that may be blocking the reference electrode junction of the sensor.

CAUTION: When using a cotton swab, be careful NOT to wedge the swab between the guard and the glass sensor. If necessary, remove cotton from the swab tip, so that the cotton can reach all parts of the sensor tip without stress. You can also use a pipe cleaner for this cleaning if more convenient.

If good pH and/or ORP response is not restored, perform the following additional procedure:

1. Soak the sensor for 10-15 minutes in clean water containing a few drops of commercial dishwashing liquid.
2. Rinse the sensor in clean water, wipe with a cotton swab moistened with clean water, and then re-rinse with clean water.

If good pH and/or ORP response is still not restored or if hard deposits have built up on the electrode, perform the following additional procedure:

1. Soak the sensor for ~3 minutes in one molar (1 M) hydrochloric acid (HCl). This reagent can be purchased from most lab supply distributors. Be sure to follow the safety instructions included with the acid. Vinegar can also be used, but will require a longer period of soaking.
2. Rinse the sensor in clean water, wipe with a cotton swab moistened with clean water (not DI water), and then re-rinse with clean water. To be certain that all traces of the acid are removed from the sensor crevices, soak the sensor in clean tap water for about an hour with occasional stirring.

If biological contamination of the reference junction is suspected or if good response is not restored by the above procedures, perform the following additional cleaning step:

CAUTION: Do not mix the acid from the previous step with the chlorine bleach in the following step. A toxic gaseous product can form from the reaction between the acid and the chlorine bleach. Be certain to copiously rinse the sink and drain system of acid after its disposal and before the disposal of chlorine bleach.

1. Soak the sensor for approximately 1 hour in a 1:1 dilution of commercially available chlorine bleach.
2. Rinse the sensor with clean water and then soak for at least 1 hour in clean tap water with occasional stirring to remove residual bleach from the junction. (If possible, soak the sensor for a period of time longer than 1 hour in order to be certain that all traces of chlorine bleach are removed.) Then re-rinse the sensor with clean water and retest.

Prior to reinstalling the sensor, dry the port and sensor connector with compressed air. If you suspect port contamination, follow the instructions in the Cleaning a Sensor Port section of this document before reinstalling the sensor.

If your pH sensor is still not calibrating after performing a sensor cleaning, contact your local YSI Representative or a YSI Authorized Service Center.

ORP

The ORP calibration should be verified every day the instrument is used. However, a new ORP sensor may be capable of holding its calibration for several days.

ORP Calibration Tips

1. If using a pH/ORP combination sensor, calibrate pH first to ensure it is working.
2. Rinse the sensors and cal cup with a small amount of ORP calibration solution. Fill the cup so that the ORP sensor tip and the temperature sensor are submerged in solution.
3. If using YSI Zobell calibration solution, the ProDSS will automatically adjust the calibration value based on temperature. Otherwise, the Calibration value can be manually adjusted.
4. Wait for the readings to stabilize and then press Enter to accept the calibration.
5. If you receive a warning message stating that the calibration is questionable, do not continue with the calibration. Instead, select 'No' and investigate what is causing the questionable results. If you accept a questionable calibration, your ORP readings will be erroneous. Typical causes for this error message include a dirty sensor or bad calibration solution.

ORP Troubleshooting Tips

Typical working life for ORP sensors is approximately 12-24 months depending on usage, storage and maintenance. Proper storage and maintenance generally extends the sensor's working life.

Clean and recondition the sensor if the sensor exhibits a slow response in Zobell solution, i.e. it takes more than 90 seconds to stabilize when placed in Zobell.

If you get error messages during an ORP calibration, check the following:

1. Ensure the ORP calibration solution is good and not expired.
2. If you continue to get error messages during calibration, clean and recondition the sensor per the instructions in the pH Troubleshooting section of this document. If you suspect port contamination, follow the instructions in the Cleaning a Sensor Port section before reinstalling the sensor.
3. If you continue to have problems, you can check the offset of the ORP sensor by performing a factory reset to the ORP sensor. After resetting the sensor, compare the ORP mV readings in Zobell solution to the calibration value. The difference between values should be less than 100 mVs. If the difference is 80 mVs or higher, consider replacing the sensor as it is nearing the end of its life span.

Dissolved Oxygen

The dissolved oxygen sensor should be calibrated every day the instrument is used. It is not necessary to calibrate in both % and mg/L or ppm. Calibrating in % will simultaneously calibrate mg/L and ppm and vice versa.

DO Calibration Tips

1. The ProDSS optical DO sensor can be calibrated in air-saturated water, water-saturated air or against a Winkler Titration. You can perform a 1 or 2 point DO calibration. A 2 point calibration includes 1 point in a zero oxygen environment and the 2nd point at full saturation.
2. For both ease of use and accuracy, YSI recommends that you perform a 1 point calibration in water-saturated air.
3. Make sure that there is a good optical DO sensor cap installed. The cap should not be scratched or excessively dirty. Caps should be changed as needed (15-18 month expected life for caps with a 1 year warranty).
4. To perform a 1 point calibration in water-saturated air, place the sensor in a 100% humid environment. This can be accomplished several ways:
    a. For the ProDSS 4 port cables, place a small amount of water in the calibration/storage cup and place it over the sensors and sensor guard. ***Partially*** tighten the locking ring on the calibration cup to the bulkhead. The goal is to have air exchange between inside and outside the calibration cup.
    b. For the ProDSS ODO/CT (627150) or ProODO (626250) cables, moisten the sponge in the gray calibration sleeve with a small amount of clean water and place it over the sensor guard.
5. The sponge and calibration sleeve/cup should be clean since bacterial growth may consume oxygen and interfere with the calibration. Be sure the sensor is in air, not water, and that there are not any water droplets on the sensor cap or temperature sensor.

6. After entering the % calibration mode, wait approximately 5 to 10 minutes for the storage container to become completely saturated.
7. Salinity affects the ability of water to hold oxygen and is used by the instrument to calculate DO mg/L (ppm). The Salinity value displayed near the top of the DO calibration screen is either the salinity correction value entered in the Sensor menu or the Salinity value as measured by the conductivity sensor in use. If you are using a conductivity sensor, ensure that it is calibrated and reading correctly in order to obtain accurate DO mg/L (ppm) measurements. If you are not using a conductivity sensor, the Salinity correction value should be the salinity of the water you will be testing. Press the Probe key, highlight Salinity, and press Enter to modify this setting if necessary. The salinity of fresh water is typically 0-0.5 ppt and seawater is typically 35 ppt.
8. If you receive a warning message stating that the calibration is questionable, do not continue with the calibration. Instead, select 'No' and investigate what is causing the questionable results. If you accept a questionable calibration, your DO readings will be erroneous. Typical causes of a calibration error message include a dirty and/or bad sensor cap or a sensor that needs reconditioned.

DO Troubleshooting Tips

1. Ensure the ProDSS barometer is reading accurately. The DO % Saturation calibration uses the instrument's barometric pressure reading for the DO % calibration. If the barometer is not reading accurately, the calibration will be erroneous. The barometer should be reading true barometric pressure. If you suspect the barometer reading is incorrect, calibrate the barometer and then recalibrate the DO sensor. Laboratory barometer readings are usually "true" (uncorrected) values of air pressure and can be used "as is" for barometer calibration. Weather service readings are usually not "true", i.e., they are corrected to sea level, and therefore cannot be used until they are "uncorrected". An approximate formula for this "uncorrection" is: True BP in mmHg = Corrected BP in mmHg – [2.5 * (Local Altitude in ft. above sea level/100)]
2. Clean the ODO sensor cap and rehydrate it if needed.
3. If you have changed the sensor cap, ensure the sensor cap coefficients have correctly been entered. These can be seen under Sensor Setup on the handheld, or within KorDSS.
4. If you suspect port contamination, remove the sensor and follow the instructions in the Cleaning a Sensor Port section.
5. If you continue to have trouble calibrating the DO sensor, contact your local YSI Representative or a YSI Authorized Service Center.

ODO Sensor Cap Replacement

The sensor cap should be replaced about once per year for those with a 1 year warranty, but the cap may last longer. It should also be replaced if it is cracked or damaged.

The instructions for replacing the sensor cap on ProDSS ODO sensors (626900) are different than the instructions for integral (i.e. built-in) ODO sensors on ODO/CT (627150) and ProODO (626250) cable assemblies, so ensure the correct directions are being followed when replacing the sensor cap. Each replacement ODO sensor cap is shipped in a humidified container and the package should not be opened until immediately before sensor cap replacement.

The instruction sheet shipped with the replacement ODO sensor cap includes the calibration coefficients specific to your sensor cap. Make sure to save this instruction sheet in case you need to reload the calibration coefficients. ***These coefficients must be entered whenever the sensor cap has been replaced.*** Coefficients can be entered using the ProDSS handheld (under ODO Sensor Setup) or KorDSS (under the Instrument and Sensors tab).

Cleaning the ODO Sensor Cap

The sensor cap should be kept clean since some types of fouling may consume oxygen which could affect the dissolved oxygen measurements. To clean the sensor cap, gently wipe away any fouling with a lens cleaning tissue that has been moistened with water.

Caution: Do not use organic solvents to clean the sensor cap. Using an organic solvent to clean the sensor cap may cause permanent damage to the cap. For example, alcohol will dissolve the outer paint layer and other organic solvents will likely dissolve the dye in the cap.

Rehydrating the ODO Sensor Cap

To prevent sensor drift, always store the ODO sensor in a wet or water-saturated air environment. If the ODO sensor has accidentally been left dry for longer than 8 hours, it must be rehydrated.

If rehydration is necessary, soak the ODO sensor cap in warm (room temperature) tap water for approximately 24 hours. After the soak, calibrate the sensor.

Turbidity

The turbidity calibration should be verified every day the instrument is used. However, the turbidity sensor is very stable and may hold its calibration for several weeks.

Turbidity Calibration Tips

1. For proper calibration, you must use standards that have been prepared according to details in Standard Methods for the Treatment of Water and Wastewater (Section 2130 B). Standards from other vendors are NOT approved, and their use will likely result in a bad calibration and incorrect field readings. Acceptable standards include:
    - AMCO-AEPA standards prepared specifically for the ProDSS turbidity sensor manufactured by YSI (i.e. YSI turbidity standards)
    - Formazin prepared according to Standard Methods, especially for calibration points greater than 1010
    - Dilutions of 4000 FNU (NTU) formazin concentrate purchased from Hach
    - Hach StablCal™ standards in various FNU (NTU) denominations
2. It is important to use the same type of standard for all calibration points (i.e. do not mix formazin and AMCO-AEPA standard for different points in a multi-point calibration).
3. The ProDSS turbidity sensor can be calibrated by using up to three calibration points by using the following limits:

- 1st calibration point: 0-1 FNU (NTU) (see Preventing Negative Turbidity Readings).
- 2nd calibration point: 5-200 FNU (NTU)
- 3rd calibration point: 400-4200 FNU (NTU)

4. DI water can be used for the first calibration point (see Preventing Negative Turbidity Readings)
5. The ProDSS calibration cup and sensor guard ***must*** be used (and correctly installed!) when calibrating. The sensor guard must be installed when taking any measurements.
6. The sensor guard has a metal bottom that is painted black. Ensure the inside surface (i.e. the surface that faces the sensor tip) is not significantly scratched. This surface needs to be black to eliminate any stray light reflection. Also ensure the sensor guard and calibration cup are free of any reflective material.
7. Pour standard slowly down the side of the calibration container so you do not aerate the sample. This will reduce the possibility of air bubbles becoming trapped on the surface of the sensor.
8. Slowly place the turbidity sensor into the calibration cup when the cup is tilted at a 45 degree angle, as this will help prevent air bubbles from being caught on the sensor surface.
9. Wait for the turbidity measurement to stabilize in each standard and then press Enter to accept each calibration point.
10. Rinse the sensor and cal cup with a small amount of the next standard between calibration points.
11. If you want to finish calibration after accepting 1 or 2 points, select **Finish Calibration**. Otherwise, the calibration will automatically be completed after accepting the third point in a 3 point calibration.
12. If you receive a warning message stating that the calibration is questionable, do not continue with the calibration. Instead, select 'No' and investigate what is causing the questionable results. If you accept a questionable calibration, your turbidity readings will be erroneous. Typical causes for this error message include a dirty sensor or bad standard solution.

Turbidity Troubleshooting Tips

The ProDSS turbidity sensor has a two year warranty and there are no replaceable components (e.g. no optical sensor cap). Proper storage and maintenance will help extend the sensor's life.

If you get error messages during a turbidity calibration, check the following:

1. Ensure the standard solutions are good and not expired.
2. The calibration environment (e.g. calibration cup, sensor guard, and sensors) should be clean. See Preventing Negative Turbidity Readings if having issues with negative turbidity readings.
3. There should not be any reflective material on the sensor guard and calibration cup. The metal sensor guard bottom (inside; faces the sensors) should be free of any scratches.
4. If you suspect port contamination, remove the sensor and follow the instructions in the Cleaning a Sensor Port section.
5. If you continue to have trouble calibrating the turbidity sensor, contact your local YSI Representative or a YSI Authorized Service Center.

Cleaning the Turbidity Sensor

Clean the sensing window with a non-abrasive, lint-free cloth. This should be done carefully to prevent scratches. If necessary, use mild soapy water.

Preventing Negative Turbidity Readings

A negative turbidity reading is almost always connected to the 'zero' standard. Despite best practices, it is sometimes impossible to clean the sensors, calibration cup, and sensor guard to a point where the 'zero' standard will not be contaminated by some small amount.

A brand new instrument can contaminate a zero standard to ~0.1 FNU, even in a lab environment. Cleaned but used ProDSS sensors, calibration cup, and sensor guard can contaminate a zero standard to almost 1.0 FNU.

As an example, if a Calibration Value of zero is entered, but the actual reading in the 'zero' standard is 0.6 FNU, then a ProDSS turbidity sensor in a 0.3 FNU environment will display a measurement of -0.3 FNU.

Since the 'zero' calibration environment may not be 0 FNU due to contaminated standard, dirty sensors, dirty calibration cup, and/or dirty sensor guard, a Calibration Value from 0 to 1 FNU can be entered.

The following tips can help eliminate negative turbidity readings:

1. Use a calibration cup and sensor guard that is exclusively used for calibration. Calibration cups and sensor guards can easily become contaminated over time, especially if the instrument is used to measure in dirty samples and/or field conditions.
2. In cases where the equipment is properly cleaned and serviced, the level of contamination of the zero turbidity standard is quite small. Typically the average contaminant level ranges from 0.2 to 0.8 NTU. Knowing this, you can pick a number between these points (0.5) and enter this as the first calibration point.
3. Calibrating turbidity is best done in a lab environment; calibrations in the field can result in errors.
4. The only true way to determine if your zero standard is being contaminated is to analyze the zero solution with a laboratory turbidimeter.

Depth

The depth calibration is very easy to perform and should be completed every time the instrument is used to take depth measurements.

Depth Calibration Tips

1. Input a Depth Offset, Altitude, or Latitude under Sensor Setup if desired. Entering a value for these is not required to complete a calibration.
    a. Depth offset: Depth offset can be used if referencing water elevation against a known datum. If a depth offset is entered (in meters), the output value will shift by the value of the offset. The most common offset entered is 0.272 meters, as this is the distance from the depth sensor on 4 port cables to the sensor tips.
    b. Altitude and **Latitude**: To compensate for atmospheric pressure based on elevation and gravitational pull, enter the local altitude in meters relative to sea level and latitude in degrees where the ProDSS is sampling. This will ensure highest accuracy, although the altitude and latitude effects are relatively small. *Varying altitudes* cause approximately 90 mm change from sea level to 8000 m. A 100 m change causes 1.08 mm of change to the readings. *Varying latitudes* cause a 200 mm change in depth from equator to pole.
2. Ensure the depth sensor is clean and in air, not immersed in any solution.
3. For highest accuracy, keep the bulkhead still and in one position while calibrating. The holes on the side of the depth sensor should not be covered.
4. The Calibration Value will be set at zero even if a depth offset is entered. There is no need to change this as long as you're calibrating in air.
5. Wait for the depth measurement to stabilize and then press Enter to accept the calibration. Only a 1 point calibration can be completed.
6. If you receive a warning message stating that the calibration is questionable, do not continue with the calibration. Instead, select 'No' and investigate what is causing the questionable results. If you accept a questionable calibration, your depth readings will be erroneous. Typical causes of a calibration error message include dirty ports on the side of the depth sensor, not waiting for stable measurements before accepting the calibration, moisture in the depth ports, and/or covering the depth ports with your hand during calibration.

Depth Troubleshooting Tips

The YSI ProDSS depth sensor measures virtually vented depth. This type of measurement allows for real time compensation for atmospheric pressure using the instrument's internal barometer. A major advantage to this type of depth sensor is there is no vented cable, tube or desiccant to worry about. Some troubleshooting tips include:

1. The ports on the side of the depth sensor should not be covered during calibration and should be free of any debris. These ports can be cleaned with the syringe included with the maintenance kit. When cleaning, fill the syringe with clean water and gently force water into one of the ports. Flush until clean water flows from the opposite depth port.

2. A sensor guard weight installed at the end of the sensor guard can help keep the bulkhead stable when sampling at depth. Up to 5 lbs of YSI stackable sensor guard weights can be installed.
3. Enable Vertical Position under Depth Display to view the real-time position of the depth sensor in the water column. This is helpful in profiling applications to ensure the depth sensor is lowered to the desired depth without waiting for the depth data to stabilize.

Ammonium

The ammonium sensor should be calibrated every day the instrument is used. The ammonium sensor should only be used in fresh water (salinity < 2 ppt) and to depths of 55 feet (17 meters) of water.

Ammonia is calculated from the ammonium, temperature and pH readings. pH greatly affects the ammonia calculation. Therefore, for highest accuracy in the ammonia calculation, be sure to use a pH sensor in conjunction with an ammonium sensor during measurements. If a pH sensor is not in use, the instrument will assume the sample is neutral (pH 7) for the calculation.

Ammonium Calibration Tips

1. Exposure to the high ionic content of pH buffers can cause a significant, but temporary, drift in the ammonium sensor. Therefore, if calibrating a pH sensor, either:
    a. Remove the ammonium sensor from the cable bulkhead and plug the port. After pH calibration is complete, reinstall the ammonium sensor and proceed with its calibration with no stabilization delay.

    or

    b. Calibrate pH first, immersing both sensors in the pH buffers. After calibrating pH, place the sensors in 100 mg/L ammonium standard and monitor the reading. Usually, the reading starts low and may take awhile to reach a stable value. When it does, proceed with the calibration. This may take several hours.
2. The ammonium sensor can be calibrated with up to three calibration points. For highest accuracy, perform a two point calibration with 1 and 100 mg/L standards within 10 °C of your sample temperature.
3. Rinse the sensors and cal cup with a small amount of ammonium solution (1 mg/L for the first point and 100 mg/L for the second point). Fill the cup so that the ammonium sensor tip and the temperature sensor are submerged in solution. Ensure the conductivity sensor is also submerged in the calibration solution. The salinity reading from the conductivity sensor is used in the algorithm for the ammonium measurement.
4. After entering the calibration screen, change the calibration value if necessary.
5. Record the NH_4 millivolts for each calibration point. The acceptable mV outputs for each calibration solution are shown below.
    - NH_4 1 mg/L = 0 mV +/- 20 mV (new sensor only)
    - NH_4 100 mg/L = 90 to 130 mV from 1 mg/L mV value
    - The mV span between 1 mg/L and 100 mg/L values should be ≈ 90 to 130 mV. The slope should be 45 to 65 mV per decade.

6. Wait for the ammonium and temperature readings to stabilize in each calibration solution and then press Enter to accept each calibration point.
7. Rinse the sensor and cal cup between calibration points with a small amount of the next standard.
8. After pressing Enter to accept the second calibration point, highlight **Finish Calibration** and press Enter to complete the calibration. Otherwise, you can continue calibrating with a third calibration point (see the ProDSS User Manual for more information on a chilled third calibration point).
9. If you receive a warning message stating that the calibration is questionable, do not continue with the calibration. Instead, select 'No' and investigate what is causing the questionable results. If you accept a questionable calibration, your ammonium and ammonia readings will be erroneous. Typical causes for this error message include a dirty sensor or bad standard solution.

Preparing Ammonium Calibration Solutions

We recommend using YSI calibration solutions whenever possible. However, qualified users can save cost by following the following recipes for 1 and 100 mg/L standards. Other concentrations can be made by altering the amount of ammonium chloride. All other ingredient concentrations should remain unchanged. It is important to note that some of these chemicals are hazardous and therefore, the standards should only be prepared by qualified chemists in laboratories where proper safety precautions are possible. It is the responsibility of the user to obtain and study the MSDS for each chemical and to follow the required instructions with regard to handling and disposal of these materials.

You will need: solid Ammonium Chloride or a certified 100 mg/L NH_4^+-N standard solution from a supplier, Lithium Acetate Dihydrate, concentrated hydrochloric acid, high purity water, a good quality analytical balance, a 1000 mL volumetric flask, accurate volumetric measuring devices for 100 mL and 10 mL of solution, and a 1000 mL glass or plastic storage vessels. (***Caution***: Hydrochloric acid is highly corrosive and toxic and should therefore be handled with extreme care in a well-ventilated fume hood. The user could also add the equivalent amount of a less-hazardous, more dilute sample of the acid if preferred.)

<u>100 mg/L Standard:</u> Accurately weigh 0.3817 g of ammonium chloride and transfer quantitatively into a 1000 mL volumetric flask. Add 2.6 g of lithium acetate dihydrate to the flask. Add approximately 500 mL of distilled or deionized water to the flask, swirl to dissolve all of the reagents and then dilute to the volumetric mark with distilled or deionized water. Mix well by repeated inversion and then transfer the 100 mg/L standard to a storage bottle. Add 3 drops of concentrated hydrochloric acid to the bottle, then seal and agitate to assure homogeneity. Alternatively, 100 mL of certified 100 mg/L NH_4^+-N standard can be used in place of the solid ammonium chloride.

<u>1 mg/L Standard:</u> Accurately measure 10.0 mL of the above 100 mg/L standard solution into a 1000 mL volumetric flask. Add 2.6 g of lithium acetate dihydrate to the flask. Add approximately 500 mL of distilled or deionized water, swirl to dissolve the solid reagents and then dilute to the volumetric mark with water. Mix well by repeated inversion and then transfer the 1 mg/L standard to a storage bottle. Add 3 drops of concentrated hydrochloric acid to the bottle, then seal and agitate to assure homogeneity.

Ammonium Troubleshooting Tips

Typical working life for ammonium sensors is approximately 3-6 months depending on use, storage and maintenance. Proper storage and maintenance generally extends the sensor's working life.

If you get error messages during an ammonium calibration, check the following:

1. Ensure the ammonium solutions are good and not expired.
2. Clean the sensor.
3. If you continue to get error messages during calibration, soak the sensor in 100 mg/L ammonium standard for several hours or overnight.
4. If you suspect port contamination, follow the instructions in the Cleaning a Sensor Port section.
5. If you continue to have trouble calibrating the ammonium sensor, contact your local YSI Representative or a YSI Authorized Service Center.

Cleaning the Ammonium Sensor

The ammonium sensor uses a PVC membrane. As always, when handling a sensor, care should be taken to avoid damaging the membrane. After extensive use, the membranes may become coated with a deposit or scoured with fine scratches which may cause a slow or reduced response (low slope) or unstable readings. Deposits may be removed with a fine jet of deionized water or rinsing in alcohol followed by soaking in 100 mg/L ammonium calibration standard.

The sensor may require soaking in the high ammonium calibration solution to recover its performance. Soak in 100 mg/L for several hours or overnight.

Nitrate

The nitrate sensor should be calibrated every day the instrument is used. The nitrate sensor should only be used in fresh water (salinity < 2 ppt) and to depths of 55 feet (17 meters) of water.

Nitrate Calibration Tips

1. Exposure to the high ionic content of pH buffers can cause a significant, but temporary, drift in the nitrate sensor. Therefore, if calibrating a pH sensor, either:
    a. Remove the nitrate sensor from the cable bulkhead and plug the port. After pH calibration is complete, reinstall the nitrate sensor and proceed with its calibration with no stabilization delay.

    or

    b. Calibrate pH first, immersing both sensors in the pH buffers. After calibrating pH, place the sensors in 100 mg/L nitrate standard and monitor the reading. Usually, the reading starts low and may take awhile to reach a stable value. When it does, proceed with the calibration. This may take several hours.
2. The nitrate sensor can be calibrated with up to three calibration points. For highest accuracy, perform a two point calibration with 1 and 100 mg/L standards within 10 °C of your sample temperature.

3. Rinse the sensors and cal cup with a small amount of nitrate solution (1 mg/L for the first point and 100 mg/L for the second point). Fill the cup so that the nitrate sensor tip and the temperature sensor are submerged in solution. Ensure the conductivity sensor is also submerged in the calibration solution. The salinity reading from the conductivity sensor is used in the algorithm for the nitrate measurement.
4. After entering the calibration screen, change the calibration value if necessary.
5. Record the NO_3^- millivolts for each calibration point. The acceptable mV outputs for each calibration solution are shown below.
   - NO_3^- 1 mg/L = 200 mV +/- 20 mV (new sensor only)
   - NO_3^- 100 mg/L = -90 to -130 mV from 1 mg/L mV value
   - The mV span between 1 mg/L and 100 mg/L values should be ≈ 90 to 130 mV. The slope should be -45 to -65 mV per decade.
6. Wait for the nitrate and temperature readings to stabilize in each calibration solution and then press Enter to accept each calibration point.
7. Rinse the sensor and cal cup between calibration points with a small amount of the next standard.
8. After pressing Enter to accept the second calibration point, highlight **Finish Calibration** and press Enter to complete the calibration. Otherwise, you can continue calibrating with a third calibration point (see the ProDSS User Manual for more information on a chilled third calibration point).
9. If you receive a warning message stating that the calibration is questionable, do not continue with the calibration. Instead, select 'No' and investigate what is causing the questionable results. If you accept a questionable calibration, your nitrate readings will be erroneous. Typical causes for this error message include a dirty sensor or bad standard solution.

Preparing Nitrate Calibration Solution

We recommend using YSI calibration solutions whenever possible. However, qualified users can save cost by following the following recipes for 1 and 100 mg/L nitrate standards. Other concentrations can be made by altering the amount of potassium nitrate. All other concentrations should remain unchanged. It is important to note that some of these chemicals are hazardous and therefore, the standards should only be prepared by qualified chemists in laboratories where proper safety precautions are possible. It is the responsibility of the user to obtain and study the MSDS for each chemical and to follow the required instructions with regard to handling and disposal of these materials.

You will need: Solid Potassium Nitrate or a certified 1000 mg/L NO_3^--N from a supplier, Magnesium Sulfate, high purity water, good quality analytical balance, 1000 mL volumetric flask, accurate volumetric measuring devices for 100 mL, 10 mL and 1 mL of solution, and 1000 mL glass or plastic storage vessels.

<u>100 mg/L standard:</u> Accurately weigh 0.7222 g of anhydrous potassium nitrate and transfer quantitatively into a 1000 mL volumetric flask. Add 1.0 g of anhydrous magnesium sulfate to the flask. Add approximately 500 mL of water to the flask, swirl to dissolve all of the reagents, and then dilute to the volumetric mark with distilled or deionized water. Mix well by repeated

inversion and then transfer the 100 mg/L standard to a storage bottle. Rinse the flask extensively with water prior to its use in the preparation of the 1 mg/L standard. Alternatively, 100 mL of certified 1000 mg/L NO_3^--N standard can be used in place of the solid potassium nitrate.

1 mg/L standard: Accurately measure 10.0 mL of the above 100 mg/L standard solution into a 1000 mL volumetric flask. Add 1.0 g of anhydrous magnesium sulfate to the flask. Add approximately 500 mL of distilled or deionized water, swirl to dissolve the solid reagents, and then dilute to the volumetric mark with water. Mix well by repeated inversion and then transfer the 1 mg/L standard to a storage bottle.

Recipes are given for 1 and 100 mg/L. Other concentrations can be made by altering the amount of potassium nitrate. All other concentrations should remain unchanged.

Nitrate Troubleshooting Tips

Typical working life for nitrate sensors is approximately 3-6 months depending on use, storage and maintenance. Proper storage and maintenance generally extends the sensor's working life.

If you get error messages during a nitrate calibration, check the following:

1. Ensure the nitrate solutions are good and not expired
2. Clean the sensor.
3. If you continue to get error messages during calibration, soak the sensor in 100 mg/L nitrate standard for several hours or overnight.
4. If you suspect port contamination, follow the instructions in the Cleaning a Sensor Port section.
5. If you continue to have trouble calibrating the nitrate sensor, contact your local YSI Representative or a YSI Authorized Service Center.

Cleaning and Reconditioning the Nitrate Sensor

The nitrate sensor uses a PVC membrane. As always, when handling a sensor, care should be taken to avoid damaging the membrane. After extensive use the membranes may become coated with a deposit or scoured with fine scratches which may cause a slow or reduced response (low slope) or unstable readings. Deposits may be removed with a fine jet of deionized water or rinsing in alcohol followed by soaking in 100 mg/L nitrate calibration standard.

The sensor may require soaking in the high nitrate calibration solution to recover its performance. Soak in 100 mg/L for several hours or overnight.

Chloride

The chloride sensor should be calibrated every day the instrument is used. The chloride sensor should only be used in fresh water (salinity < 2 ppt) and to depths of 55 feet (17 meters) of water.

Chloride Calibration Tips

1. Exposure to the high ionic content of pH buffers can cause a significant, but temporary, drift in the chloride sensor. Therefore, if calibrating a pH sensor, either:
   a. Remove the chloride sensor from the cable bulkhead and plug the port. After pH calibration is complete, reinstall the chloride sensor and proceed with its calibration with no stabilization delay.

   or

   b. Calibrate pH first, immersing both sensors in the pH buffers. After calibrating pH, place the sensors in 1,000 mg/L chloride standard and monitor the reading. Usually, the reading starts low and may take awhile to reach a stable value. When it does, proceed with the calibration. This may take several hours.
2. The chloride sensor can be calibrated with up to three calibration points. For highest accuracy, perform a two point calibration with 10 and 1000 mg/L standards within 10 °C of your sample temperature.
3. Rinse the sensors and cal cup with a small amount of chloride solution (10 mg/L for the first point and 1,000 mg/L for the second point). Fill the cup so that the chloride sensor tip and the temperature sensor are submerged in solution. Ensure the conductivity sensor is also submerged in the calibration solution. The salinity reading from the conductivity sensor is used in the algorithm for the chloride measurement.
4. After entering the calibration screen, change the calibration value if necessary.
5. Record the Cl millivolts for each calibration point. The acceptable mV outputs for each calibration solution are shown below.
   - Cl 10 mg/L = 225 mV +/- 20 mV (new sensor only)
   - Cl 1,000 mg/L = -80 to -130 mV from 10 mg/L mV value
   - The mV span between 10 mg/L and 1000 mg/L values should be ≈ 80 to 130 mV. The slope should be -40 to -65 mV per decade.
6. Wait for the chloride and temperature readings to stabilize in each calibration solution and then press Enter to accept each calibration point.
7. Rinse the sensor and cal cup between calibration points with a small amount of the next buffer.
8. After pressing Enter to accept the second calibration point, highlight **Finish Calibration** and press Enter to complete the calibration. Otherwise, you can continue calibrating with a third calibration point (see the ProDSS User Manual for more information on a chilled third calibration point).
9. If you receive a warning message stating that the calibration is questionable, do not continue with the calibration. Instead, select 'No' and investigate what is causing the questionable results. If you accept a questionable calibration, your chloride readings will be erroneous. Typical causes for this error message include a dirty sensor or bad standard solution.

Preparing Chloride Standards

The following recipes are provided for preparation of 10 and 1000 mg/L chloride reagents.

It is important to note that some of the chemicals required for these solutions could be hazardous under some conditions. It is the responsibility of the user to obtain and study the MSDS for each chemical and to follow the required instructions with regard to handling and disposal of these chemicals.

You will need: Solid sodium chloride or a certified 1000 mg/L chloride solution from a supplier, magnesium sulfate, high purity water, a good quality analytical balance, 1000 mL volumetric flask, an accurate 10 mL measuring devices, and 1000 mL glass or plastic storage vessels.

<u>1000 mg/L standard:</u> Accurately weigh 1.655 grams of anhydrous sodium chloride and transfer into a 1000 mL volumetric flask. Add 0.5 grams of anhydrous magnesium sulfate to the flask. Add 500 mL of distilled or deionized water to the flask, swirl to dissolve all of the reagents, and then dilute to the volumetric mark with water. Mix well by repeated inversion and then transfer the 1000 mg/L standard to a storage bottle. Rinse the flask extensively with water prior to its use in the preparation of the 10 mg/L standard. Alternatively, simply add 0.5 grams of magnesium sulfate to a liter of a 1000 mg/L chloride standard from a certified supplier.
<u>10 mg/L standard:</u> Accurately measure 10 mL of the above 1000 mg/L standard solution into a 1000 mL volumetric flask. Add 0.5 grams of anhydrous magnesium sulfate to the flask. Add 500 mL of distilled or deionized water, swirl to dissolve the solid reagents, and then dilute to the volumetric mark with water. Mix well by repeated inversion and then transfer the 10 mg/L standard to a storage bottle.

Chloride Troubleshooting Tips

Typical working life for chloride sensors is approximately 3-6 months depending on use, storage and maintenance. Proper storage and maintenance generally extends the sensor's working life.

If you get error messages during a chloride calibration, check the following:

1. Ensure the chloride solutions are good and not expired
2. Clean the sensor.
3. If you continue to get error messages during calibration, soak the sensor in 1000 mg/L chloride standard for several hours or overnight.
4. If you suspect port contamination, follow the instructions in the Cleaning a Sensor Port section.
5. If you continue to have trouble calibrating the chloride sensor, contact your local YSI Representative or a YSI Authorized Service Center.

Cleaning and Reconditioning the Chloride Sensor

The chloride sensor is considered a pellet membrane ISE. As always, when handling sensors, care should be taken to avoid damaging the membrane. This sensor can be regenerated by washing with alcohol and/or gently polishing with fine emery paper in a circular motion to remove any deposits or discoloration, then thoroughly washing with deionized water to remove any debris.

The sensor may require soaking in the high chloride calibration solution to recover its performance. Soak in 1000 mg/L for several hours or overnight.

Installing and Uninstalling Sensors

General Precautions

It is important that the entire sensor connector and cable connector be dry when installing, removing or replacing sensors. This will prevent water from entering the port. Once a sensor is removed, examine the connector inside the port. If any moisture is present, use compressed air to completely dry the connector or place directly in front of a steady flow of fresh air. If you suspect port contamination, follow the port cleaning procedures listed under Cleaning a Sensor Port.

Remove sensors with the sensor tips facing the ground to help prevent water from entering the port upon removal.

The instrument utilizes o-rings as seals to prevent water from entering the sensor ports. When the sensors are removed, the o-rings that provide the seal should be carefully inspected for contamination (e.g. debris, grit, etc.) and cleaned if necessary.

If no dirt or damage to the o-rings is evident, wipe the o-rings with a lint free cloth or lens cloth to remove the old o-ring grease. Then, lightly apply new o-ring grease (provided in the maintenance kit) to the o-rings without removing them from their groove. If there is any indication of damage, the o-ring should be replaced with an identical o-ring. At the time of o-ring replacement, the entire o-ring assembly should be cleaned.

Do not over-grease the o-rings. The purpose of the o-ring grease it to keep the o-ring in good condition. Excess grease may collect grit particles that can compromise the seal. Excess grease can also cause the waterproofing capabilities of the o-ring to diminish, potentially causing leaks. If excess grease is present, remove it using a lens cloth or lint-free cloth.

To remove the o-rings:
Use a small, flat-bladed screwdriver or similar blunt-tipped tool to remove the o-ring from its groove. Do not use a sharp object to remove the o-rings. Using a sharp object could damage the o-ring groove which would allow water to enter the port resulting in permanent damage to the port and sensor. Check the o-ring and the groove for any excess grease or contamination. If contamination is evident, clean the o-ring and the portion of the titanium sensor where the o-ring fits with lens cleaning tissue or equivalent lint-free cloth. Alcohol can be used to clean the titanium sensor, but use only water and mild detergent on the o-ring itself. Using alcohol on o-rings may cause a loss of elasticity and may promote cracking. Also, inspect the o-rings for nicks and imperfections.

Before re-installing the o-rings, make sure to use a clean workspace, clean hands, and avoid contact with anything that may leave fibers on the o-ring or grooves. Even a very small amount of contamination (hair, grit, etc.) may cause a leak.

To re-install the o-rings:
Place a small amount of o-ring grease between your thumb and index finger. Draw the o-ring through the grease while pressing the fingers together to place a very light covering of grease to the o-ring. Place the o-ring into its groove making sure that it does not twist or roll. Do not excessively stretch the o-ring during installation.

Use your grease-coated finger to once again lightly go over the mating surface of the o-ring.

Do not over-grease the o-rings. The excess grease may collect grit particles that can compromise the seal. Excess grease can also cause the waterproofing capabilities of the o-ring to diminish, potentially causing leaks. If excess grease is present, remove it using a lens cloth or lint-free cloth.

Cleaning a Sensor Port

If you suspect port contamination, you can clean the port on the cable by filling the port with Isopropyl Alcohol for 30 seconds and then dumping it out. Next, allow the port to air dry completely or blow it out with compressed air. Installing a sensor into a port that is not completely dry is likely to cause erratic and erroneous readings.

If the connector is corroded, contact your local YSI Representative or a YSI Authorized Service Center.

Verifying Sensor Accuracy and Calibration

Sensor accuracy and calibration can be verified by immersing a sensor into calibration solution or YSI Confidence Solution®. Compare the readings on the ProDSS display to the value of the solution. If the readings have drifted more than the accuracy specification of the sensor, perform a calibration before taking field measurements.

YSI Confidence Solution can be used to check the accuracy and calibration of the conductivity, pH and ORP sensors. However, to maintain the highest accuracy of the instrument, it should not be used to perform a calibration.

Resetting a Sensor to Factory Default

Occasionally, it may be necessary to reset the instrument to its factory calibration default values. To reset the calibration values, press the Cal key, highlight Restore Default Cal and press Enter. Highlight the parameter you wish to reset to default and press Enter. Next, you will be asked to confirm the operation. Highlight Yes and press Enter to confirm.

This page intentionally left blank

Appendix H

Historical Methane Results

This page intentionally left blank

Worcester County Berlin Landfill
Landfill Gas Monitoring- Percent Methane

	GP-1		GP-2		GP-3		GP-4		GP-5		GP-6		GP-7		GP-8	
	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL
12/03	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	8.4	168.0
2/04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	7.6	152.0
5/04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	68.0
8/04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.6	52.0
11/04	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	30.0
2/05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	6.0
5/05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/05	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/06	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/06	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/06	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/07	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/07	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/07	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/08	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/08	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/08	13.0	260.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6/08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8/08	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/08	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/09	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6/09	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/10	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/11	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/11	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/11	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/11	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/11	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/12	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/12	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/12	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	6.0
11/12	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/13	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/13	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/13	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/13	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/14	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/14	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/14	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/14	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/15	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/15	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/15	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/15	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/16	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4/16	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/16	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/16	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/17	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/17	0.0	0.0	N/A	N/A	0.2	4.0	4.1	82.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/17	0.0	0.0	N/A	N/A	0.0	0.0	0.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Stabilized readings presented; peak readings presented in parenthesis
"--" Probe readings are not available due to the probe being damaged or plugged.

	GP-1		GP-2		GP-3		GP-4		GP-5		GP-6		GP-7		GP-8	
	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL	% CH4	% LEL
11/17	0.0	0.0	N/A	N/A	0.0	0.0	0.1	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/18	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/18	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/18	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/18	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/19	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/19	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/19	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/19	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/20	0.0	0.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/20	8.0	160.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/20	2.0	40.0	N/A	N/A	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4/21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/21	3.5	70.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4/22	28.1	562.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/22	4.6	92.0	--	--	--	--	--	--	--	--	--	--	--	--	--	--
5/22	3.6	72.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4/23	2.6	52.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/23	0.6	12.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11/23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4/24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6/24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7/24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8/24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9/24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10/24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/24	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3/25	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Stabilized readings presented; peak readings presented in parenthesis
"--" Probe readings are not available due to the probe being damaged or plugged.

Worcester County Berlin Landfill
Landfill Gas Monitoring- Percent Methane

	GP-11		GP-12		GP-13		GP-14		GP-15		GP-16		GP-17	
	% CH4	% LEL	% CH5	% LEL	% CH6	% LEL	% CH7	% LEL	% CH8	% LEL	% CH9	% LEL	% CH10	% LEL
9/07	0.0	0.0	0.1	2.0	14	280.0	16.6	332.0	61.6	1232.0	0.3	6.0	40.4	808.0
12/07	0.0	0.0	0.0	0.0	30.9	618.0	0.0	0.0	55.5	1110.0	0.0	0.0	0.0	0.0
5/08	0.0	0.0	0.0	0.0	9.2	184.0	0.0	0.0	20.4	408.0	0.0	0.0	0.0	0.0
6/08	0.0	0.0	0.0	0.0	7.9	158.0	0.0	0.0	40.5	810.0	0.0	0.0	0.0	0.0
8/08	0.0	0.0	0.0	0.0	0.3	6.0	0.0	0.0	54.7	1094.0	0.0	0.0	0.0	0.0
11/08	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2/09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6/09	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.0	0.5	10.0
10/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.0	0.0	0.0	0.0	0.0
11/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	8.0
12/09	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	2.0	0.0	0.0	0.0	0.0
5/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
6/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7/10	0.0	0.0	0.1	2.0	0.1	2.0	0.1	2.0	0.1	2.0	0.1	2.0	0.1	2.0
8/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
9/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
12/10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1/11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/11	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/12	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/12	0.0	0.0	0.0	0.0	0.0	0.0	0.2 (0.2)	4.0 (4.0)	0.0	0.0	0.0	0.0	0.0	0.0
2/13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/13	0.0	0.0	0.0	0.0	0.0 (0.8)	0.0 (16.0)	0.0 (0.6)	0.0 (12.0)	0.0	0.0	0.0 (0.1)	0.0 (2.0)	0.0	0.0
8/13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/13	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/14	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1 (0.1)	2.0 (2.0)	0.0	0.0	0.0	0.0
2/15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/15	0.0	0.0	0.0	0.0	0.0	0.0	0.2 (0.2)	4.0 (4.0)	0.0	0.0	0.0	0.0	0.0	0.0
11/15	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4/16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Note: Stabilized readings presented; peak readings presented in parenthesis
"--" Probe readings are not available due to the probe being damaged or plugged.

Worcester County Berlin Landfill
Landfill Gas Monitoring- Percent Methane

	GP-11		GP-12		GP-13		GP-14		GP-15		GP-16		GP-17	
	% CH4	% LEL	% CH5	% LEL	% CH6	% LEL	% CH7	% LEL	% CH8	% LEL	% CH9	% LEL	% CH10	% LEL
11/16	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/17	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/18	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/19	0.0	0.0	--	--	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--
5/19	0.0	0.0	--	--	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--
8/19	0.0	0.0	--	--	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--
11/19	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--
2/20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1 (0.1)	2.0 (2.0)	0.0	0.0	--	--
5/20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--
8/20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--
11/20	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	--	--
2/21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1 (0.1)	2.0 (2.0)	0.0	0.0	0.0	0.0
4/21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/21	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4/22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5/22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/22	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2/23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4/23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8/23	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	11.6	232.0	0.0	0.0	38.1	762.0
8/23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	18.2	364.0	N/A	N/A	28.7	574.0
11/23	0.0	0.0	8.1	162.0	0.0	0.0	5.1	102.0	27.4	548.0	0.0	0.0	33.4	668.0
2/24	0.0	0.0	19.6	392.0	0.0	0.0	0.0	0.0	28.5	570.0	0.0	0.0	38.1	762.0
4/24	0.0	0.0	25.3	506.0	0.0	0.0	0.0	0.0	30.3	606.0	0.0	0.0	13.4	268.0
5/24	0.0	0.0	25.6	512.0	0.0	0.0	0.0	0.0	17.1	342.0	0.0	0.0	0.0	0.0
6/24	0.0	0.0	24.8	496.0	0.0	0.0	0.0	0.0	14.2	284.0	0.0	0.0	0.0	0.0
7/24	0.0	0.0	20.1	402.0	0.0	0.0	0.0	0.0	12.4	248.0	0.0	0.0	0.0	0.0
8/24	0.0	0.0	16.5	330.0	0.0	0.0	0.0	0.0	14.3	286.0	0.0	0.0	0.0	0.0
9/24	0.0	0.0	13.6	272.0	0.0	0.0	0.0	0.0	0.8	16.0	0.0	0.0	0.3	6.0
10/24	0.0	0.0	12.8	256.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
11/24	0.0	0.0	10.6	212.0	0.0	0.0	0.0	0.0	4.2	84.0	0.0	0.0	4.8	96.0
12/24	0.0	0.0	9.8	196.0	0.0	0.0	0.0	0.0	3.3	66.0	0.0	0.0	0.0	0.0
1/25	0.0	0.0	9.0	180.0	0.0	0.0	0.0	0.0	4.4	88.0	0.0	0.0	0.0	0.0
2/25	0.0	0.0	10.1	202.0	0.0	0.0	0.0	0.0	4.9	98.0	0.0	0.0	0.0	0.0
3/25	0.0	0.0	11.0	220.0	0.0	0.0	0.0	0.0	4.2	84.0	0.0	0.0	0.0	0.0

Note: Stabilized readings presented; peak readings presented in parenthesis
"--" Probe readings are not available due to the probe being damaged or plugged.

Appendix I

LFG Probe Construction Documentation

This page intentionally left blank

W

PLANNING, PERMITS AND INSPECTIONS

Worcester County

ROOM 116 COURT HOUSE

SNOW HILL, MARYLAND 21863

301-632-1200

BOARD OF APPEALS
PLANNING COMMISSION
AGRICULTURAL PRESERVATION
ENVIRONMENTAL PROGRAMS

ELECTRICAL BOARD
SHORELINE COMMISSION
LICENSE COMMISSIONERS

WELL CONSTRUCTION PERMIT

PERMIT NO. 25-110-95

STATE NO. WO-94-0152 TO WO-94-0161

PROPERTY OWNER Worcester County

MAILING ADDRESS One W. Market Street
Snow Hill, MD 21863

SUBDIVISION

LOT **BLOCK** **SECTION**

WELL DRILLER Handex of Maryland, Inc.

PROPOSED WELL DEPTH: 15 ft.

SPECIAL CONDITIONS: TEST WELL TO BE ABANDONED WHEN TESTING COMPLETED.

IN ACCORDANCE WITH MARYLAND COMAR 26.04.04, A PERMIT HAS BEEN ISSUED FOR THE CONSTRUCTION OF A WELL TO SERVE THE ABOVE PROPERTY.

APPROVING SANITARIAN Susan Hughes RS
DATE 10/26/95

EMERGENCY/TEMP NO. IF ANY

B	1	1422	SEQUENCE NO. (DP USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
please print or type

STATE PERMIT NUMBER: WO-94-0152
fill in this form completely

Date Received (APA): 102595

OWNER INFORMATION

Last Name / Owner / First Name: WORCHESTER COUNTY
Street or RFD: 1 W MARKET ST.
Town: SNOW HILL State: MD Zip: 21863

LOCATION OF WELL

B 3 GP-1

COUNTY: WORCHESTER
SUBDIVISION:
SECTION: LOT:
NEAREST TOWN: BRIDDLETOWN
MILES FROM TOWN (enter 0 if in town): 0 MI

DRILLER INFORMATION

MSD/MGD/MWD

Driller's Name: STEVE ULRICH License No.: 537
Firm Name: HANDEX OF MARYLAND, INC.
Address: 1350 BLAIR DR., ODENTON, MD 21113
Signature: [signature] Date: 10-24-95

B 4

NEAR WHAT ROAD: FLOWER ST.

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NE, E, SE, S, SW, W, NW — TOWN

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH N, WEST W, EAST E, SOUTH S
DISTANCE FROM ROAD: 500
ENTER FT OR MI: FT

TAX MAP: 25 BLK: ______ PARCEL 110

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): 0
AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 0

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

COUNTY NAME: Worcester COUNTY NO.: 25-110-95
STATE SIGNATURE: ______ INSERT S
DATE ISSUED: 102595 CO SIGNATURE: Susan Hudecks EXP. DATE: 10/25/96
NORTH GRID: 186000 EAST GRID: 1316000

APPROXIMATE DEPTH OF WELL: 15 FEET

APPROXIMATE DIAMETER OF WELL: 1 NEAREST INCH

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER
1. NONE
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE
E 1310
N 180 000 000

METHOD OF DRILLING (circle one)

BORED (or Augered) — JETTED — Jetted & DRIVEN
AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary)
CABLE — REVerse-ROTary — DRive-POINT
other ______

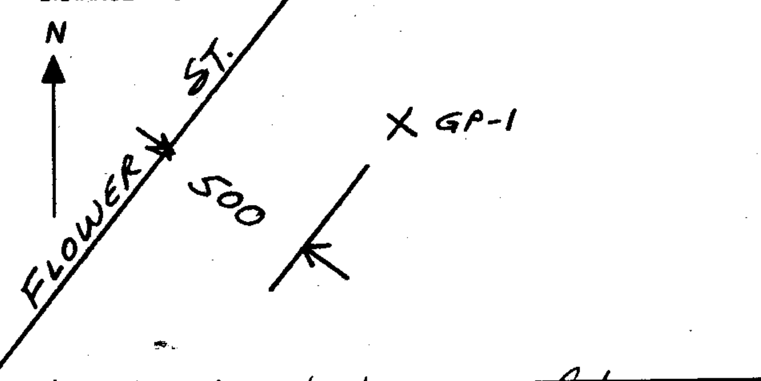
REPLACEMENT OR DEEPENED WELLS

(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE): ______

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP
FORCE ____ WRITE INITIALS IN BOX PERMIT No. WO-94-0152

SPECIAL CONDITIONS: Test well to be abandoned when testing complete

NOTE = APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED =

COUNTY

C 1 | 340?? | SEQUENCE NO. (MDE USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received

DATE WELL COMPLETED: 1 1 1 0 8 5

Depth of Well: 4 (TO NEAREST FOOT)

GP-1

PERMIT NO. FROM "PERMIT TO DRILL WELL": WO - 94 - 0152

OWNER: WORCHESTER COUNTY (last name / first name)

STREET OR RFD: 1 W MARKET ST TOWN: SNOW HILL

SUBDIVISION ______ SECTION ______ LOT ______

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
VENT PIPE FOR SOIL VAPORS ONLY.			
THIS IS NOT A WELL.			
STEVE ULRICH IS NO LONGER A HANDEX EMPLOYEE. (DRILLER)			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: yes Y / no N

CIRCLE APPROPRIATE LETTER
- A — A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E — ELECTRIC LOG OBTAINED
- P — TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

TYPE: MWD/MSD/MGD
DRILLERS LIC. NO. ______

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)
LIC. NO. ______

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes Y / no N

TYPE OF GROUTING MATERIAL (Circle one): CEMENT CM — BENTONITE CLAY BC

NO. OF BAGS ______ NO. OF POUNDS ______
GALLONS OF WATER ______
DEPTH OF GROUT SEAL (to nearest foot): from ______ ft. (TOP) to ______ ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below: ST STEEL — CO CONCRETE — PL PLASTIC — OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
PL	1	4

OTHER CASING (if used) — EACH CASING: diameter inch / depth (feet) from / to

SCREEN RECORD
screen type or open hole insert appropriate code below: ST STEEL — BR BRASS BRONZE — HO OPEN HOLE — PL PLASTIC — OT OTHER

C 2 — EACH SCREEN 1, 2, 3 — DEPTH (nearest ft.)

SLOT SIZE 1 ____ 2 ____ 3 ____
DIAMETER OF SCREEN ______ (NEAREST INCH)

GRAVEL PACK from 1 to 4

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)
T — (E.R.O.S.) — W Q
TELESCOPE CASING — LOG INDICATOR — OTHER DATA

C 3 — N/A

PUMPING TEST
HOURS PUMPED (nearest hour)
PUMPING RATE (gal. per min.)
METHOD USED TO MEASURE PUMPING RATE ______
WATER LEVEL (distance from land surface)
BEFORE PUMPING ______ ft.
WHEN PUMPING ______ ft.
TYPE OF PUMP USED (for test): A air — P piston — T turbine — C centrifugal — R rotary — O other (describe below) — J jet — S submersible

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO): YES NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.
CAPACITY: GALLONS PER MINUTE (to nearest gallon)
PUMP HORSE POWER
PUMP COLUMN LENGTH (nearest ft.)
CASING HEIGHT (circle appropriate box and enter casing height): + above / - below LAND SURFACE (nearest foot)

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)

N

RECEIVED MAR

COUNTY

EMERGENCY/TEMP NO. IF ANY

B	1	1423	SEQUENCE NO. (DP USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
please print or type

STATE PERMIT NUMBER: WO-94-0153
fill in this form completely

OWNER INFORMATION

Date Received (APA): 102595

Last Name / Owner / First Name: WORCHESTER COUNTY

Street or RFD: 1 W MARKET ST

Town / State / Zip: SNOW HILL MD 21863

DRILLER INFORMATION

MSD/MGD/MWD

Driller's Name: STEVE ULRICH — License No.: 537

Firm Name: HANDEX OF MARYLAND, INC.

Address: 1350 BLAIR DR, ODENTON, MD. 21113

Signature: [signature] — Date: 10-24-95

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): 0

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 0

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL: 14 FEET

APPROXIMATE DIAMETER OF WELL: 1 NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) — JETTED — Jetted & DRIVEN — AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary) — CABLE — REVerse-ROTary — DRive-POINT — other

REPLACEMENT OR DEEPENED WELLS
(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE):

Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE — WRITE INITIALS IN BOX — PERMIT No.: WO-94-0153

B 3 LOCATION OF WELL

GP-2

COUNTY: WORCHESTER

SUBDIVISION:

SECTION: — LOT:

NEAREST TOWN: BRIDDLETOWN

MILES FROM TOWN (enter 0 if in town): 0 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): TOWN — N, NE, E, SE, S, SW, W, NW

NEAR WHAT ROAD: FLOWER ST.

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH, WEST, EAST, SOUTH

DISTANCE FROM ROAD: 550 — ENTER FT OR MI: FT

TAX MAP: 25 BLK: ____ PARCEL: 110

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

COUNTY NAME: Worcester — COUNTY NO.: 25-110-95

STATE SIGNATURE: ____ INSERT S

DATE ISSUED: 102595 — CO SIGNATURE: Susan Hughes — EXP. DATE: 10/25/96

NORTH GRID: 186000 — EAST GRID: 1316000

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

X

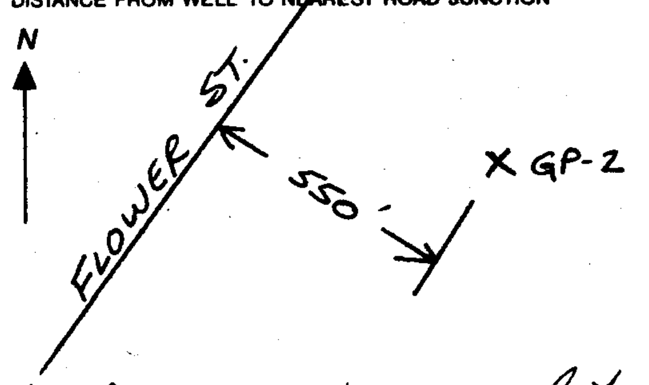
SOURCES OF DRILLING WATER
1. NONE
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E: 1,310
N: 180

000
000

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



SPECIAL CONDITIONS: Test well to be abandoned when testing complete

NOTE = APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED =

COUNTY

C 1 | 3402 | SEQUENCE NO. (MDE USE ONLY)

1 2 3 6 (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT

FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received 8 13

DATE WELL COMPLETED 1 1 1 0 9 5 (15–20)

Depth of Well 22 [redacted] 4 26 (TO NEAREST FOOT)

GP-2

PERMIT NO. FROM "PERMIT TO DRILL WELL" WO - 94 - 0153 (28–37)

OWNER WORCHESTER COUNTY (last name / first name)

STREET OR RFD 1 W. MARKET ST. TOWN SNOW HILL

SUBDIVISION ______ SECTION ______ LOT ______

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	TO	check if water bearing
VENT PIPE FOR SOIL VAPORS ONLY.			
THIS IS NOT A WELL.			
STEVE ULRICH IS NO LONGER A HANDEX EMPLOYEE. (DRILLER)			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED yes Y no N (circled: N)

CIRCLE APPROPRIATE LETTER
- **A** A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- **E** ELECTRIC LOG OBTAINED
- **P** TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

TYPE: MWD/MSD/MGD
DRILLERS LIC. NO. ______

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)
LIC. NO. ______

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box) yes Y 44 no N 44 (circled: N)

TYPE OF GROUTING MATERIAL (Circle one)
CEMENT CM 45 46 BENTONITE CLAY BC 45 46
NO. OF BAGS ______ NO. OF POUNDS ______
GALLONS OF WATER ______
DEPTH OF GROUT SEAL (to nearest foot)
from ______ ft. (48 TOP 52) to ______ ft. (54 BOTTOM 58) (enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below
ST STEEL — CO CONCRETE — PL PLASTIC — OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
P L (60 61)	1 (63 64)	4 (66–70)

EACH CASING — OTHER CASING (if used)
diameter inch — depth (feet) from — to

SCREEN RECORD
screen type or open hole insert appropriate code below
ST STEEL — BR BRASS BRONZE — HO OPEN HOLE — PL PLASTIC — OT OTHER

C 2 1 2

EACH SCREEN — DEPTH (nearest ft.)
1: 8 9 11 15 17 21
2: 23 24 26 30 32 36
3: 38 39 41 45 47 51

SLOT SIZE 1 ______ 2 ______ 3 ______
DIAMETER OF SCREEN ______ (56–60) (NEAREST INCH)

GRAVEL PACK from 1 to 4
IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)
T 70 — (E.R.O.S.) 72 — W Q 74 75 76
TELESCOPE CASING — LOG INDICATOR — OTHER DATA

C 3 1 2 N/A

PUMPING TEST
HOURS PUMPED (nearest hour) 8 9
PUMPING RATE (gal. per min.) 11 15
METHOD USED TO MEASURE PUMPING RATE ______
WATER LEVEL (distance from land surface)
BEFORE PUMPING ______ ft. 17 20
WHEN PUMPING ______ ft. 22 25

TYPE OF PUMP USED (for test)
A air — P piston — T turbine — C centrifugal — R rotary — O other (describe below) — J jet — S submersible (27)

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO) YES NO
IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.
TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.
CAPACITY: GALLONS PER MINUTE (to nearest gallon) 31 35
PUMP HORSE POWER 37 41
PUMP COLUMN LENGTH (nearest ft.) 43 47
CASING HEIGHT (circle appropriate box and enter casing height)
+ above 49 — − below 49 LAND SURFACE (nearest foot) 50 51

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)

N

RECEIVED MAR 1995

COUNTY

EMERGENCY/TEMP NO. IF ANY

B 1 1460 SEQUENCE NO. (DP USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL

please print or type

STATE PERMIT NUMBER: WO-94-0159

fill in this form completely

Date Received (APA): 102595

OWNER INFORMATION

Last Name / Owner / First Name: WORCHESTER COUNTY

Street or RFD: 1 W MARKET ST

Town / State / Zip: SNOW HILL MD 21863

DRILLER INFORMATION

MSD/MGD/MWD

Driller's Name: STEVE ULRICH — License No.: 537

Firm Name: HANDEX OF MARYLAND, INC. 21113

Address: 1350 BLAIR DR., ODENTON, MD.

Signature: [signature] Date: 10-24-95

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): 0

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 0

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL: 13 FEET

APPROXIMATE DIAMETER OF WELL: 1 NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) — JETTED — Jetted & DRIVEN — AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary) — CABLE — REVerse-ROTary — DRive-POINT

other ______

REPLACEMENT OR DEEPENED WELLS

(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE): ______

Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE ___ WRITE INITIALS IN BOX — PERMIT No.: WO-94-0159

B 3 LOCATION OF WELL

GP-3

COUNTY: WORCHESTER

SUBDIVISION: ______

SECTION ___ LOT ___

NEAREST TOWN: BRIDDLETOWN

MILES FROM TOWN (enter 0 if in town): 0 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NE, E, SE, S, SW, W, NW — TOWN

NEAR WHAT ROAD: FLOWER ST.

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH N, WEST W, 32, EAST E, SOUTH S

DISTANCE FROM ROAD: 900

ENTER FT OR MI: FT

TAX MAP: 25 BLK: ______ PARCEL: 110

NOT TO BE FILLED IN BY DRILLER — HEALTH DEPARTMENT APPROVAL

COUNTY NAME: Worcester — COUNTY NO.: 25-110-95

STATE SIGNATURE ______ INSERT S

DATE ISSUED: 102595 — CO SIGNATURE: [signature] — EXP. DATE: 10/25/96

NORTH GRID: 186000 — EAST GRID: 316000

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER

1. NONE
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

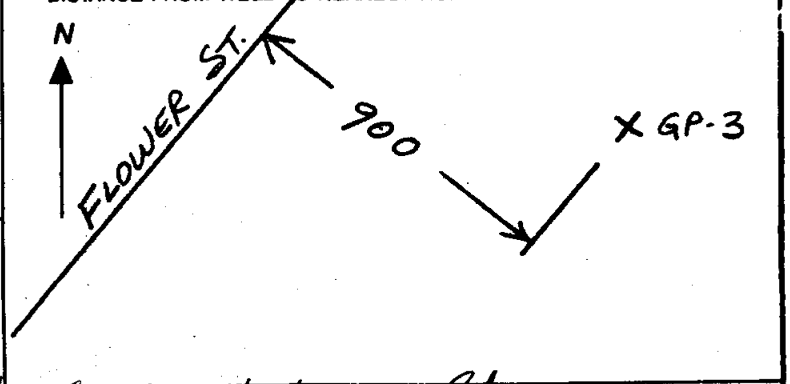
E 1,310

N 180

000 000

X GP

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



SPECIAL CONDITIONS: Test well to be abandoned when testing complete

NOTE - APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED -

COUNTY

C 1 | 3402

SEQUENCE NO. (MDE USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY DATE Received

DATE WELL COMPLETED: 1 1 1 0 9 5

Depth of Well: [redacted] 4 (TO NEAREST FOOT)

GP-3

PERMIT NO. FROM "PERMIT TO DRILL WELL": WO - 94 - 0154

OWNER: WORCHESTER COUNTY
STREET OR RFD: 1 W. MARKET ST. — TOWN: SNOW HILL
SUBDIVISION ______ SECTION ______ LOT ______

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
VENT PIPE FOR SOIL VAPORS ONLY. THIS IS NOT A WELL.			
STEVE ULRICH IS NO LONGER A HANDEX EMPLOYEE. (DRILLER)			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: yes Y / no N (N circled)

CIRCLE APPROPRIATE LETTER
- **A** A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- **E** ELECTRIC LOG OBTAINED
- **P** TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

TYPE: MWD/MSD/MGD

DRILLERS LIC. NO. ______

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. ______

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes Y / no N (N circled)

TYPE OF GROUTING MATERIAL (Circle one): CEMENT CM — BENTONITE CLAY BC

NO. OF BAGS ______ NO. OF POUNDS ______

GALLONS OF WATER ______

DEPTH OF GROUT SEAL (to nearest foot): from ______ ft. (TOP) to ______ ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below: ST STEEL — CO CONCRETE — PL PLASTIC (circled) — OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)	Total depth of main casing (nearest foot)
PL		

EACH CASING — OTHER CASING (if used): diameter inch — depth (feet) from — to

SCREEN RECORD
screen type or open hole insert appropriate code below: ST STEEL — BR BRASS BRONZE — HO OPEN HOLE — PL PLASTIC — OT OTHER

C 2 — EACH SCREEN — DEPTH (nearest ft.)

SLOT SIZE 1 ______ 2 ______ 3 ______

DIAMETER OF SCREEN ______ (NEAREST INCH)

GRAVEL PACK from 1 to 4

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)
T — TELESCOPE CASING; (E.R.O.S.) — LOG INDICATOR; W Q — OTHER DATA

C 3 — N/A

PUMPING TEST
HOURS PUMPED (nearest hour)
PUMPING RATE (gal. per min.)
METHOD USED TO MEASURE PUMPING RATE
WATER LEVEL (distance from land surface)
BEFORE PUMPING ______ ft.
WHEN PUMPING ______ ft.

TYPE OF PUMP USED (for test): A air — P piston — T turbine — C centrifugal — R rotary — O other (describe below) — J jet — S submersible

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO): YES NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.
CAPACITY: GALLONS PER MINUTE (to nearest gallon)
PUMP HORSE POWER
PUMP COLUMN LENGTH (nearest ft.)
CASING HEIGHT (circle appropriate box and enter casing height): + above / − below LAND SURFACE (nearest foot)

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)

N

RECEIVED MAR 1997

EMERGENCY/TEMP NO. IF ANY

B	1	1427	SEQUENCE NO. (DP USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
please print or type

STATE PERMIT NUMBER: WO-94-0755

fill in this form completely

Date Received (APA): 10 25 95

OWNER INFORMATION

WORCHESTER COUNTY (Last Name / Owner / First Name)

1 W MARKET ST (Street or RFD)

SNOW HILL (Town) MD (State) 21863 (Zip)

DRILLER INFORMATION

MSD/MGD/MWD

STEVE ULRICH (Driller's Name) 537 (License No.)

HANDEX OF MARYLAND, INC. (Firm Name)

1350 BLAIR DR. ODENTON, MD. 21113 (Address)

Signature: [signature] Date: 10-24-95

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): 0

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 0

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL: 12 FEET

APPROXIMATE DIAMETER OF WELL: 1 NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) — JETTED — Jetted & DRIVEN
AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary)
CABLE — REVerse-ROTary — DRive-POINT
other

REPLACEMENT OR DEEPENED WELLS
(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE):

Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE — WRITE INITIALS IN BOX — PERMIT No. WO-94-0755

B 3 LOCATION OF WELL

GP-4

WORCHESTER (COUNTY)

SUBDIVISION:

SECTION: LOT:

BRIDDLETOWN (NEAREST TOWN)

MILES FROM TOWN (enter 0 if in town): 0 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NE, E, SE, S, SW, W, NW — TOWN

FLOWER ST. (NEAR WHAT ROAD)

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH, WEST, EAST, SOUTH

950 DISTANCE FROM ROAD

ENTER FT OR MI: FT

TAX MAP: 25 BLK: PARCEL 110

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

Worcester (COUNTY NAME) 25-110-95 (COUNTY NO.)

STATE SIGNATURE — INSERT S

DATE ISSUED: 10 25 95 — CO SIGNATURE: Susan Hughes — EXP. DATE: 10/25/96

NORTH GRID: 180000 — EAST GRID: 1310000

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER
1. NONE
2.
3.

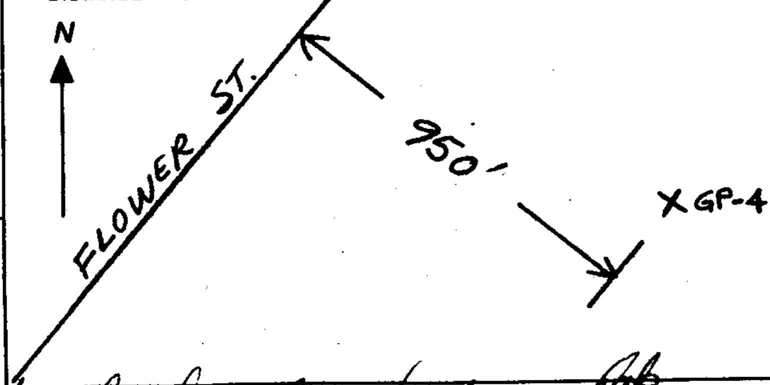
WRITE THE BOX NUMBER FROM THE MAP HERE

E 1,310
N 180

000
000

X 3

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



SPECIAL CONDITIONS: Test well to be abandoned when test complete

NOTE - APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED -

COUNTY

C 1 | 3404 | SEQUENCE NO. (MDE USE ONLY)

1 2 3 6
(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received
8 13

DATE WELL COMPLETED: 1 1 1 0 9 5
15 20

Depth of Well: 22 [redacted] 4 26 (TO NEAREST FOOT)

GP-4

PERMIT NO. FROM "PERMIT TO DRILL WELL": WO - 94 - 0155
28 29 30 31 32 33 34 35 36 37

OWNER: WORCHESTER COUNTY
last name first name

STREET OR RFD: 1 W. MARKET ST. TOWN: SNOW HILL

SUBDIVISION ______ SECTION ______ LOT ______

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
VENT PIPE FOR SOIL VAPORS ONLY. THIS IS NOT A WELL.			
STEVE ULRICH IS NO LONGER A HANDEX EMPLOYEE (DRILLER)			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED yes Y no N

CIRCLE APPROPRIATE LETTER
- A — A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E — ELECTRIC LOG OBTAINED
- P — TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

TYPE: MWD/MSD/MGD

DRILLERS LIC. NO. ______

DRILLERS SIGNATURE
(MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. ______

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes Y 44 / no N 44

TYPE OF GROUTING MATERIAL (Circle one)
CEMENT C M 45 46 — BENTONITE CLAY B C 45 46

NO. OF BAGS ______ NO. OF POUNDS ______
GALLONS OF WATER ______
DEPTH OF GROUT SEAL (to nearest foot)
from ______ ft. to ______ ft.
48 TOP 52 54 BOTTOM 58
(enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below

S T STEEL — C O CONCRETE — P L PLASTIC — O T OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
P L (60 61)	1 (63 64)	4 (66 70)

E A C H C A S I N G — OTHER CASING (if used)
diameter inch — depth (feet) from — to

SCREEN RECORD
screen type or open hole insert appropriate code below

S T STEEL — B R BRASS BRONZE — H O OPEN HOLE — P L PLASTIC — O T OTHER

C 2
1 2

EACH SCREEN — DEPTH (nearest ft.)
1: 8 9 11 15 17 21
2: 23 24 26 30 32 36
3: 38 39 41 45 47 51

SLOT SIZE 1 ______ 2 ______ 3 ______
DIAMETER OF SCREEN ______ (NEAREST INCH)
56 60

GRAVEL PACK from 1 to 4

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY
(NOT TO BE FILLED IN BY DRILLER)

T (70) TELESCOPE CASING — (E.R.O.S.) (72) LOG INDICATOR — W Q (74 75 76) OTHER DATA

C 3
1 2

N/A

PUMPING TEST
HOURS PUMPED (nearest hour) 8 9
PUMPING RATE (gal. per min.) 11 15
METHOD USED TO MEASURE PUMPING RATE ______
WATER LEVEL (distance from land surface)
BEFORE PUMPING ______ ft. 17 20
WHEN PUMPING ______ ft. 22 25

TYPE OF PUMP USED (for test)
A air — P piston — T turbine — C centrifugal — R rotary — O other (describe below) — J jet — S submersible (27)

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO) YES NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.
CAPACITY: GALLONS PER MINUTE (to nearest gallon) 31 35
PUMP HORSE POWER 37 41
PUMP COLUMN LENGTH (nearest ft.) 43 47
CASING HEIGHT (circle appropriate box and enter casing height)
+ above (49) / − below (49) LAND SURFACE (nearest) foot 50 51

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)

N

RECEIVED 1997

COUNTY

EMERGENCY/TEMP NO. IF ANY

B 1 **1428** SEQUENCE NO. (DP USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
please print or type

STATE PERMIT NUMBER: WO-94-0156

fill in this form completely

OWNER INFORMATION

Date Received (APA): 102595

WORCHESTER COUNTY (Last Name / Owner / First Name)

1 W MARKET ST (Street or RFD)

SNOW HILL (Town) MD (State) 21863 (Zip)

DRILLER INFORMATION

MSD/MGD/MWD

Driller's Name: STEVE ULRICH — License No. 537

Firm Name: HANDEX OF MARYLAND, INC. 21113

Address: 1350 BLAIR DR., ODENTON, MD.

Signature: [signature] Date: 10-24-95

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): 0

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 0

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL: 13 FEET

APPROXIMATE DIAMETER OF WELL: 1 NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) — JETTED — Jetted & DRIVEN — AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary) — CABLE — REVerse-ROTary — DRive-POINT

other

REPLACEMENT OR DEEPENED WELLS
(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE)

Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE [ ] WRITE INITIALS IN BOX — PERMIT No. WO-94-0156

B 3 LOCATION OF WELL

GP-5

COUNTY: WORCHESTER

SUBDIVISION:

SECTION: LOT:

NEAREST TOWN: BRIDDLETOWN

MILES FROM TOWN (enter 0 if in town): 0 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NE, E, SE, S, SW, W, NW — TOWN

NEAR WHAT ROAD: FLOWER ST.

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH, WEST, EAST, SOUTH

DISTANCE FROM ROAD: 600 — ENTER FT OR MI: FT

TAX MAP: 25 BLK: PARCEL 110

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

COUNTY NAME: Worcester — COUNTY NO. 25-110-95

STATE SIGNATURE — INSERT S

DATE ISSUED: 102595 — CO. SIGNATURE: Susan Hughes — EXP. DATE: 10/26/96

NORTH GRID: 186000 — EAST GRID: 1316000

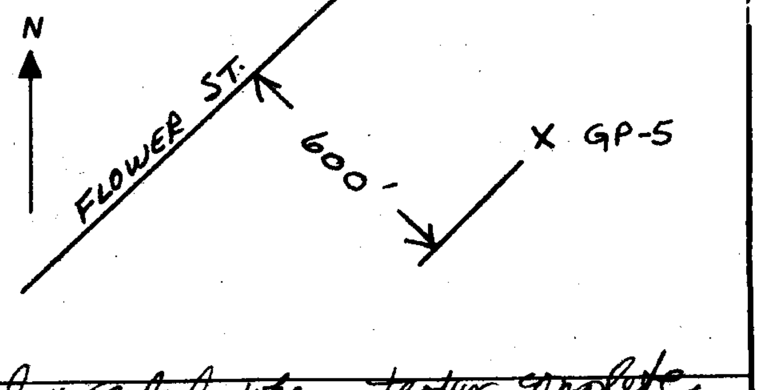
SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER
1. NONE
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E 1,310
N 180
000
000

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



SPECIAL CONDITIONS: Test well to be abandoned & sealed when testing complete

NOTE — APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED —

COUNTY

C 1 | 3403 | SEQUENCE NO. (MDE USE ONLY)

1 2 3 4 5 6
(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received (8–13)

DATE WELL COMPLETED (15–20): 1 / 1 / 0 9 5

Depth of Well (22–26): [redacted] 4 (TO NEAREST FOOT)

GP-5

PERMIT NO. FROM "PERMIT TO DRILL WELL" (28–37): W O - 9 4 - 0 1 5 6

OWNER: WORCHESTER (last name) COUNTY (first name)
STREET OR RFD: 1 W. MARKET ST. TOWN: SNOW HILL
SUBDIVISION ______ SECTION ______ LOT ______

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
VENT PIPE FOR SOIL VAPORS ONLY.			
THIS IS NOT A WELL.			
STEVE ULRICH IS NO LONGER A HANDEX EMPLOYEE. (DRILLER)			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: yes Y / no N (circled N)

CIRCLE APPROPRIATE LETTER
- **A** A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- **E** ELECTRIC LOG OBTAINED
- **P** TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

TYPE: MWD/MSD/MGD
DRILLERS LIC. NO. ______

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)
LIC. NO. ______

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes Y / no N (44) (circled N)

TYPE OF GROUTING MATERIAL (Circle one)
CEMENT CM (45 46) BENTONITE CLAY BC (45 46)

NO. OF BAGS ______ NO. OF POUNDS ______
GALLONS OF WATER ______
DEPTH OF GROUT SEAL (to nearest foot)
from (48 TOP 52) ft. to (54 BOTTOM 58) ft.
(enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below
ST STEEL | CO CONCRETE | PL PLASTIC | OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
P L (60 61)	1 (63 64)	4 (66–70)

OTHER CASING (if used)
EACH CASING — diameter inch — depth (feet) from — to

SCREEN RECORD
screen type or open hole insert appropriate code below
ST STEEL | BR BRASS BRONZE | HO OPEN HOLE | PL PLASTIC | OT OTHER

C 2 (1 2)

EACH SCREEN — DEPTH (nearest ft.)
1: (8 9) (11–15) (17–21)
2: (23 24) (26–30) (32–36)
3: (38 39) (41–45) (47–51)

SLOT SIZE 1 ______ 2 ______ 3 ______
DIAMETER OF SCREEN (56–60) (NEAREST INCH)

GRAVEL PACK from 1 to 4

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)
T (70) TELESCOPE CASING | (E.R.O.S.) (72) LOG INDICATOR | W Q (74 75 76) OTHER DATA

C 3 (1 2)

PUMPING TEST
HOURS PUMPED (nearest hour) (8 9)
PUMPING RATE (gal. per min.) (11–15)
METHOD USED TO MEASURE PUMPING RATE ______
WATER LEVEL (distance from land surface)
BEFORE PUMPING (17–20) ft.
WHEN PUMPING (22–25) ft.

TYPE OF PUMP USED (for test) (27)
A air | P piston | T turbine
C centrifugal | R rotary | O other (describe below)
J jet | S submersible

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO) YES NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29. (29)
CAPACITY: GALLONS PER MINUTE (to nearest gallon) (31–35)
PUMP HORSE POWER (37–41)
PUMP COLUMN LENGTH (nearest ft.) (43–47)
CASING HEIGHT (circle appropriate box and enter casing height)
+ above (49) / − below (49) LAND SURFACE (50 51) (nearest foot)

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL).

N

RECEIVED

COUNTY

EMERGENCY/TEMP NO. IF ANY

B	1	1440	SEQUENCE NO. (DP USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL

please print or type

STATE PERMIT NUMBER: WO-94-0157

fill in this form completely

OWNER INFORMATION

Date Received (APA): 102595

Last Name / Owner / First Name: WORCHESTER COUNTY

Street or RFD: 1 W MARKET ST

Town / State / Zip: SNOW HILL MD 21863

DRILLER INFORMATION

MSD/MGD/MWD

Driller's Name: STEVE ULRICH — License No.: 537

Firm Name: HANDEX OF MARYLAND, INC. 21113

Address: 1350 BLAIR DR, ODENTON, MD.

Signature: [signature] — Date: 10-24-95

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): 0

AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 0

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL: 14 FEET

APPROXIMATE DIAMETER OF WELL: 1 NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) — JETTED — Jetted & DRIVEN — AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary) — CABLE — REVerse-ROTary — DRive-POINT — other

REPLACEMENT OR DEEPENED WELLS

(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE):

Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE — WRITE INITIALS IN BOX — PERMIT No. WO-94-0157

B 3 LOCATION OF WELL

GP-6

COUNTY: WORCHESTER

SUBDIVISION:

SECTION: — LOT:

NEAREST TOWN: BRIDDLETOWN

MILES FROM TOWN (enter 0 if in town): 0 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NE, E, SE, S, SW, W, NW, TOWN

NEAR WHAT ROAD: FLOWER ST.

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH / EAST / SOUTH / WEST — S

DISTANCE FROM ROAD: 500

ENTER FT OR MI: FT

TAX MAP: 25 BLK: PARCEL: 110

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

COUNTY NAME: Worcester — COUNTY NO.: 25-110-95

STATE SIGNATURE: — INSERT S

DATE ISSUED: 102595 — CO SIGNATURE: Susan H[illegible] — EXP. DATE: 10/25/96

NORTH GRID: 186000 — EAST GRID: 131000

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER

1. NONE
2.
3.

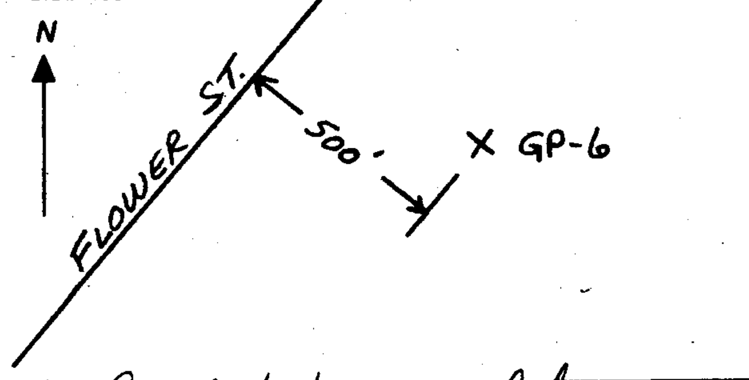
WRITE THE BOX NUMBER FROM THE MAP HERE

E: 1,310

N: 180

000
000

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



SPECIAL CONDITIONS: Test well to be abandoned when testing complete

NOTE = APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED =

COUNTY

C 1 | 3406 | SEQUENCE NO. (MDE USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT

FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received

DATE WELL COMPLETED: 11 1 095

Depth of Well: [redacted] 4 (TO NEAREST FOOT)

GP-6

PERMIT NO. FROM "PERMIT TO DRILL WELL": WO-94-0157

OWNER: WORCHESTER COUNTY (last name / first name)

STREET OR RFD: 1 W. MARKET ST. TOWN: SNOW HILL

SUBDIVISION: ______ SECTION: ______ LOT: ______

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
VENT PIPE FOR SOIL VAPORS ONLY. THIS IS NOT A WELL.			
STEVE ULRICH IS NO LONGER A HANDEX EMPLOYEE (DRILLER)			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: yes Y / no N (N circled)

CIRCLE APPROPRIATE LETTER
- **A** A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- **E** ELECTRIC LOG OBTAINED
- **P** TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

TYPE: MWD/MSD/MGD

DRILLERS LIC. NO. ______

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. ______

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes Y / no N (N circled)

TYPE OF GROUTING MATERIAL (Circle one): CEMENT CM / BENTONITE CLAY BC

NO. OF BAGS ______ NO. OF POUNDS ______

GALLONS OF WATER ______

DEPTH OF GROUT SEAL (to nearest foot): from ______ ft. (TOP) to ______ ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below: ST STEEL; CO CONCRETE; PL PLASTIC (circled); OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)	Total depth of main casing (nearest foot)
PL	1	4

OTHER CASING (if used): EACH CASING — diameter inch; depth (feet) from / to

SCREEN RECORD
screen type or open hole insert appropriate code below: ST STEEL; BR BRASS BRONZE; HO OPEN HOLE; PL PLASTIC; OT OTHER

C 2

EACH SCREEN — DEPTH (nearest ft.) 1, 2, 3

SLOT SIZE 1 ____ 2 ____ 3 ____

DIAMETER OF SCREEN ____ (NEAREST INCH)

GRAVEL PACK from 1 to 4

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T — TELESCOPE CASING; (E.R.O.S.) — LOG INDICATOR; W Q — OTHER DATA

C 3 N/A

PUMPING TEST
HOURS PUMPED (nearest hour)

PUMPING RATE (gal. per min.)

METHOD USED TO MEASURE PUMPING RATE ______

WATER LEVEL (distance from land surface)

BEFORE PUMPING ____ ft.

WHEN PUMPING ____ ft.

TYPE OF PUMP USED (for test): A air; P piston; T turbine; C centrifugal; R rotary; O other (describe below); J jet; S submersible

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO): YES NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.

CAPACITY: GALLONS PER MINUTE (to nearest gallon)

PUMP HORSE POWER

PUMP COLUMN LENGTH (nearest ft.)

CASING HEIGHT (circle appropriate box and enter casing height): + above / − below LAND SURFACE (nearest foot)

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDINGS, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL).

N

RECEIVED MAR 1997

COUNTY

EMERGENCY/TEMP NO. IF ANY

B 1 1441 SEQUENCE NO. (DP USE ONLY)
(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
please print or type

STATE PERMIT NUMBER: WO-94-0158
fill in this form completely

Date Received (APA): 102595

OWNER INFORMATION

Last Name / Owner / First Name: WORCHESTER COUNTY
Street or RFD: 1 W. MARKET ST.
Town / State / Zip: SNOW HILL MD 21863

DRILLER INFORMATION

MSD/MGD/MWD

Driller's Name: STEVE ULRICH — License No.: 537
Firm Name: HANDEX OF MARYLAND, INC. 21113
Address: 1350 BLAIR DR, ODENTON, MD.
Signature — Date: 10-24-95

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): 0
AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 0

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL: 15 FEET

APPROXIMATE DIAMETER OF WELL: 1 NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) — JETTED — Jetted & DRIVEN
AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary)
CABLE — REVerse-ROTary — DRive-POINT
other ______

REPLACEMENT OR DEEPENED WELLS
(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE): ______

Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP
FORCE — WRITE INITIALS IN BOX — PERMIT No.: WO-94-0158

B 3 LOCATION OF WELL

GP-7

COUNTY: WORCHESTER
SUBDIVISION: ______
SECTION: ______ LOT: ______
NEAREST TOWN: BRIDDLETOWN
MILES FROM TOWN (enter 0 if in town): 0 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NE, E, SE, S, SW, W, NW — TOWN

NEAR WHAT ROAD: FLOWER ST.

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH, WEST, EAST, SOUTH
DISTANCE FROM ROAD: 300
ENTER FT OR MI: FT

TAX MAP: 25 BLK: ______ PARCEL: 110

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

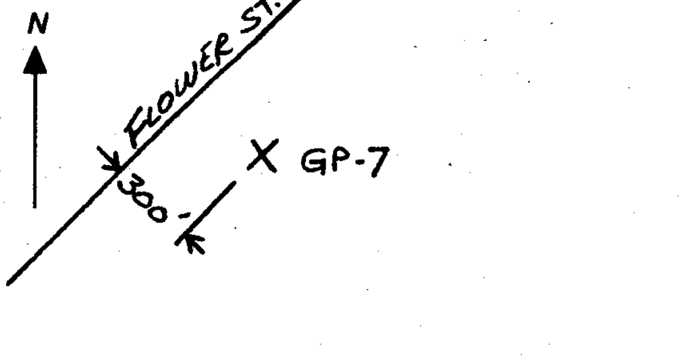
COUNTY NAME: Worcester — COUNTY NO.: 25-110-95
STATE SIGNATURE ______ INSERT S
DATE ISSUED: 102595 — CO SIGNATURE: Susan T Hughes — EXP. DATE: 10/25/96
NORTH GRID: 186000 — EAST GRID: 1316000

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X →

SOURCES OF DRILLING WATER
1. NONE
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE
E 1,310
N 180
000 000

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



SPECIAL CONDITIONS: Test well to be abandoned when testing complete

NOTE = APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED =

COUNTY

C 1 | 3400 •

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

SEQUENCE NO. (MDE USE ONLY)

STATE OF MARYLAND
WELL COMPLETION REPORT

FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY
DATE Received

DATE WELL COMPLETED: 1 1 1 0 9 5

Depth of Well: [redacted] 4 (TO NEAREST FOOT)

GP-7

PERMIT NO. FROM "PERMIT TO DRILL WELL": WO - 94 - 0158

OWNER: WORCHESTER COUNTY (last name / first name)
STREET OR RFD: 1 W. MARKET ST. TOWN: SNOW HILL
SUBDIVISION ______ SECTION ______ LOT ______

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
VENT PIPE FOR SOIL VAPORS ONLY. THIS IS NOT A WELL.			
STEVE ULRICH IS NO LONGER A HANDEX EMPLOYEE (DRILLER)			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: yes Y / no N (N circled)

CIRCLE APPROPRIATE LETTER
- A — A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E — ELECTRIC LOG OBTAINED
- P — TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

TYPE: MWD/MSD/MGD
DRILLERS LIC. NO. ______

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. ______

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes Y / no N (N circled)

TYPE OF GROUTING MATERIAL (Circle one): CEMENT CM — BENTONITE CLAY BC

NO. OF BAGS ______ NO. OF POUNDS ______
GALLONS OF WATER ______
DEPTH OF GROUT SEAL (to nearest foot): from ____ ft. (TOP) to ____ ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below: ST STEEL, CO CONCRETE, PL PLASTIC, OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
PL	1	4

OTHER CASING (if used)
EACH CASING — diameter inch — depth (feet) from — to

SCREEN RECORD
screen type or open hole insert appropriate code below: ST STEEL, BR BRASS BRONZE, HO OPEN HOLE, PL PLASTIC, OT OTHER

C 2 — EACH SCREEN — DEPTH (nearest ft.)

SLOT SIZE 1 ____ 2 ____ 3 ____
DIAMETER OF SCREEN ____ (NEAREST INCH)

GRAVEL PACK from 1 to 4
IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)
T — TELESCOPE CASING; (E.R.O.S.) — LOG INDICATOR; W Q — OTHER DATA

C 3 — N/A

PUMPING TEST
HOURS PUMPED (nearest hour)
PUMPING RATE (gal. per min.)
METHOD USED TO MEASURE PUMPING RATE
WATER LEVEL (distance from land surface)
BEFORE PUMPING ____ ft.
WHEN PUMPING ____ ft.
TYPE OF PUMP USED (for test): A air, P piston, T turbine, C centrifugal, R rotary, O other (describe below), J jet, S submersible

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO) YES NO
IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.
TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.
CAPACITY: GALLONS PER MINUTE (to nearest gallon)
PUMP HORSE POWER
PUMP COLUMN LENGTH (nearest ft.)
CASING HEIGHT (circle appropriate box and enter casing height) + above / − below LAND SURFACE (nearest foot)

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND / OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS)

RECEIVED

COUNTY

EMERGENCY/TEMP NO. IF ANY

B 1 1444 SEQUENCE NO. (DP USE ONLY)
(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
please print or type

STATE PERMIT NUMBER: W0-94-0159
fill in this form completely

Date Received (APA): 10 25 95

OWNER INFORMATION

Last Name / Owner / First Name: WORCHESTER COUNTY
Street or RFD: 1 W MARKET ST
Town / State / Zip: SNOW HILL MD 21863

DRILLER INFORMATION

MSD/MGD/MWD

Driller's Name: STEVE ULRICH
License No.: 537
Firm Name: HANDEX OF MARYLAND, INC. 21113
Address: 1350 BLAIR DR., ODENTON, MD.
Signature: [signature]
Date: 10-24-95

B 3 LOCATION OF WELL

GP-8

COUNTY: WORCHESTER
SUBDIVISION:
SECTION: LOT:
NEAREST TOWN: BRIDDLETOWN
MILES FROM TOWN (enter 0 if in town): 0 MI

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NE, E, SE, S, SW, W, NW, TOWN

NEAR WHAT ROAD: FLOWER ST.

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH, WEST, EAST, SOUTH

DISTANCE FROM ROAD: 300
ENTER FT OR MI: FT

TAX MAP: 25 BLK: PARCEL 110

B 2 WELL INFORMATION

APPROX. PUMPING RATE (GAL. PER MIN.): 0
AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 0

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

COUNTY NAME: Worcester
COUNTY NO.: 25-110-95
STATE SIGNATURE: INSERT S
DATE ISSUED: 10 25 95
CO SIGNATURE: Susan Hughes
EXP. DATE: 10/25/96
NORTH GRID: 186000
EAST GRID: 1316000

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

APPROXIMATE DEPTH OF WELL: 16 FEET

APPROXIMATE DIAMETER OF WELL: 1 NEAREST INCH

METHOD OF DRILLING (circle one)

BORED (or Augered) | JETTED | Jetted & DRIVEN
AIR-ROTary | AIR-PERcussion | ROTARY (Hydraulic Rotary)
CABLE | REVerse-ROTary | DRive-POINT
other

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER
1. NONE
2.
3.

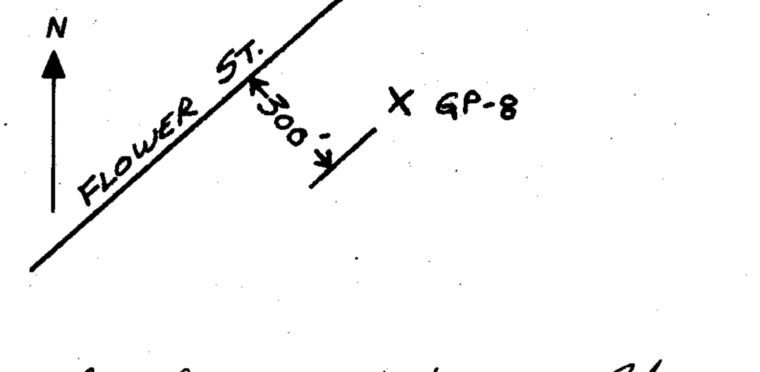
WRITE THE BOX NUMBER FROM THE MAP HERE
E 1,310
N 180

REPLACEMENT OR DEEPENED WELLS
(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE)

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE / WRITE INITIALS IN BOX / PERMIT No. W0-94-0159

SPECIAL CONDITIONS: Test well to be abandoned when testing complete

NOTE - APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED -

COUNTY

C 1 3409 . SEQUENCE NO. (MDE USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT

FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY DATE Received

DATE WELL COMPLETED: 1 1 1 0 9 5

Depth of Well: 4 (TO NEAREST FOOT)

GP-8

PERMIT NO. FROM "PERMIT TO DRILL WELL": WO-94-0159

OWNER: WORCHESTER COUNTY (last name / first name)
STREET OR RFD: 1 W MARKET ST. TOWN: SNOW HILL
SUBDIVISION ______ SECTION ______ LOT ______

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
VENT PIPE FOR SOIL VAPORS ONLY.			
THIS IS NOT A WELL.			
STEVE ULRICH IS NO LONGER A HANDEX EMPLOYEE (DRILLER)			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: yes Y / no N (circled N)

CIRCLE APPROPRIATE LETTER
- A — A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- E — ELECTRIC LOG OBTAINED
- P — TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

TYPE: MWD/MSD/MGD

DRILLERS LIC. NO. ______

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. ______

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes Y / no N (circled N)

TYPE OF GROUTING MATERIAL (Circle one): CEMENT CM — BENTONITE CLAY BC

NO. OF BAGS ______ NO. OF POUNDS ______

GALLONS OF WATER ______

DEPTH OF GROUT SEAL (to nearest foot): from ______ ft. (TOP) to ______ ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below: ST STEEL — CO CONCRETE — PL PLASTIC (circled) — OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)	Total depth of main casing (nearest foot)
PL	1	4

OTHER CASING (if used)
diameter inch — depth (feet) from — to

SCREEN RECORD
screen type or open hole insert appropriate code below: ST STEEL — BR BRASS BRONZE — HO OPEN HOLE — PL PLASTIC — OT OTHER

C 2 — EACH SCREEN: DEPTH (nearest ft.)

SLOT SIZE 1 ______ 2 ______ 3 ______

DIAMETER OF SCREEN ______ (NEAREST INCH)

GRAVEL PACK from 1 to 4

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T (E.R.O.S.) W Q

TELESCOPE CASING — LOG INDICATOR — OTHER DATA

C 3 — N/A
PUMPING TEST
HOURS PUMPED (nearest hour)

PUMPING RATE (gal. per min.)

METHOD USED TO MEASURE PUMPING RATE ______

WATER LEVEL (distance from land surface)

BEFORE PUMPING ______ ft.

WHEN PUMPING ______ ft.

TYPE OF PUMP USED (for test): A air — P piston — T turbine — C centrifugal — R rotary — O other (describe below) — J jet — S submersible

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO) YES NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.

CAPACITY: GALLONS PER MINUTE (to nearest gallon)

PUMP HORSE POWER

PUMP COLUMN LENGTH (nearest ft.)

CASING HEIGHT (circle appropriate box and enter casing height): + above / − below LAND SURFACE (nearest) foot)

LOCATION OF WELL ON LOT — SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)

N

RECEIVED ... 1997

EMERGENCY/TEMP NO. IF ANY

B 1 **1445** SEQUENCE NO. (DP USE ONLY)
(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
please print or type

STATE PERMIT NUMBER: WO-94-0160
fill in this form completely

OWNER INFORMATION

Date Received (APA): 102595

Last Name / Owner / First Name: WORCHESTER COUNTY
Street or RFD: 1 W MARKET ST.
Town: SNOW HILL State: MD Zip: 21863

LOCATION OF WELL

B 3 — GP-9

COUNTY: WORCHESTER
SUBDIVISION:
SECTION: LOT:
NEAREST TOWN: BRIDDLETOWN
MILES FROM TOWN (enter 0 if in town): 0 MI

DRILLER INFORMATION

MSD/MGD/MWD
Driller's Name: STEVE ULRICH — License No. 537
Firm Name: HANDEX OF MARYLAND, INC. 2113
Address: 1350 BLAIR DR., ODENTON, MD.
Signature: [signature] Date: 10-24-95

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX): N, NE, E, SE, S, SW, W, NW — TOWN

NEAR WHAT ROAD: FLOWER ST.

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH, EAST, SOUTH, WEST

DISTANCE FROM ROAD: 400
ENTER FT OR MI: FT

TAX MAP: 25 BLK: ______ PARCEL: 110

WELL INFORMATION

B 2

APPROX. PUMPING RATE (GAL. PER MIN.): 0
AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 0

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

NOT TO BE FILLED IN BY DRILLER — HEALTH DEPARTMENT APPROVAL

COUNTY NAME: Worcester COUNTY NO.: 25-110-95
STATE SIGNATURE ______ INSERT S
DATE ISSUED: 102595 CO SIGNATURE: Susan Hughes EXP. DATE: 10/25/96
NORTH GRID: 186000 EAST GRID: 1316000

APPROXIMATE DEPTH OF WELL: 17 FEET

APPROXIMATE DIAMETER OF WELL: 1 NEAREST INCH

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER
1. NONE
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE
E: 1,310
N: 180
000
000

METHOD OF DRILLING (circle one)

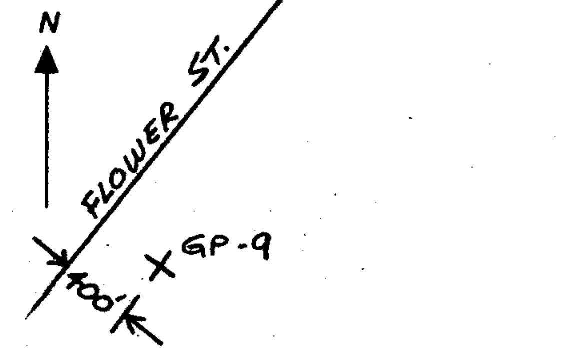
BORED (or Augered) — JETTED — Jetted & DRIVEN
AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary)
CABLE — REVerse-ROTary — DRive-POINT
other ______

REPLACEMENT OR DEEPENED WELLS
(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE): ______

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE ___ WRITE INITIALS IN BOX — PERMIT No. WO-94-0160

SPECIAL CONDITIONS: Test well to be abandoned when testing complete
NOTE = APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED =

COUNTY

EMERGENCY/TEMP NO. IF ANY

B	1	1446	SEQUENCE NO. (DP USE ONLY) (THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
APPLICATION FOR PERMIT TO DRILL WELL
please print or type

STATE PERMIT NUMBER: WO-94-0161
fill in this form completely

Date Received (APA): 102595

OWNER INFORMATION

Last Name / Owner / First Name: WORCHESTER COUNTY
Street or RFD: 1 W MARKET ST
Town / State / Zip: SNOW HILL MD 21863

LOCATION OF WELL

GP-10

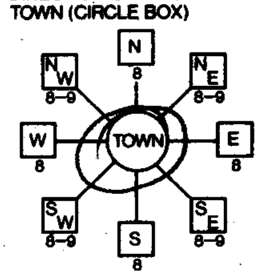
B 3
COUNTY: WORCHESTER
SUBDIVISION:
SECTION: LOT:
NEAREST TOWN: BRIDDLETOWN
MILES FROM TOWN (enter 0 if in town): 0 MI

DRILLER INFORMATION

MSD/MGD/MWD
Driller's Name: STEVE ULRICH
License No.: 537
Firm Name: HANDEX OF MARYLAND, INC.
21113
Address: 1350 BLAIR DR., ODENTON, MD.
Signature: [signature]
Date: 10-24-95

B 4

DIRECTION OF WELL FROM TOWN (CIRCLE BOX)



NEAR WHAT ROAD: FLOWER ST.

ON WHICH SIDE OF ROAD (CIRCLE APPROPRIATE BOX): NORTH N / WEST W / 32 / E EAST / S SOUTH

DISTANCE FROM ROAD: 1000
ENTER FT OR MI: FT

TAX MAP: 25 BLK: ______ PARCEL 170

WELL INFORMATION

B 2
APPROX. PUMPING RATE (GAL. PER MIN.): 0
AVERAGE DAILY QUANTITY NEEDED (GAL. PER DAY): 0

USE FOR WATER (CIRCLE APPROPRIATE BOX)

- D HOME (SINGLE OR DOUBLE HOUSEHOLD UNIT ONLY)
- F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)
- I INDUSTRIAL, COMMERCIAL, STATE AND FEDERAL GOV. OTHER (REQUIRES APPROPRIATION PERMIT)
- P PUBLIC OR PRIVATE WATER COMPANY (REQUIRES APPROPRIATION PERMIT AND STATE HEALTH DEPARTMENT APPROVAL)
- T TEST, OBSERVATION, MONITORING (MAY REQUIRE APPROPRIATION PERMIT)

NOT TO BE FILLED IN BY DRILLER
HEALTH DEPARTMENT APPROVAL

COUNTY NAME: Worcester
COUNTY NO.: 25-110-95
STATE SIGNATURE ______ INSERT S
DATE ISSUED: 102595
CO SIGNATURE: Susan Hughes RS
EXP. DATE: 10/25/96
NORTH GRID: 186000
EAST GRID: 1316000

APPROXIMATE DEPTH OF WELL: 18 FEET

APPROXIMATE DIAMETER OF WELL: 1 NEAREST INCH

SHOW MAJOR FEATURES OF BOX & LOCATE WELL WITH AN X

SOURCES OF DRILLING WATER
1. NONE
2.
3.

WRITE THE BOX NUMBER FROM THE MAP HERE

E: 1,310
N: 180
000
000

METHOD OF DRILLING (circle one)

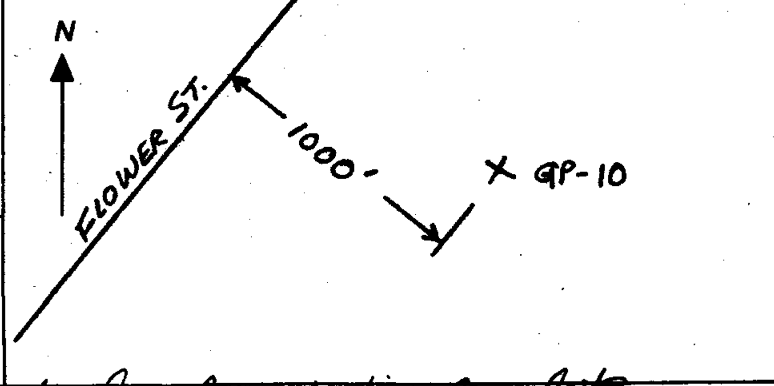
BORED (or Augered) — JETTED — Jetted & DRIVEN
AIR-ROTary — AIR-PERcussion — ROTARY (Hydraulic Rotary)
CABLE — REVerse-ROTary — DRive-POINT
other ______

REPLACEMENT OR DEEPENED WELLS
(CIRCLE APPROPRIATE BOX)

- N THIS WELL WILL NOT REPLACE AN EXISTING WELL
- Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED
- S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS
- D THIS WELL WILL DEEPEN AN EXISTING WELL

PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPENED (IF AVAILABLE):

DRAW A SKETCH BELOW SHOWING LOCATION OF WELL IN RELATION TO NEARBY TOWNS AND ROADS AND GIVE DISTANCE FROM WELL TO NEAREST ROAD JUNCTION



Not to be filled in by driller (OEP USE ONLY)

APPROP. PERMIT NUMBER: GAP

FORCE ___ WRITE INITIALS IN BOX — PERMIT No. WO-94-0161

SPECIAL CONDITIONS: Test well to be abandoned when testing complete

NOTE = APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED =

COUNTY

C 1 3409.

SEQUENCE NO. (MDE USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT

FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY DATE Received

DATE WELL COMPLETED: 111095

Depth of Well: 4 (TO NEAREST FOOT)

GP - 9

PERMIT NO. FROM "PERMIT TO DRILL WELL": WO-94-0160

OWNER: WORCHESTER COUNTY

STREET OR RFD: 1 W MARKET ST (last name / first name) TOWN: SNOW HILL

SUBDIVISION ______ SECTION ______ LOT ______

WELL LOG

Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
VENT PIPE FOR SOIL VAPORS ONLY			
THIS IS NOT A WELL.			
STEVE ULRICH IS NO LONGER A HANDEX EMPLOYEE (DRILLER)			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED: yes Y / no N (circled: N)

CIRCLE APPROPRIATE LETTER

- **A** A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- **E** ELECTRIC LOG OBTAINED
- **P** TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

TYPE: MWD/MSD/MGD

DRILLERS LIC. NO. ______

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. ______

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD

WELL HAS BEEN GROUTED (Circle Appropriate Box): yes Y / no N (circled: N)

TYPE OF GROUTING MATERIAL (Circle one): CEMENT CM — BENTONITE CLAY BC

NO. OF BAGS ______ NO. OF POUNDS ______

GALLONS OF WATER ______

DEPTH OF GROUT SEAL (to nearest foot) from ______ ft. (TOP) to ______ ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD

casing types insert appropriate code below: ST STEEL — CO CONCRETE — PL PLASTIC (circled) — OT OTHER

MAIN CASING TYPE	Nominal diameter top (main) casing (nearest inch)!	Total depth of main casing (nearest foot)
PL	1	4

OTHER CASING (if used) — EACH CASING: diameter inch; depth (feet) from / to

SCREEN RECORD

screen type or open hole insert appropriate code below: ST STEEL — BR BRASS BRONZE — HO OPEN HOLE — PL PLASTIC — OT OTHER

C 2 — EACH SCREEN: DEPTH (nearest ft.) 1, 2, 3

SLOT SIZE 1 ______ 2 ______ 3 ______

DIAMETER OF SCREEN ______ (NEAREST INCH)

GRAVEL PACK from 1 to 4

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T — TELESCOPE CASING; (E.R.O.S.) LOG INDICATOR; W Q OTHER DATA

C 3 — N/A

PUMPING TEST

HOURS PUMPED (nearest hour) ______

PUMPING RATE (gal. per min.) ______

METHOD USED TO MEASURE PUMPING RATE ______

WATER LEVEL (distance from land surface)

BEFORE PUMPING ______ ft.

WHEN PUMPING ______ ft.

TYPE OF PUMP USED (for test): A air — P piston — T turbine — C centrifugal — R rotary — O other (describe below) — J jet — S submersible

PUMP INSTALLED

DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO) YES NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.

CAPACITY: GALLONS PER MINUTE (to nearest gallon)

PUMP HORSE POWER

PUMP COLUMN LENGTH (nearest ft.)

CASING HEIGHT (circle appropriate box and enter casing height): + above / − below LAND SURFACE (nearest foot)

LOCATION OF WELL ON LOT

N

SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)

C 1 3409 SEQUENCE NO. (MDE USE ONLY)

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS)

STATE OF MARYLAND
WELL COMPLETION REPORT
FILL IN THIS FORM COMPLETELY
PLEASE PRINT OR TYPE

THIS REPORT MUST BE SUBMITTED WITHIN 45 DAYS AFTER WELL IS COMPLETED.

COUNTY NUMBER

ST/CO USE ONLY DATE Received

DATE WELL COMPLETED: 1 1 1 0 9 5

Depth of Well: 4 (TO NEAREST FOOT)

GP-10

PERMIT NO. FROM "PERMIT TO DRILL WELL": WO-94-0161

OWNER: WORCHESTER COUNTY (last name / first name)

STREET OR RFD: 1 W. MARKET ST. TOWN: SNOW HILL

SUBDIVISION ______ SECTION ______ LOT ______

WELL LOG
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET FROM	FEET TO	check if water bearing
VENT PIPE FOR SOIL VAPORS ONLY. THIS IS NOT A WELL.			
STEVE ULRICH IS NO LONGER A HANDEX EMPLOYEE (DRILLER)			

NUMBER OF UNSUCCESSFUL WELLS: 0

WELL HYDROFRACTURED yes Y no N (N circled)

CIRCLE APPROPRIATE LETTER
- **A** A WELL WAS ABANDONED AND SEALED WHEN THIS WELL WAS COMPLETED
- **E** ELECTRIC LOG OBTAINED
- **P** TEST WELL CONVERTED TO PRODUCTION WELL

I HEREBY CERTIFY THAT THIS WELL HAS BEEN CONSTRUCTED IN ACCORDANCE WITH COMAR 26.04.04 "WELL CONSTRUCTION" AND IN CONFORMANCE WITH ALL CONDITIONS STATED IN THE ABOVE CAPTIONED PERMIT, AND THAT THE INFORMATION PRESENTED HEREIN IS ACCURATE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

TYPE: MWD/MSD/MGD

DRILLERS LIC. NO. ______

DRILLERS SIGNATURE (MUST MATCH SIGNATURE ON APPLICATION)

LIC. NO. ______

SITE SUPERVISOR (sign. of driller or journeyman responsible for sitework if different from permittee)

GROUTING RECORD
WELL HAS BEEN GROUTED (Circle Appropriate Box): yes Y no N (N circled)

TYPE OF GROUTING MATERIAL (Circle one): CEMENT CM BENTONITE CLAY BC

NO. OF BAGS ______ NO. OF POUNDS ______

GALLONS OF WATER ______

DEPTH OF GROUT SEAL (to nearest foot) from ______ ft. (TOP) to ______ ft. (BOTTOM) (enter 0 if from surface)

CASING RECORD
casing types insert appropriate code below: ST STEEL; CO CONCRETE; PL PLASTIC; OT OTHER

MAIN CASING TYPE: PL — Nominal diameter top (main) casing (nearest inch)!: 1 — Total depth of main casing (nearest foot): 4

OTHER CASING (if used): diameter inch; depth (feet) from / to

SCREEN RECORD
screen type or open hole insert appropriate code below: ST STEEL; BR BRASS BRONZE; HO OPEN HOLE; PL PLASTIC; OT OTHER

C 2 — DEPTH (nearest ft.)

SLOT SIZE 1 ______ 2 ______ 3 ______

DIAMETER OF SCREEN ______ (NEAREST INCH)

GRAVEL PACK from 1 to 4

IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T (E.R.O.S.) W Q

TELESCOPE CASING — LOG INDICATOR — OTHER DATA

C 3 — N/A

PUMPING TEST
HOURS PUMPED (nearest hour) ______

PUMPING RATE (gal. per min.) ______

METHOD USED TO MEASURE PUMPING RATE ______

WATER LEVEL (distance from land surface)

BEFORE PUMPING ______ ft.

WHEN PUMPING ______ ft.

TYPE OF PUMP USED (for test): A air; P piston; T turbine; C centrifugal; R rotary; O other (describe below); J jet; S submersible

PUMP INSTALLED
DRILLER WILL INSTALL PUMP (CIRCLE) (YES or NO) YES / NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29.

CAPACITY: GALLONS PER MINUTE (to nearest gallon)

PUMP HORSE POWER

PUMP COLUMN LENGTH (nearest ft.)

CASING HEIGHT (circle appropriate box and enter casing height): + above / − below LAND SURFACE (nearest foot)

LOCATION OF WELL ON LOT
SHOW PERMANENT STRUCTURE SUCH AS BUILDING, SEPTIC TANKS, AND /OR LANDMARKS AND INDICATE NOT LESS THAN TWO DISTANCES (MEASUREMENTS TO WELL)

N

Maryland
Department of
the Environment

Wes Moore, Governor
Aruna Miler, Lt. Governor

Serena McIlwain, Secretary
Suzanne E. Dorsey, Deputy Secretary

1800 Washington Boulevard | Suite 620 | Baltimore, MD 21230 | 1-800-633-6101 | 410-537-3000 | TTY Users 1-800-735-2258
www.mde.maryland.gov

November 13, 2024

Sharmin Sultana
EA Engineering
225 Schilling Cir
Hunt Valley, MD 21031

RE: Tracking Number: 2024-02892
Request Received November 4, 2024
Worcester County Berlin, Snow Hill, Pocomoke Landfills

Dear Sharmin Sultana:

The Maryland Department of the Environment (MDE) received your recent request for information under the Public Information Act (PIA).

After conducting a thorough search of our files, MDE has no records responsive to your request. There were no charges incurred as a result of this search.

When requesting information regarding this request, please cite the tracking number referenced above. If you have any questions, please email zachary.lansing@maryland.gov.

Sincerely,

Zachary Lansing

Zachary Lansing
PIA Liaison
Water & Science Administration

Appendix J

Blank LFG Probe Monitoring Form

This page intentionally left blank

FORM 4-1
BERLIN SANITARY LANDFILL
LANDFILL GAS MONITORING FORM

Date: Time: Temp (F):

Weather conditions:

Barometric Pressure (inches Hg):

Rainfall (preceding 36 hours, inches):

Sample Personnel Name:

Sample Personnel Position::

Gas Meter Name and Model:

Field Calibration Date and Time:

Calibration Date:

Gas Probe No.	**Time**	**Probe Pressure (Inches H_2O)**	**Methane (CH_4) %**		**% LEL for CH_4**		**Carbon Dioxide CO_2%**	**Oxygen O_2%**	**Balance**	**Comments / Probe Condition**
			Stabilized	Peak	Stabilized	Peak				

This page intentionally left blank

Appendix K

Blank GEM Calibration Form

This page intentionally left blank

LANDTEC GEM 2000

GAS CALIBRATION

* Perform Instrument Gas Calibration according to instructions provided on *Instrument Inspection Checklist* and sign and date this log.

Unit:	GEM 2000
Unit Serial #:	GM11050
Date of Calibration:	
Calibration Temperature:	
Time of Calibration:	
EA Project #:	

Methane (CH4)		Carbon Dioxide (CO2)	
Certified Gas (%)	Reading (%)	Certified Gas (%)	Reading (%)

Oxygen (O2)	
Certified Gas (%)	Reading (%)

Barometer	
Certified (mb/ "hg)	Reading (mb/ "hg)

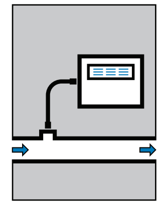
☐

Calibrated by: ______________________ (Name)

______________________ (Signature)

GEM™2000

PORTABLE GAS ANALYZER
Instrumentation



The GEM™2000 combines the GEM™500 and the GA-90 into one faster, more accurate, intrinsically safe instrument

The GEM™2000 was designed by **CES-LANDTEC** specifically for use on landfills to monitor landfill gas (LFG) extraction systems, flares, and migration control systems.

The GEM™2000 samples and analyzes the methane, carbon dioxide and oxygen content of landfill gas. The easy-to-read LCD screen shows the results as percentages of CH_4, CO_2, O_2 and "balance" gas. The GEM™2000 calculates and displays gas flow rate. It also measures and displays Btu content, temperature (w/optional probe), relative and atmospheric pressures and CH_4 LEL (Lower Explosive Limit).

GEM™2000

"The Future of Landfill Gas Monitoring"

Performance

New technological advances in hardware and software dramatically improve speed and accuracy.

Safe

Certified Intrinsically Safe for Landfill Use

Efficient

Two operating modes, each with two screens for streamlined functionality

Flexible

DataField Software offers integration with various PC applications

Experience

Built on the success of hundreds of field-tested instruments

"The best just got better!"

Data Field *COMPATIBLE*

GEM™2000 Multi-Functional Analyzer

Diverse Field Applications...monitors migration control systems, gas extraction systems, flares, migration probes, and more.

Gas Extraction Monitor Mode...provides automatic sampling and analysis of gas composition % by volume CH_4, CO_2, O_2 and % balance gas, % CH_4 LEL, temperature (with optional probe), static pressure, differential pressure, and barometric pressure. Also calculates gas flow rates (SCFM) as well as Btu rates.

Landfill Gas Analyzer Mode...provides automatic sampling and analysis of gas composition % by volume CH_4, CO_2, O_2 and % balance gas, % CH_4 LEL, temperature (with optional probe), barometric pressure and relative pressure. Can be used for data logging, with user programmed intervals.

Easy to Read Display...extra large backlit LCD shows up to five gases, atmospheric and gas vacuum pressure, temperature, ID code - all at the same time.

Intrinsically Safe...essential for protecting personnel who work with hazardous and explosive landfill gas.

On Site Calibration...rapid calibration checking or adjustment can be carried out on site.

Automatic Purge...automatically purges analyzer with clean air when a new ID is selected. (This feature can be turned off).

Light-Weight Compact Size...easy to carry. Weighs less than five pounds.

Quick Analysis...completes sampling and displays gas analysis and flow results in less than one minute.

Infrared Gas Analyzer...provides accurate measurements of methane (CH_4), and carbon dioxide (CO_2).

Gas Temperature...read when using optional temperature probe or can be entered manually.

Durable Oxygen Sensor...provided by the galvanic cell principle, not influenced by other gases (i.e. CH_4, CO_2 or H_2S).

User Friendly On-Screen Menu...in each mode the user performs most operations in just two screens.

PC Data Downloading...provided by RS232 interface with DataField software (Release 3.0 or later).

Data Storage/Retrieval...stores prior measurements taken for each monitoring point, 900 monitoring points total.

Date/Time Stamp...recorded for all stored data.

Prior Data Recall...allows user to view prior data for each monitoring point.

Methane Analysis...displayed as either % CH_4 by volume or CH_4 LEL (Landfill Gas Analyzer Mode only).

Durable Construction...built of strong, durable plastic material suitable for harsh landfill environments.

All Weather Use...designed to operate in extremes from 32°F to 104°F. Sealed, weather-tight case.

Built-in Adjustable Alarms...allows user to set alarm limits for CH_4 and O_2.

Rechargeable Batteries...internal, rechargeable nickel metal hydride batteries are standard.

Operating Time...approximately 8 hours with normal pump usage (approximately 10 hours without pump running).

Fast Recharge Time...approximately 2 hours from complete discharge.

Battery Check...battery life is continuously displayed.

Monitoring Point ID Codes...provides alphanumeric identification of monitoring points for data storage and recall.

ID Comments...allows user to answer up to 3 questions with a list of 9 potential answers each.

Imperial vs. SI Units...can display measurements in Imperial (USA) or SI (metric) units.

Interfaces to CES-LANDTEC DataField Software...which provides statistical management and reporting of LFG data.

Multiple Flow Meter Analysis...calculates gas flow with Accu-Flo Wellheads, orifice plates and pitot tubes.

Gold Warranty Service Program...ensures that your analyzer is properly maintained for optimum performance. (Optional).

GEM™2000 Specifications Accuracy

CONCENTRATION	% CH_4 BY VOLUME	% CO_2 BY VOLUME	% O_2 BY VOLUME
5% (LEL, CH_4)	±0.3%	±0.3%	±1.0%
Full Scale	±3.0%$_{(100\%)}$	±3.0%$_{(60\%)}$	±1.0%$_{(21\%)}$

	SENSOR RANGE	RESOLUTION
Methane - CH_4	0-100%	0.1%
Carbon Dioxide - CO_2	0-60%	0.1%
Oxygen - O_2	0-25%	0.1%
Pressures (diff)	0-10" W.C.	0.001" W.C.
(static)	0-100" W.C.	0.1" W.C.

Flow Accuracy (50% CH_4 measured in 2" Accu-Flo wellhead)
- ±3% - 5-150 SCFM

Pump Flow Rate - 500cc/min. nominal flow
Vacuum - Up to 80" W.C.
UL - Certified to Class 1, Zone 1, AEx ib d IIa T4

SWANA MEMBER

An involved and contributing member of the Solid Waste Association of North America

LANDTEC

Western Sales Office
(800) 821-0496 ▸ Fax (909) 825-0591

Eastern Sales Office
(800) 390-7745 ▸ Fax (301) 391-6546

Product designs and specifications are subject to change without notice. User is responsible for determinging suitability of product.
LANDTEC, GEM and LAPS are registered with the U.S. Patent and Trademark Office.

GEM-2000 Easy Steps - Field Calibration

Printable Version

Field Calibrating the GEM-2000

Note: Be sure to always have the GEM-2000 instrument turned on prior to connecting the calibration gas bottles.

1. Turn Instrument On (By pressing on the Red Button).
2. After the instrument has finished it's initial process, it will enter the Main Screen.
3. Press 1 Menu
4. Use your Up(2) or Down(8) keys to scroll the "Field Calibration" then press Enter in your instrument
5. Press 3 Edit target Concentrations
6. Enter manually the target concentrations for CH_4
7. Press Enter to move to CO_2, Enter CO_2 Target Concentration
8. Press Enter to move to O_2, Enter O_2 Target Concentration
9. Press Enter to complete.
10. Connect Calibration (CAL) Gas Bottle with 0% CH_4 (example 4% O_2, Bal N_2)
11. Allow gas to flow for approximately 30 seconds to ensure a compete purge of any gas in instrument
12. Press Enter to bring up Calibration Menu
13. Choose Zero Channels, Press Enter
14. Choose Zero CH_4 Press Enter when done.
15. If Calibration was successful you should see the following message “User Zero Complete”
16. Connect CAL Gas Bottle With 0% O_2 (example 50% CH_4 35%CO_2 Bal N_2)
17. Allow gas to flow for approximately 30 seconds to ensure a compete purge of any gas in instrument
18. Press Enter to bring up Calibration Menu
19. Choose Zero Channels press Enter
20. Choose Zero O_2 press Enter when done
21. If Calibration was successful you should see the following message “User Zero Complete”
22. Press Enter to go to Calibration Menu
23. Choose Span Channels, Press Enter
24. Choose Span CH_4
25. Verify that CH_4 Calibration (CAL) Gas is still connected to instrument (Wait 30 seconds for gas to flow thru instrument)
26. Press Enter to Set CH_4 Span
27. The following message should appear “Calibration Complete”
28. Press Enter to go to Calibration Menu
29. Choose Span Channels, Press Enter
30. Choose Span CO_2
31. Verify that CH_4 CAL Gas is still connected to instrument (Wait 30 seconds for gas to flow thru instrument)

32. Press Enter to Set CO_2 Span
33. The following message should appear “Calibration Complete”
34. Connect Gas Bottle With 4% O_2 (example. 0% CH_4 0% CO_2 4%O_2)
35. Allow gas to flow for approximately 30 seconds to ensure a compete purge of any gas in instrument
36. Press Enter to go to Calibration Menu
37. Choose Span Channels, Press Enter
38. Choose Span O_2
39. Press Enter to Set O_2 Span
40. “Field Calibration is Complete”
41. We suggest taking a reading from CAL GAS Bottles to verify that calibration has been done correctly.

Copyright © 2007 LANDTEC North America

[redacted]

This page intentionally left blank

Appendix L

Blank Post-Closure Inspections and Maintenance Plan (IMP)

This page intentionally left blank

Landfill Post-Closure Monitoring, Inspection, and Maintenance Report (IMR) Form

Reporting Period: ______________________________ **Date of Inspection:** ________________

Section 1 - Facility			
Name of Facility:			
Owner of Facility:			
Location Address:			
Latitude :		Longitude:	
Closure Cap Area completion date (MDE Approved):		Approximate cap area:	
Inspectors:		Inspection date:	

Section 2 - Vegetation	
Type(s) of growth (check all that apply): ☐ grasses ☐ legumes ☐ herbaceous plants ☐ other (specify: ________________)	Remarks:
Condition of growth: ☐ Excellent (thick growth) ☐ Good ☐ Poor (thin growth, bare soil, etc.)	Remarks:
Woody plants present? ☐ Yes ☐ No	Remarks:

Invasive plants present?
☐ Yes
  ☐ Phragmites
  ☐ Other
☐ No
	Remarks:

Dead spots present? ☐ Yes ☐ No	Remarks:

Landfill Post-Closure Monitoring, Inspection, and Maintenance Report Form

Reporting Period: ______________________________ **Date of Inspection:** ________________

Section 3 – Final Cover Condition	
Is there subsidence (depressions in the cap)? ☐ Yes ☐ No	Remarks:
Is there any evidence of water ponding on the cap? ☐ Yes ☐ No	Remarks:
Are there colored leachate seeps through the cap? ☐ Yes ☐ No	Remarks:
Are there colored leachate seeps at toe slope? ☐ Yes ☐ No	Remarks:
Are there signs of burrowing animals? ☐ Yes ☐ No	Remarks:
Is there any waste pushing through the cap? ☐ Yes ☐ No	Remarks:
Does the cap cover all of the solid waste? ☐ Yes ☐ No	Remarks:
Is there evidence of erosion? ☐ Yes ☐ No	Remarks:
Is there vehicle tracking damage to the cap or vegetation? ☐ Yes ☐ No	Remarks:

Landfill Post-Closure Monitoring, Inspection, and Maintenance Report Form

Reporting Period: ______________________________ **Date of Inspection:** ________________

Section 4 - Drainage and Surface Water	
Conditions/Stability of streams/swales/ditches etc. ☐ Excellent (unobstructed) ☐ Good /Fair ☐ Poor (overgrown or sediment filled)	Remarks:
Is there evidence of colored leachate in surface waters? ☐ Yes ☐ No	Remarks:
Is there surface water monitoring? ☐ Yes ☐ No	Remarks:
Are results submitted to MDE? ☐ Yes ☐ No	Remarks:

Section 5 - Groundwater	
Is there groundwater monitoring? ☐ Yes ☐ No	Remarks:
Are results submitted to MDE? ☐ Yes ☐ No	Remarks:
Condition of groundwater monitoring wells (if present): ☐ Excellent ☐ Good ☐ Poor (missing covers, missing locks, deteriorated seals, frost heaved, etc.)	Remarks:

Landfill Post-Closure Monitoring, Inspection, and Maintenance Report Form

Reporting Period: ______________________________ **Date of Inspection:** ________________

Section 6 - Landfill Gas (LFG) Management System	
Is there an LFG collection system? ☐ Yes ☐ No	Remarks
Are the LFG wells damaged? ☐ Yes ☐ No	Remarks:
Is LFG monitoring done? ☐ Yes ☐ No	Remarks:
Are results submitted to MDE? ☐ Yes ☐ No	Remarks:
Does the LFG produce any odors? ☐ Yes ☐ No	Remarks:

Section 7 - Other Facility Conditions	
Condition of Access Roads? ☐ Good ☐ Fair ☐ Poor	Remarks:
Is there litter present? ☐ Yes ☐ No	Remarks:
Are there other site-specific issues? ☐ Yes ☐ No	Remarks:

Landfill Post-Closure Monitoring, Inspection, and Maintenance Report Form

Reporting Period: ______________________________ **Date of Inspection:** ________________

Section 8 – Corrective Actions (Describe any irregularities/problems and corrective actions planned or taken as a result of conditions noted during the inspection; add location and description to any pictures added to the inspection form)

COMAR 26.04.07.22 - Sanitary Landfills - Post-Closure Monitoring and Maintenance.

A. Landfills in Maryland shall be subject to post-closure monitoring and maintenance by the permittee as specified in this regulation, for a period of time not less than 5 years after the complete installation of the landfill cap. This time period may be extended by the Department if significant maintenance situations occur at the landfill during the 5-year period after closure.

B. **Inspections**. The closed landfill shall be inspected at least twice per year by the permit holder or the permit holder's authorized representative. The inspection shall include: (1) Observation of the cover at the landfill; (2) Notation of any drainage irregularities or signs of erosion of the cover; (3) Notation of any surface expressions of leachate at the landfill; and (4) Checking the status of the monitoring wells.

C. **Maintenance**. Irregularities or problems noted during the inspections shall be corrected within 30 days of their observance unless otherwise directed by the Department.

D. Reporting and Record Keeping. For permitted facilities the results of inspections shall be recorded and reported to the Department within 60 days of the inspection. For facilities not required to obtain a permit, the results of inspections shall be maintained for a period of 5 years following closure.

Note: Include any landfill post-closure monitoring, inspection, maintenance, and repair photos/figures at the end of this form and/or in the Landfill Post-Closure Monitoring, Inspection, and Maintenance Report narrative.

This page intentionally left blank