Fountain Avenue Landfill
Brooklyn, New York
NYSDEC Site No. 224003

Post Closure Operation, Maintenance and Monitoring Program

2021 Annual Summary Report

and

Second Five-Year Review Report, Second Periodic Review Report

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Section 1 – Introduction

The Fountain Avenue Landfill (FAL) completed its tenth annual post-closure reporting period on December 31, 2021. This Report has been prepared by the New York City Department of Environmental Protection (DEP) to fulfill the reporting requirements contained in the FAL Operation and Maintenance (O&M) Manual, the FAL Monitoring Plan (as modified), 6 NYCRR Part 360, 6 NYCRR Part 363, and 6 NYCRR Part 375.

The remainder of this Report is organized into the following Sections:

- Section 2: Site Background – This Section provides a description of the site, a summary of the pertinent FAL site history and significant site remediation events to date beginning with the initial Remedial Investigation Report.

- Section 3: 2021 Annual Summary Report – This Section summarizes the operation, maintenance and monitoring (OM&M) activities conducted during the 2021 annual post-closure reporting period from January 1 through December 31, 2021.

- Section 4: Five-Year Review and Second Periodic Review Report – This Section provides an overall summary and review of the post-closure OM&M activities during the second five post-closure years as required by 6 NYCRR Part 360, including a summary of the status and condition of the FAL Institutional Controls (ICs) and Engineering Controls (ECs) during the second periodic review period (January 1, 2017 through December 31, 2021) as required by 6 NYCRR Part 375.

- Section 5: Conclusions and Recommendations – This Section provides the conclusions and recommendations related to the Site remedial systems and post-closure OM&M activities based on the second five years of post-closure work.

The combined purpose of this Report has been accepted by the New York State Department of Environmental Conservation (NYSDEC) and the DEP in order to provide an efficient reporting and review process that meets the requirements of 6 NYCRR Parts 360 and 375. Unless otherwise directed by the NYSDEC, the current schedule calls for the third Periodic Review Report to be submitted at the end of the third five-year post-closure review period which will cover the period from January 1, 2022 through December 31, 2026. That Report will follow the format of this Report and include the 2026 Annual Summary Report.

Section 2 – Site Background

The FAL is an inactive hazardous waste disposal site located on 297 acres at the southern end of Fountain Avenue in Brooklyn, New York. It is bounded on the northwest by the Belt Parkway, on the southeast by Jamaica Bay, on the southwest by Hendrix Creek and on the east by Old Mill Creek. A site location map is provided in Figure 1.

The FAL was opened in 1961, when land-filling activities shifted from the Pennsylvania Avenue Landfill (PAL) located on the other side of Hendrix Creek. Under the responsibility of the New York City Department of Sanitation (DOS), the landfill received municipal and industrial wastes between 1961 and 1985. It is reported that, between 1974 and 1980, illegal dumping of hazardous wastes occurred at the site. Liquid wastes reportedly disposed of at the FAL included waste oils, and spent plating baths, sludges, thinners and lacquers. Asbestos and medical wastes were also reported to have been discarded at this site. In addition, contaminated waste oils were sprayed on site access roads for dust control.

The FAL was added to the New York State Registry of Inactive Hazardous Waste Disposal Sites initially as a Class 3 site, requiring further surveillance. In 1983, the FAL was reclassified as a Class 2 site, posing a significant threat to public health and the environment.

In 1974, ownership of the lands on which the FAL is situated was transferred from the City of New York to the United States Department of the Interior, National Park Service (NPS), with the understanding that landfill operations could continue at the site until the end of 1985.

On December 16, 1985 and again on April 17, 1990, the New York State Department of Environmental Conservation (NYSDEC) executed Orders on Consent with DOS to close and remediate the site. On May 15, 1992, DEP entered into an Order on Consent (Index 2-24-003) with the NYSDEC for the remediation of the FAL. In response, the DEP initiated a Remedial Investigation/Feasibility Study (RI/FS) in March 1993 to assess the nature and extent of contamination. The Remedial Investigation Report was released in May 1994, and the Feasibility Study Report was released in September 1994. The RI/FS revealed that certain areas and media at the site required remediation. A summary of the findings is as follows:

- Soil – Surface soils exhibited semi-volatile organic compounds (SVOCs) and metal levels that exceeded soil cleanup guidelines.
- Groundwater – Levels of volatile organic compounds (VOCs), SVOCs, metals and polychlorinated biphenyls (PCBs) exceeding the drinking water standards were confined to groundwater samples collected from the leachate mound (Fill Aquifer). The Upper Glacial Aquifer does not require remediation because it did not exhibit significant levels of contamination.
- Surface Water – The primary landfill-related exceedances of surface water standards were for chlorobenzene, which was present in low concentrations in the leachate mound and in high concentrations in surface water at the drainage outlet into Old Mill Creek.
- Sediment – Samples taken along the Hendrix Creek demonstrated levels of VOCs, SVOCs, metals, PCBs and pesticides that generally exceeded the wildlife and human bioaccumulation guideline concentrations, but were below the benthic toxicity guidelines.

As specified by the Order on Consent, Interim Remedial Measures (IRMs) were implemented. An interim cover was placed to prevent casual contact with exposed waste and rip-rap was installed for shoreline protection.

The goals for the remediation program were set to eliminate or minimize the threats to public health and the environment by addressing the contamination of surface soils and waste disposal areas by protecting surface waters through eradication of run-off and erosion from contaminated substrates, eliminating migration of leachate into surrounding waters, minimizing the impact of contaminated groundwater, reducing soil and sediment contamination levels and removing the possibility of human or animal contact, and controlling and containing landfill gas emissions.

Subsequently, in 1995, the NYSDEC published the Record of Decision (ROD) for the FAL, which mandated that the selected remedy for the site consist of "landfill capping with active gas collection and long term environmental monitoring." In accordance with the ROD, in October 2000, the DEP awarded Construction Contract No. LF-FAL-G4 for the remediation of the FAL. The main elements of the selected remedy included regrading of the top of the landfill to ensure proper drainage and minimize erosion, installing a landfill cap meeting the requirements of the 6 NYCRR Part 360 regulations, and achieving landfill gas control with an active collection system. The gas collection system consists of extraction wells screened in the waste layer and connected via blowers to an enclosed flare. Construction of the final cover, stormwater management, landfill gas management, environmental monitoring and ancillary systems was completed in July 2009.

Once construction of the landfill remedial systems was completed, responsibility for their operation and maintenance was transferred from the DEP Bureau of Engineering Design and Construction (BEDC) to the DEP Bureau of Wastewater Treatment (BWT) and the operations, maintenance and monitoring contractor. The landfill cover, stormwater, and ancillary systems were transferred to BWT on March 1, 2009. The landfill gas management system was transferred to BWT on August 1, 2009.

The ROD called for a pre-approved Post-Closure Monitoring, Sampling and Analysis Plan (the Monitoring Plan, or the Plan) to commence within one month of DEP's receipt of NYSDEC's written acceptance of the Final Engineering Report (FER). The Plan requires monitoring water-level elevations and groundwater quality in twelve monitoring wells, and monitoring for the presence of methane in seven gas monitoring wells located beyond the perimeter of the cap. The Plan was approved in March 2009. Subsequently, NYSDEC approved the following modifications to the groundwater monitoring portion of the Plan in a letter of May 9, 2011 to the DEP:

- Monitoring can be performed independently of the tide cycle.
- The low-flow purging and sampling method can be used to collect the samples.
- Sampling can be performed annually in rotating calendar quarters instead of quarterly.
- During the first five-year review period, monitoring should be performed for all Plan parameters.
- Based on the results from the first five annual monitoring rounds, the NYSDEC may allow non-detected parameters to be excluded from subsequent annual monitoring rounds, except as indicated below.
- Monitoring for all Plan parameters will be performed once every five years, coinciding with the last year of each five-year review period.

Additionally, per 6 NYCRR Part 360/363, the groundwater samples are to be analyzed by a State-certified environmental laboratory and validated by an independent data validation company.

The FER was submitted to NYSDEC for review on September 7, 2011, and was accepted by the NYSDEC on January 31, 2012. Accordingly, the post-closure monitoring period officially began on February 1, 2012. The first official round of quarterly gas monitoring was performed in February 2012, within one month of the start of the post-closure period. With the concurrence of the NYSDEC, the first round of annual groundwater monitoring was performed during the second quarter of 2012 to coincide with the annual groundwater monitoring round at the PAL Site so that both sites are on the same monitoring schedule. Annual groundwater monitoring will be performed in rotating calendar quarters (i.e., once every five quarters) thereafter, similar to the PAL Site.

In July 2012, the NYSDEC changed the classification of the FAL Site from a Class 2 to a Class 4 site on the Registry of Inactive Hazardous Waste Disposal Sites since it was properly remediated and would meet the requirement for future site management.

The Gateway National Recreation Area in which the former PAL and FAL are situated was established by the NPS, Site Owner, in order to "preserve and protect for the use and enjoyment of present and future generations an area possessing outstanding natural and recreational features". In 2017, NPS proposed, and DEP and the New York State Office of Parks, Recreation and Historic Preservation (NYS Parks) agreed, that it would be to the mutual advantage of the Federal, State and City governments, and to the benefit of the public, to develop the concept of a park and restoration plan for this area.

Pursuant to said proposal, NYS Parks entered into a General Agreement with NPS, allowing the State to invest State funds for the design, construction, operation and maintenance of a NYS Park at the former PAL and FAL. NPS, NYS Parks, and DEP subsequently entered into a Cooperative Management Agreement to effectuate the development of Phase 1 of this State Park (Park), to be named in honor of Shirley Chisholm. In accordance with the requirements of the sites' Environmental Notice, in December 2017, NYS Parks received approval from NYSDEC and the New York State Department of Health to change the Site's land use from a closed landfill to a closed landfill with NYSDEC-approved passive recreational uses.

On August 24, 2018, an agreement between the DEP and the NYS Parks was executed in order to delineate the responsibilities of the two agencies in relation to NYS Parks' efforts for the development of the PAL and FAL into the Shirley Chisholm State Park (Park). NYS Parks has made capital improvements to the sites to create the Park and is responsible for the maintenance of those improvements as well as the maintenance of portions of the capping and closure systems. All work performed by NYS Parks must be done in accordance with the sites' RODs, Consent Orders, Environmental Notices and O&M Plans. The Park was opened to the public in 2019.

Section 3 – 2021 Annual Summary

This Section of the Report covers the period from January 1 through December 31, 2021. It summarizes the operation, maintenance and monitoring activities at the site during this period.

3.1 Landfill Gas Management System

The landfill gas management system represents one of the elements of the selected remedy in the site's ROD. The ROD required the selected remedy "to ensure full collection and control of landfill gas". This system must also meet the requirements of 6 NYCRR Part 363 to limit off-site gas migration to 25% of the lower explosive limit (LEL) at the property line and in structures (i.e., 1.25% CH_4 gas in air). In 2011, due to below-threshold NOx emissions, the NYSDEC downgraded the Air Title V Facility Permit for the landfill gas flare emissions to an Air Facility Registration (Certificate # 2-6105-00687/00003). The FAL was subject to the EPA's Greenhouse Gas Reporting Rule through 2016, but due to relatively low emissions the EPA determined that no further monitoring/reporting of greenhouse gas emissions was required for this site. The landfill gas management system continues to operate in accordance with a Methane Recovery Operations Permit issued by the Fire Department of the City of New York (FDNY) Bureau of Fire Prevention. The system passed the most recent annual FDNY Alarm System inspection conducted on September 23, 2021.

The system features 265 gas extraction wells (EWs), a below-grade polyethylene collection header piping network with 56 isolation valves, three 2,600-scfm centrifugal blowers, a condensate collection system, an enclosed high temperature flare system, a process instrumentation and control loop, a programmable logic control (PLC) management system, a fire alarm system, and an emergency condition alarm auto-dialer phone system. A schematic diagram of the overall Landfill Gas Management System, with the locations of the extraction wells, header pipes and flare facility, is shown in Figure 2.

All 265 EWs were inspected and monitored for gas content (percent CH_4, CO_2 and O_2), temperature and vacuum pressure each month, except in February when seven wells (EW-45, EW-53, EW-54, EW-130, EW-143, EW-172 and EW-248) could not be accessed due to freezing and damage concerns. Deficiencies such as missing signage, entry hatch frame cleaning/adjustment or sampling port repair were corrected, when possible at the times of the inspections. Work orders are issued for all other work. During this annual reporting period, a work order for comprehensive extraction well inspection and repair was completed. A work order for extraction well vault entry hatch repairs was also completed. On occasion, when the LFGMS operation is affected by condensate accumulation in the headers, appropriate corrective action is taken. The LFG-3 reports for monthly extraction well monitoring are included in Appendix A of the 2021 Quarterly Reports.

The main headers that convey the landfill gas slope continuously around the landfill to a low point adjacent to the blower and flare station located at the southeastern corner of the landfill. Each of the headers is connected to a condensate drain line at its low point. These drain lines and the drain lines from the three blower demisters (knock-out pots) empty into the 8,000 gallon condensate tank located within the flare station. On April 23, 2021, 6,300 gallons of condensate was removed

by a private waste hauler for proper off-site disposal. At the end of this annual reporting period, the condensate tank inventory was 5,697 gallons.

The landfill gas collection system is comprised of three closed loops, each of which is split into two headers. The system includes 56 isolation valve boxes for pressure and flow adjustments and to isolate portions of the system for repairs. As the six (two 8-inch and four 12-inch) headers come up into the blower and flare station they each contain a manually operated butterfly valve for individual header vacuum adjustment, temperature and vacuum gauges, and monitoring ports. They then join into the 12-inch main header on the vacuum side of the blower station. This main header contains an electric modulating butterfly valve which automatically adjusts the valve position to control the landfill vacuum or flow according to PLC programming. This is followed by an electro-pneumatic butterfly valve which, actuated by compressed nitrogen, automatically closes in the event of any system failure or shutdown.

The landfill gas then flows through three 12" plug valves into the three demisters, exits through 12" piping which is reduced to 8" before entering the blowers, exits the blowers through 8" plug valves and discharges through a single 16-inch header and flame arrestor into the enclosed flare. The system is operated with one blower in service and the remaining two on standby. Blowers are switched periodically, and preventive maintenance is performed to ensure all three blowers remain in good operating condition. The flare support system includes a propane fired pilot, a purge air blower, two manual and two automatic dampers, and temperature control with three thermocouples. The flare operation is normally on automatic control using the bottom thermocouple at a target temperature of 1,600 ^{o}F. Figure 3 exhibits the layout of the Flare and Blower Station.

Daily inspections are conducted, and readings are recorded on the LFG-1 inspection logs. The monthly summary reports of the LFG-1 daily inspections can be found in Appendix A of the 2021 Quarterly Reports.

During this annual reporting period, the landfill gas flaring system processed 351,910,000 SCF of landfill gas at an average methane content of 20.78 %. The flare ran for 77.2% of the time at an average flow of 867 SCFM. The flare operation down time totaled 1,997.2 hours or 22.8% of the twelve-month interval. Down time was due to poor gas quality, flame and temperature faults, repair of extraction wells, tripped blower soft start, blower and nitrogen system maintenance and repairs, fire panel inspection by DEP fire alarm contractor, thermocouple replacement and the Annual FDNY Inspection. Landfill gas flow data is summarized in the table that follows.

MONTH	TIME IN SERVICE (Hours)	TOTAL FLOW (SCF)	AVERAGE MONTHLY CH_4 (% by Volume)
January	608.1	32,244,500	20.31
February	572.6	30,959,000	22.79
March	549.3	29,396,000	21.12
April	542.6	28,849,667	20.46
May	577.7	30,366,333	21.80
June	543.5	28,277,000	20.48
July	610.9	31,425,333	21.72
August	595.0	30,311,667	21.53
September	549.2	26,904,000	20.50
October	647.2	33,001,000	19.92
November	539.5	28,401,000	18.68
December	427.2	21,774,500	20.04
Average		***29,325,833***	**20.78**
TOTAL	**6,762.8**	**351,910,000**	

Bi-weekly (LFG-2) and quarterly (LFG-4) inspections were conducted, and copies are included in Appendix A of the 2021 Quarterly Reports. Deficiencies encountered at the flare and blower station during scheduled inspections, and still pending, include the damaged insulation at the top of the flare stack. The damaged insulation will be addressed in a work order. Maintenance conducted included servicing, adjustment and lubrication of the blowers, stack louvers and station valves, blower belt replacement, electro-pneumatic valve nitrogen system regulator and line replacement and repairs, maintenance and repair of the LEL and oxygen sensors, and replacement of the flare stack thermocouples. Equipment components exposed to the Hurricane Sandy surge that are currently operational, but were not designated for replacement, will continue to be monitored and assessed over time and may be replaced in the future, if necessary.

3.2 Final Cover System

The landfill final cover system prevents stormwater infiltration into the landfill, and landfill gas migration into the atmosphere. The ROD stipulated the construction of a 6 NYCRR Part 360 landfill cap. The landfill final cover system is comprised of layers, from top to bottom, as follows:

- Vegetative topsoil layer with a minimum thickness of 6 inches.
- 12-inch thick barrier protection layer.
- Geocomposite drainage layer as follows.
    - A cushion geotextile in the Type 1 Cover System (areas with <5% slopes); or
    - A double-sided Geocomposite in the Type 2 Cover System (areas with >5% slopes).

- Linear Low Density Polyethylene (LLDPE) geomembrane material.
    - Smooth 40-mil thick LLDPE geomembrane in the Type 1 Cover System (areas with <5% slopes); or
    - Textured 40-mil thick LLDPE geomembrane in the Type 2 Cover System (areas with >5% slopes).
- 6-inch-thick Type II cover soil layer was placed over the re-graded waste material.

The O&M Manual requires that the final cover system be inspected on a monthly basis and immediately after each major rainfall event equal to or exceeding the 2-year 24-hour precipitation event (3.5 inches in 24 hours). The surface of the landfill was divided into 16 inspection zones. All 16 inspection zones are shown in Figure 4, which is utilized to identify the system components. This figure is also utilized to identify the components of the stormwater and ancillary systems. A record of the final cover system inspection is summarized on a Monthly Checklist Form FCS-1, with deficiencies noted on the Deficiency and Problems Form (DP-1). The monthly inspection reports can be found in Appendix B of the 2021 Quarterly Reports. The final cover system is inspected for surface cracking, vegetative growth, vector penetration, settlement, erosion, slope stability, seepage, and vandalism. The inspection is performed by walking up and down the side slopes and across each zone several times. Work orders are issued for deficiencies noted during monthly inspections that cannot be addressed at the time. A work order has been issued for regrading the depressed section in Zone H, by Swale C4X, and installing an extension to bring EW-45 to grade.

Under the Agreement executed on August 24, 2018 between the DEP and NYS Parks, NYS Parks is responsible for the maintenance/repair of the following elements of the Final Cover System:

- Surface restoration and replanting of the grass cover and topsoil layer of the final cover system; and
- Landscaping, both existing and any landscaping installed by NYS Parks. At a minimum, NYS Parks shall perform all landscaping work, including maintenance and repair of existing vegetation/landscaping including those in the existing planting islands, required in the O&M Manual.

3.3 Stormwater Management System

The stormwater management system is an integral part of the capping and closure system required under the 6 NYCRR Part 360/363 regulations to protect the landfill final cover system. The system was designed to collect, transport and discharge stormwater to the surface waters surrounding the FAL in order to prevent stormwater ponding and erosion damage to the final cover system.

This system consists of several components (as shown on Figure 4) which require monitoring, inspection, and periodic maintenance. The system has been divided into three subsystems (SWM-1, SWM-2 and SWM-3) for ease of inspection and reporting. These subsystems include:

- SWM-1: Stormwater drainage swales, wetlands and revetment area
- SWM-2: Outlets, culverts, and rip-rap inlet and outlet protection, and
- SWM-3: Down chute pipes, manholes, pipe trenches and energy dissipation structures.

The O&M Manual requires that stormwater management systems SWM-1, SWM-2 and SWM-3 be inspected on a monthly basis and immediately after each major rainfall event equal to or exceeding the 2-year 24-hour precipitation event (3.5 inches in 24 hours). A record of the inspection is summarized on Monthly Checklist Forms SWM-1, SWM-2, SWM-3 and DP-1 in accordance with the requirements of the O&M Manual. A Deficiency and Problems Form DP-1 is completed to summarize the items marked not satisfactory (NS) in the stormwater system checklist forms.

The deficiencies identified during the period covered by this Annual Report do not necessarily affect the overall performance of this system. The results of the monthly inspections indicate that the system is working adequately. Work orders are issued when necessary to perform repair work as identified on the DP-1 Forms. The DP-1 Form also identifies other locations where sediment and standing water have been observed and provides corrective actions for each location. Where necessary, investigations are being performed, repair details are being developed and repairs will be addressed. The monthly inspection reports and DP-1 Forms can be found in Appendix B of the 2021 Quarterly Reports.

Under the Agreement executed on August 24, 2018 between the DEP and NYS Parks, NYS Parks is responsible for the maintenance/repair of the following elements of the Stormwater Management System:

- Clearing of overgrown vegetation, sediment and debris, including trash, from stormwater swales;
- Clearing of visible sediment, debris, including trash, and vegetative growth from outlets and culverts, culvert inlet/outlet rip-rap protection and energy dissipaters; and
- Removal of trash and debris from rip-rap in revetment areas.

3.4 Ancillary Systems

The ancillary systems (ANS) are those support systems at the FAL that are used for site access and security. The ancillary systems include seven (7) access roads (A through G) along with fences, gates, and locks, as shown in Figure 4. The roadways are integral in providing access to perform required inspection, monitoring and maintenance activities. In addition, since the selected remedy resulted in leaving waste onsite, the security fences and gates provide important institutional controls to prevent site access to unauthorized individuals. In anticipation of the site being developed into a State Park, DEP installed security cameras at the site entrance, DEP Office Trailer, and Flare Station to maintain security of DEP facilities during off-hours. The security system is monitored by DEP Central Communications personnel.

The O&M Manual requires that the ANS be inspected on a monthly basis. A record of the inspection is summarized on Monthly Checklist Forms ANS-1 and DP-1 (for ANS-1) in accordance with the requirements of the O&M Manual. Work orders are issued when necessary to perform repair work as identified on the DP-1 Forms. The instructions for the checklists further require inspections immediately after each major rainfall event equal to or exceeding the 2-year 24-hour precipitation event (3.5 inches in 24 hours). These are incorporated into the monthly inspections found in Appendix B of the 2021 Quarterly Reports.

Safety inspections are performed monthly. Damaged and missing "Confined Space" and/or "Hazard" signs are also replaced when necessary.

Under the Agreement executed on August 24, 2018 between the DEP and NYS Parks, NYS Parks is responsible for the maintenance/repair of the following elements of the Ancillary Systems:

- Maintain the surface condition of all gravel paths and the perimeter stone and paved roads necessary for operation of the State Park. Such maintenance shall not include repairs required because of subsurface settlement or other subsurface conditions;
- Maintain and, when necessary, repair or replace Site perimeter fencing including gates and locks to prevent unauthorized access to the Site when the State Park is closed; and
- Install, maintain and, when necessary, repair or replace signage, except that the DEP shall maintain signage relating to Landfill Infrastructure and City Property security and/or safety.

3.5 Post-Closure Environmental Monitoring

As noted previously in Section 2, the Plan for the FAL went into effect on February 1, 2012 following acceptance of the FER by the NYSDEC, and now incorporates modifications approved by the NYSDEC in 2011. The Plan addresses the performance evaluation of the effectiveness of the cap and/or landfill gas collection system in controlling leachate and landfill gas migration. The Plan entails quarterly monitoring of soil gas quality in seven perimeter gas monitoring wells (GMW wells) and annual monitoring in rotating calendar quarters (i.e., once every five quarters) of the groundwater elevation and quality at twelve wells (HF wells), all of which are located around the perimeter of the landfill outside the limits of the cap, as shown on Figure 5. Additionally, the landfill surface is monitored semi-annually for potential landfill gas emissions, although this is not a regulatory requirement at this Site.

3.5.1 Gas Monitoring Program

Perimeter soil gas readings were taken at the seven perimeter gas monitoring wells during quarterly monitoring rounds and after extended, but intermittent, flare outages to confirm the absence of off-site gas migration. Figure 5 shows the locations of the perimeter gas wells. The gas monitoring results are summarized in Table 1. Monitoring at these perimeter gas monitoring wells is performed in accordance with 6 NYCRR Part 363 (effective November 4, 2017) to ensure that

subsurface methane gas is less than 25% of the lower explosive limit (LEL) at the property line (i.e., 1.25% CH_4 gas in air). Monitoring data is included in Appendix C of the 2021 Quarterly Reports.

During these monitoring events, methane readings were between 0.0% and 1.2% at monitoring well GMW-1, between 0.0% and 0.4% at GMW-2, between 1.5% and 4.6% at GMW-3, between 0.0% and 1.0% at GMW-4; between 0.0% and 1.5% at GMW-05, between 12.8% and 19.6% at GMW-6 and between 40.9% and 47.4% by volume at GMW-7. Methane detected at wells GMW-3, GMW-6 and GMW-7 were above 1.25%. Bar-hole readings were taken in the shallow subsurface soil in the vicinity of these wells and results showed 0.0% methane by volume. As noted in previous reports, while methane levels at GMW-6 and GMW-7 are consistently above 1.25%, these wells are not located near the property line and historically these methane levels have been attributed to the gas monitoring wells being screened in the naturally-occurring tidal marsh deposits present at depth at certain locations, not due to landfill gas migration. It should also be noted that there is a naturally-occurring tidal marsh deposit present at depth in the vicinity of both GMW-3 and GMW-5 as well. The perimeter gas monitoring results, including the bar-hole results, confirm that landfill gas is being controlled by the LFG Management System.

On April 21 and October 15, 2021, landfill surface gas readings were taken, with no gas detections observed throughout the cover surface or in the area around the perimeter gas monitoring wells. Although the O&M Manual does not require surface emission monitoring since the landfill does not meet the applicability requirements of 6 NYCRR Part 208, the DEP has included this task in the OM&M Contract. The levels encountered during this monitoring event are well below the 6 NYCRR Part 208.1 requirement that landfill gas collection systems be operated so that methane concentrations are less than 500 ppm above the background at the landfill surface. Figure 6 shows the sampling locations, and monitoring results are included in Appendix C of the 2021 Quarterly Reports.

Based on the results of the post-closure landfill-gas monitoring performed during this reporting period, the landfill gas being generated by the FAL is being contained by the collection and treatment system, and off-site methane migration is being prevented. It is expected that landfill gas generation will continue to decrease over time as the landfill ages.

3.5.2 Groundwater Monitoring Program

Post-closure groundwater monitoring at the FAL began during the second quarter of 2012 and is performed on the same schedule as the adjacent Pennsylvania Avenue Landfill (PAL) groundwater monitoring program (i.e., once every fifth quarter) for work coordination purposes. This groundwater monitoring schedule allows results to be obtained during each calendar quarter during every five-year review period. Subsequent annual groundwater monitoring rounds were performed during the third quarter of 2013, the fourth quarter of 2014, the first quarter of 2016, the second quarter of 2017, the third quarter of 2018, and the fourth quarter of 2019. Monitoring was not performed in 2015 and 2020, due to the fifth-quarter schedule. In 2017, the NYSDEC approved the DEP's request to reduce the frequency of monitoring for pesticides and polychlorinated

biphenyls (PCBs) to once every five years. Monitoring for pesticides and PCBs for the current (second) five-year review period (2017-2021) was performed during the second quarter of 2017.

The 2021 annual groundwater monitoring round was performed during the first quarter and this report includes a discussion of the results.

The FAL groundwater monitoring wells are designated by aquifer and depth as follows:

- U – fill aquifer (i.e., the saturated zone above the tidal marsh deposit (TMD))
- S – shallow zone of underlying upper glacial aquifer (UGA), 10-20 feet below the TMD
- D – deep zone of UGA, 45-55 feet below the TMD

The 2021 annual groundwater monitoring round was performed on March 22nd and 24th. It entailed measuring the depth-to-water in 8 of the site's 12 monitoring wells and collecting samples from 9 of the monitoring wells. The other three wells, HF-102U, HF-102S, and HF-104U, were dry and could not be sampled. Wells HF-102U and HF-104U are screened in the fill aquifer. The fact that they were not sampled is not a significant data gap because since the fill aquifer is unsaturated at these two locations, there is no potential for contaminant migration via the groundwater pathway. Well HF-102S was dry due to sediment build up in the well. The sediment will be removed by the OM&M contractor under a work order.

Per the Plan, the groundwater samples were collected with a portable peristaltic pump and dedicated tubing using the low-flow purging and sampling procedure, and were analyzed for volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), leachate indicator parameters and inorganic parameters (metals). The QA/QC-related samples required by the Plan were also collected and analyzed. The laboratory results for one of the samples were validated by an independent data validator. The field data, Laboratory Final Report and Data Usability Summary Report are provided in Appendix D of the First Quarter 2021 Report.

Review of the field sampling logs indicates that apart from not being able to measure the water level in Well HF-104S, the samples were collected in accordance with low-flow protocols. This minor deviation did not significantly impact the quality of the results for this well because Well HF-104D is screened far below the water table. Therefore, there was no potential for cascading of water inside the wells during purging.

The results for each parameter group (VOCs, SVOCs, leachate indicators and inorganics) are summarized in Tables 2 through 5, respectively. Note that Tables 2 and 3 only list the target VOCs and SVOCs detected in at least one well.

Overall, the 2021 results are consistent with previous results, and continue to indicate that the FAL is not a significant source of releases of hazardous or toxic substances to groundwater. The results also continue to indicate that site-related impacts are primarily limited to the fill aquifer in the vicinity of Well HF-608U. The fill aquifer is underlain by organic, low-permeability marsh deposits in most areas of the site. Where present, the marsh deposits act as a barrier to the vertical movement of groundwater downward into the underlying UGA.

As shown in Table 2, only one of the 46 VOCs analyzed for were detected, and in only one well. Specifically, chlorobenzene was detected at 6.5 ug/L in Well HF-608U, a fill aquifer well. This concentration slightly exceeded the 5-ug/L Class GA standard, but is consistent with prior results for this well.

As shown in Table 3, only 6 of the 63 SVOCs analyzed for were detected, and nearly all of the detections occurred only in Well HF-608U, a fill aquifer well. The only other detections were low estimated concentrations of one SVOC in Wells HF-104S and HF-602D. All of the detections were low or estimated concentrations, and none exceeded the Class GA standards and guidance values.

The leachate indicator and inorganic parameter results (shown in Tables 4 and 5, respectively) are consistent with an old, closed and capped landfill and the fact that the groundwater beneath the site is naturally saline. The concentrations of a number of leachate indicator and inorganic parameters exceed their Class GA standard or guidance value. However, most of the exceedances are for parameters that are related to the naturally saline groundwater beneath the site. The exceedances for site-related parameters, such as ammonia, are not a significant concern because the groundwater is non-potable. The highest concentrations of most of the site-related leachate indicator and inorganic parameters occurred in Well HF-608U, which is consistent with the VOC and SVOC results. Except for chromium in Well HF-608U and selenium in Well HF-102D, heavy metal (i.e., the eight RCRA metals) concentrations were lower than Class GA standards, and most RCRA metals were either not detected or only detected sporadically at low, primarily estimated concentrations.

Appendix D of the First Quarter 2021 Report contains the synoptic water-level data, the sample collection field logs, a full copy of the Laboratory Final Report and the data validator's Data Usability Summary Report (DUSR). This information will be provided on CD and in printed copies of this Report, if requested. The next annual round of groundwater monitoring will be performed during the second quarter of 2022.

Section 4 –Five-Year Review and Second Periodic Review Report

As previously discussed, this Section serves two purposes. First, this section satisfies the second five-year review of FAL post-closure OM&M activities required by 6 NYCRR Part 360 for the period from January 1, 2017 through December 31, 2021. Second, it is also the second Periodic Review Report (PRR) discussing the status and condition of the FAL Institutional Controls (ICs) and Engineering Controls (ECs) required by 6 NYCRR Part 375. The following subsections discuss the status and conditions of the FAL site remedial systems, the results of the post-closure monitoring and the pertinent activities that occurred during the second five-year review period.

As discussed further in Section 2 of this Report, during this five-year reporting period, in 2017, NPS proposed, and DEP and NYS Parks agreed, that it would be to the mutual advantage of the Federal, State and City governments, and to the benefit of the public, to develop the concept of a park and restoration plan for this area. Agreements were executed between the parties and with the approval of the NYSDEC and NYSDOH, the PAL and FAL Sites were developed into the

Shirley Chisholm State Park under two separate NYS Parks' construction contracts. NYS Parks has made capital improvements to the sites to create the Park and is responsible for the maintenance of those improvements as well as the maintenance of portions of the capping and closure systems. All work performed by NYS Parks must be done in accordance with the sites' RODs, Consent Orders, Environmental Notices and O&M Plans. The Park was opened to the public in 2019.

Also during this second five-year reporting period, in 2018 the DEP completed construction contract 1400-FLP which involved the reconstruction and repair/replacement of a portion of the FAL shoreline embankment and electrical equipment located at the FAL landfill gas system flare station damaged by the Hurricane Sandy surge.

4.1 Landfill Gas Management System

Since the commencement of this five-year review period, the landfill gas management system has been operating under an Air Facility Registration (Certificate # 2-6105-00687/00003). In addition, during the first five-year post-closure period (until December 31, 2015), the flaring system was monitored in accordance with the USEPA's Greenhouse Gas Reporting Rule (40 CFR Part 98 Subpart HH). Commencing in 2016, the FAL was no longer required to report greenhouse gas emissions. As of 2015, the USEPA allowed MSW landfills that had emitted less than 25,000 metric tons as carbon dioxide equivalent of greenhouse gas for five consecutive years to exit the program. The FAL emitted under this threshold each year from 2010 through 2015, and was therefore eligible to exit the program beginning in 2016. In accordance with reporting requirements, the USEPA has been notified that the FAL has exited the program.

During this five-year reporting period, the LFG management system processed 2,687,177,000 SCF of landfill gas, was in service for 31,387.4 hours representing an average of 71.64% time in service and the average methane quality at the flare was 24.12 %. System flow and process gas content data are summarized in the table that follows for each of the five annual post-closure years during this second five-year reporting period.

Fountain Avenue Landfill					
Flare Operation – Second Five-Year Review Period					
Post-Closure Year	**Avg. CH_4 (% by Volume)**	**Time in service (Hours)**	**Percent Time in Service**	**Avg. Blower Flow (SCFM)**	**Flow (SCF)**
6	19.57%	8,161.50	93.17%	1,597	781,820,000
7	21.03%	6,788.20	77.49%	1,591	648,037,500
8	38.57%	3,321.40	37.92%	1,894	377,475,500
9	20.64%	6,362.50	72.43%	1,383	527,934,000
10	20.78%	6,762.80	77.2%	867	351,910,000
Average	**24.12%**	NA	**71.64%**	**1,466.4**	NA
Total	NA	**31,396.4**	NA	NA	**2,687,177,000**

During the five-year reporting period, the system was out of service for various reasons including flame failures due to poor gas quality, shut downs for routine maintenance, repair and/or replacement of equipment, UV flame detector false alarms, power failures, file alarm system malfunction, and FDNY annual inspections.

Also during this five-year reporting period, the replacement of operational equipment components impacted by the Hurricane Sandy surge was completed in 2018 under Contract No. 1400-FLP, procured by the DEP for the reconstruction and repair/replacement of shoreline embankment and electrical equipment damaged by the Hurricane Sandy surge. This included installation of new dry transformers, current monitors, circuit breakers, VFD motor starters, power supplies, strip heaters, thermostats and miscellaneous fuses. Other equipment components exposed to the Hurricane Sandy surge that are currently operational but not designated for replacement will continue to be monitored and assessed over time and may be replaced in the future, if necessary.

Throughout this five-year reporting period, the LFG management system was inspected, monitored, maintained and repaired in accordance with the O&M Manual, as summarized in the Quarterly and Annual Reports. The current condition of the landfill gas management system at the end of the five-year reporting period is discussed further in Section 3.1 of this Report.

4.2 **Final Cover System**

During the five-year reporting period, the final cover system was inspected, maintained and repaired in accordance with the requirements of the O&M Manual, as summarized in the Quarterly and Annual Reports. Overall, the final cover system is in good condition. The majority of deficiencies noted throughout this reporting period generally consisted of varying amounts of erosion and ponding which were repaired on an ongoing basis. The current condition of the final cover system at the end of the five-year reporting period is discussed further in Section 3.2 of this Report.

Under the Agreement executed on August 24, 2018 between the DEP and NYS Parks, NYS Parks is responsible for the maintenance/repair of the elements of the final cover system identified in Section 3.2 of this Report.

4.3 **Stormwater Management System**

During the five-year reporting period, the stormwater management system was inspected, maintained and repaired in accordance with the O&M Manual, as summarized in the Quarterly and Annual Reports. The system remained operational throughout the reporting period. The majority of the deficiencies that were recorded during this reporting period generally consisted of overgrown vegetation, sediment/debris, standing water, and minor damage in SWMS structures. These deficiencies were repaired on an ongoing basis and did not necessarily affect the effective

performance of this system. The current condition of the stormwater management system at the end of the five-year reporting period is discussed further in Section 3.3 of this Report.

Under the Agreement executed on August 24, 2018 between the DEP and NYS Parks, NYS Parks is responsible for the maintenance/repair of the elements of the stormwater management system identified in Section 3.3 of this Report.

4.4 Ancillary Systems

During the five-year reporting period, the ancillary systems were inspected, maintained and repaired in accordance with the O&M Manual, as summarized in the Quarterly and Annual Reports. Overall, the majority of the systems remained in good condition throughout the reporting period. The majority of deficiencies noted throughout this reporting period generally consisted of rutting and potholes in roadways and damage to the perimeter fence/gates which were repaired on an ongoing basis. The current condition of the ancillary systems at the end of the five-year reporting period is discussed further in Section 3.4 of this Report.

Under the Agreement executed on August 24, 2018 between the DEP and NYS Parks, NYS Parks is responsible for the maintenance/repair of the elements of the ancillary systems identified in Section 3.4 of this Report.

4.5 Post-Closure Environmental Monitoring

The post-closure monitoring period for the FAL began on February 1, 2012 when NYSDEC accepted the FER. Prior to that date, the existing post-closure monitoring Plan was updated and revised based on modifications approved by the NYSDEC. It addresses the performance evaluation of the effectiveness of the landfill cap and gas collection systems in controlling leachate and gas migration, respectively. The modified Plan entails monitoring water-level elevation and water quality in 12 groundwater wells on an annual basis in rotating calendar quarters (i.e., once every five quarters); and monitoring soil-gas quality in seven perimeter gas wells on a quarterly basis.

In DEP's letter to NYSDEC dated March 31, 2017 transmitting the first FAL Five-Year Review and Periodic Review Report, the DEP requested a reduction in groundwater monitoring frequency for SVOCs, pesticides and PCBs from once every five quarters to once in every five-year review period based on an evaluation of the groundwater monitoring results at that time. While the NYSDEC granted the frequency reduction for pesticides and PCBs, the NYSDEC Project Manager stated that SVOCs should be monitored once every fifth quarter until the next five year review.

The groundwater and gas monitoring wells are located around the periphery of the FAL, as shown in Figure 5. The Plan also recommends, but does not require, annual monitoring for landfill gas emissions through the landfill cap.

4.5.1 Gas Monitoring Program

During this five-year reporting period, NYSDEC updated the 6 NYCRR Solid Waste Management Facility regulations (effective November 4, 2017), shifting the landfill post-closure management requirements from 6 NYCRR Part 360 to 6 NYCRR Part 363. The new 6 NYCRR Part 363 requirements reduced the limit for methane concentrations at the property line from the LEL (i.e., 5% methane in air) to 25% of the LEL (i.e., 1.25% methane in air), while the requirements for methane in structures remained the same (i.e., 1.25% methane in air).

Perimeter soil gas readings at the seven perimeter Gas Monitoring Wells (GMWs) were taken quarterly during this five-year review period in accordance with the 6 NYCRR Part 360 and Part 363 regulations. The monitoring results are summarized in Table 6. Figure 5 shows the locations of the perimeter Gas Monitoring Wells GMW-1 to GMW-7. During the five-year reporting period, methane concentrations encountered during the quarterly monitoring events within wells GMW-1, GMW-2, and GMW-4 themselves did not exceed the 6 NYCRR Part 360 and Part 363 requirement of limiting methane concentrations to the lower explosive limit (LEL) at the property line (i.e., 5% CH_4 gas in air in 2017, and 1.25% thereafter).

At well GMW-5, 80% of the quarterly monitoring data taken in the well itself during this five-year period (i.e., 16 results) were below the stipulated methane limit at the property line, with four results (between 2.7% to 5.6% in 2Q19-1Q20) exceeding the lowered methane limit at the property line (only one of which in 3Q19 would have also exceeded the prior limit). It should be noted that similar to the discussion below regarding wells GMW-6 and GMW-7, it has been documented that there is a naturally-occurring tidal marsh deposit present at depth at the site, including in the vicinity of well GMW-5. This tidal marsh deposit can contribute to elevated levels of methane found in the wells. To confirm that there was no off-site gas migration and that the methane detected in well GMW-5 is from the deeper tidal marsh zone, bar hole readings were taken in the shallow subsurface soil in the vicinity of well GMW-5 which consistently detected no methane present.

At well GMW-3, 50% of the quarterly monitoring data taken in the well itself during this five-year period (i.e., 10 results) were below the stipulated methane limit at the property line, with the remaining ten results (between 1.5% to 5.2% in 3Q19-4Q21) exceeding the lowered methane limit at the property line (only one of which in 3Q19 would have also exceeded the prior limit). It should be noted that similar to the discussion below regarding wells GMW-6 and GMW-7, it has been documented that there is a naturally-occurring tidal marsh deposit present at depth at the site, including in the vicinity of well GMW-3. This tidal marsh deposit can contribute to elevated levels of methane found in the wells. To confirm that there was no off-site gas migration and that the methane detected in well GMW-3 is from the deeper tidal marsh, bar hole readings were taken in the shallow subsurface soil in the vicinity of well GMW-3 which consistently detected no methane present.

It should be noted that the remaining wells (GMW-6 and GMW-7) have been documented to be screened in a naturally-occurring tidal marsh deposit present at depth at certain locations (GMW-7) or in the vicinity of a tidal marsh deposit (GMW-6), which have historically contributed to the

elevated levels of methane at these two locations and not due to landfill gas migration. Methane monitoring results were between 38.2% to 48.9% at GMW-7 and between 0.5% to 18.3% at GMW-6 (representing 15 exceedances of the lowered methane limit at the property line, only seven of which were also above prior limit). To confirm that there was no off-site gas migration and that the methane detected in wells GMW-6 and GMW-7 is from the deeper tidal marsh zone, bar hole readings were taken in the shallow subsurface soil in the vicinity of wells GMW-6 and GMW-7. This bar hole monitoring has consistently detected no present.

Although not included in the quarterly perimeter gas monitoring results in Table 6, additional methane monitoring has been performed throughout the five-year reporting period during certain extended, but intermittent, flare outages. This additional monitoring confirmed that no off-site gas migration was occurring following the intermittent flare outages. The results of these additional methane monitoring events are included in the Quarterly Reports and Table 1 of this Report for 2021.

Although not required by the O&M Manual or 6 NYCRR Parts 360/363, landfill surface gas readings were taken semi-annually during the five-year reporting period, with no detections observed throughout the landfill. Sample locations are shown in Figure 6, and results are provided in the Appendices of the Quarterly Reports.

Based on the results of the post-closure perimeter landfill-gas monitoring performed during this five-year reporting period, methane monitoring indicated that levels were less than the 6 NYCRR Part 360 and Part 363 requirements at the property line confirming that the landfill gas being generated by the FAL is being contained by the collection and treatment system and preventing off-site methane migration. It is expected that landfill gas concentrations will continue to decrease over time as the landfill ages.

4.5.2 Groundwater Monitoring Program

Based on the updated post-closure monitoring schedule, four rounds of groundwater monitoring were performed during the second five-year review period, specifically during the second quarter of 2017, the third quarter of 2018, the fourth quarter of 2019 and the first quarter of 2021. Monitoring was not required in 2020.

In addition to the standard post-closure groundwater monitoring performed during this five-year review period, the NYSDEC in their letter of June 14, 2019 to the DEP requested that during the next scheduled post-closure groundwater monitoring event at FAL representative wells be sampled for the emerging contaminants 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS). The NYSDEC made this request as part of their State-wide evaluation of remediation sites to better understand the existence of these emerging contaminants in drinking water supplies throughout the State. This monitoring was performed during the fourth quarter of 2019 to coincide with the post-closure monitoring program, and the results for this one-time sampling event were submitted to the NYSDEC in a stand-alone report.

Due to below-average rainfall during the five-year reporting period, not all of the groundwater wells specified in the Plan could be sampled because they were dry. Specifically, two wells screened in the Fill Aquifer (Wells HF-102U and HF-104U) were dry during all four monitoring rounds, and another well screened in the shallow zone of Upper Glacial Aquifer (Well HF-102S) was dry during the 2021 monitoring round due to accumulated sediment. The fact that two fill aquifer wells were not monitored is not a significant data gap because the dry conditions precluded migration of contaminants in the aquifers at these locations, and Well HF-102S has historically not contained significant levels of contamination.

Overall, the results of the second five years of post-closure groundwater monitoring continue to indicate that the FAL is not a significant source of releases of hazardous or toxic substances to groundwater, and that the concentrations of the site-related parameters detected are stable or decreasing over time. The concentrations of other parameters related to the naturally saline groundwater beneath the FAL exhibited concentrations and trends consistent with saline groundwater and the below-average recharge from precipitation during the reporting period.

The results for the detected VOCs, SVOCs, leachate parameters and inorganic parameters obtained during the second five-year reporting period are summarized and compared to the 1993 remedial investigation (RI) results and the NYSDEC Class GA potable ground-water standards and guidance values in Tables 7 through 10, respectively. These tables are also used to compare the results from this five-year review period to the estimated average concentrations from the first five-year review period (2012-2016). The results are compared to the Class GA potable water standards and guidance values because there are no standards or guidance values for saline groundwater. Accordingly, an exceedance of these standards and guidance values does not necessarily indicate a significant concern. Groundwater was also monitored for pesticides and PCBs during the second quarter 2017 round, but these parameters were not detected. Therefore summary tables for these two parameter groups are not included in this report. The specific results for each of the detected analyte groups are summarized below.

VOCs – Only 8 VOCs were detected during the second five years of post-closure monitoring and most of these detections were limited to sporadic, low concentrations. As shown in Table 7, only one VOC - chlorobenzene, an aromatic hydrocarbon - has been detected on a somewhat regular basis. Most of the other VOC detections have also been aromatic hydrocarbons including benzene, 1,4-dichlorobenzene and ethylbenzene. Detections of solvents were primarily limited to low concentrations if detected at all. Almost all of the VOC detections have occurred in Well HF-608U, which is screened in the Fill Aquifer above the TMD. VOC detections in the wells screened in the Upper Glacial Aquifer were primarily limited to sporadic, low concentrations of acetone, which may be due to laboratory contamination. The fact that VOC detections are primarily limited to certain Fill Aquifer wells indicates that the TMD continues to serve as a partial hydraulic barrier to vertical migration of groundwater into the underlying Upper Glacial Formation. Post-closure exceedances of the Class GA potable ground-water standards and guidance values were limited to low-magnitude exceedances for benzene in the 2017 sample and chlorobenzene in all samples from Well HF-608U. Overall, the concentrations of VOCs in groundwater have been decreasing over time, particularly when compared to the pre-remediation RI results. Moreover, eight VOCs that were detected during the RI have not been detected during post-closure monitoring.

SVOCs – Only 18 SVOCs were detected in at least one groundwater well during the second five years of post-closure monitoring, and most of these detections were limited to sporadic, low concentrations. Moreover, as shown in Table 8, nearly all of the SVOC detections occurred in Well HF-608U, which is screened in the Fill Aquifer. SVOC detections in the remaining wells were sporadic and limited to relatively low concentrations. Post-closure exceedances of the Class GA standards and guidance values were limited to naphthalene in Well HF-608U, bis(2-ethylhexyl)phthalate in Well HF-102S, indeno(1,2,3-cd)pyrene in Well HF-608S, and bis(2-ethylhexyl)phthalate in Well HF-102D. Review of Table 8 also indicates that SVOC concentrations in groundwater have been stable or decreasing during the post-closure period, and are lower relative to the pre-closure RI results. For example, although naphthalene was detected in Well HF-608U at concentrations higher than the Class GA guidance value during the first two post-closure monitoring rounds, the concentrations have been relatively stable and are much lower than those detected during the two RI monitoring rounds. Moreover, one additional SVOC that was detected during the RI has not been detected during post-closure monitoring.

Pesticides – Pesticide monitoring was reduced to once every five years after the initial five years of post-closure monitoring. No pesticides were detected in any of the groundwater samples collected during the second five year period of post-closure monitoring conducted in the second quarter of 2017. Only one pesticide was detected in one well at a low concentration during the RI (Chlordane at 0.12 ug/L in Well HF-104S). This finding indicates that the FAL continues to not be a source of pesticide impacts to groundwater. Accordingly, a results summary table for pesticides was not prepared for this report.

PCBs – PCB monitoring was reduced to once every five years after the initial five years of post-closure monitoring. PCBs also have not been detected in any of the groundwater samples collected during the second five year period of post-closure monitoring conducted in the second quarter of 2017, and were not detected during the RI. Only one PCB was detected in one well at a low concentration in 2012 (Aroclor 1016 at 0.3 ug/L in Well HF-102S). This finding also indicates that the FAL continues to not be a source of PCB impacts to groundwater. Accordingly, a results summary table for PCBs was not prepared for this report.

Leachate Indicators – The leachate indicator parameter results for the second five years of post-closure monitoring are consistent with the FAL being an old, closed and capped municipal landfill that is underlain by saline groundwater. Specifically, as shown in Table 9, most of these parameters were detected in nearly every well; except for BOD and phenol and cyanide, which typically do not occur at elevated concentrations in uncontaminated saline groundwater, and nitrate, which is metabolized by bacteria in the groundwater. However, the concentrations of the parameters known to occur naturally in seawater, such as bromide, chloride, hardness, sulfate and total dissolved solids, are highest in the wells screened in the Upper Glacial Aquifer where the groundwater is naturally saline. Other parameters, such as alkalinity, ammonia and color, appear to be site-related because they are detected only, or at significantly higher concentrations, in wells screened in the Fill Aquifer. The highest concentrations of most of the site-related leachate indicator parameters occurred in Well HF-608U, which is consistent with the VOC and SVOC results. The concentrations of a number of leachate indicator parameters exceeded their Class GA standards

and guidance values. However, it should be noted that most of the exceedances are for parameters that occur naturally in seawater and are attributed to the saline groundwater. The relatively small number of exceedances for site-related parameters, such as ammonia and phenol, are not a concern because the groundwater is non-potable, and the standard for phenols is aesthetics-based. Moreover, ammonia occurs naturally in seawater and is not persistent in the environment. Review of Table 9 also indicates that the concentrations of most parameters, including the site-related ones, have decreased or remained stable during the post-closure period, and are generally lower than the pre-closure RI results. Increases for certain seawater-related parameters such as chloride and total dissolved solids, in the Upper Glacial Aquifer wells are attributed to a decrease in freshwater recharge due to the landfill cap and to the below-normal precipitation during the post-closure period.

Metals – The metals results for the second five years of post-closure monitoring indicate that the FAL is not a significant source of metals-related impacts to groundwater. Specifically, as shown in Table 10, most of the target analytes, including the eight RCRA metals which are the most toxic metals, were either not detected or were primarily detected only sporadically and/or at low concentrations. Moreover, the concentrations of the frequently-detected parameters, such as boron, magnesium, potassium and sodium, are generally higher in the wells screened in the Upper Glacial Aquifer than in the wells screened in the Fill Aquifer. This overall pattern indicates that these metals are primarily associated with the saline groundwater. Accordingly, the exceedances for these parameters are also primarily associated with the saline groundwater. The exception is Well HF-608U, which is screened in the Fill Aquifer and contained the highest concentrations of VOCs, SVOCs and site-related leachate indicator parameters. The metals detected in this well appear to be primarily site-related. The concentrations of certain metals exceed the Class GA potable groundwater standards and guidance values. However, it should be noted nearly all of the exceedances, and the highest-magnitude exceedances, are for parameters that are related to the naturally saline groundwater beneath the Site. Post-closure exceedances of the Class GA standards for RCRA metals were limited to chromium in Well HF-608U (all four years) and in Well HF-102D (2017 only) and selenium in Well HF-102D (2021 only). Review of Table 10 also indicates that metals concentrations in groundwater have been stable or decreasing during the post-closure period, and are generally lower than during the RI.

The NYSDEC-requested emerging contaminant monitoring event was performed during the fourth quarter of 2019. The results were submitted to the NYSDEC in a stand-alone report dated March 31, 2021. That report determined that the FAL is a relatively minor source of 1,4-dioxane and certain PFAS parameters, and concluded that there are no impacts to public health because the Fill Aquifer is limited in extent to the footprint of the site, and the Upper Glacial Aquifer beneath is naturally saline and therefore non-potable.

In summary, taken as a whole, the results from the second five-year period of post-closure groundwater monitoring continue to indicate that the FAL is not a significant source of toxic or hazardous substance releases to groundwater, and that groundwater-quality conditions beneath the Site are stable or improving over time in response to the remediation. The results also confirm that the reductions in the scope and frequency of post-closure groundwater monitoring were justified; the SVOC results continue to support the DEP's 2017 request to reduce the frequency of

monitoring SVOCs to once in every five year period; and that further reductions (e.g., reducing the frequency of monitoring for VOCs to once in every five years) may also be warranted.

4.6 Record of Decision (ROD) Land Use Restriction Requirement

The ROD for the FAL required that a deed restriction be in place for the Site to prevent the extraction of ground water for consumptive use, and to ensure that any future Site use or other invasive activity is approved by NYSDEC and NYSDOH. In a letter dated March 26, 2009, NYSDEC indicated that it would accept either a deed restriction, per 6 NYCRR Part 360, or an environmental easement, per 6 NYCRR Part 375, in satisfaction of this requirement. The land upon which the FAL is located is owned by the NPS and DEP was informed by the NPS that it does not allow deed restrictions or environmental easements to be placed on its lands. Therefore, NYSDEC utilized an Environmental Notice, dated May 16, 2012, to satisfy this regulatory requirement. The Environmental Notice was recorded in New York City's ACRIS database on July 16, 2012. Therefore, the land use restriction requirement of the ROD has been fulfilled.

In anticipation of the site being converted to a State Park, NYS Parks obtained waivers from both the NYSDEC and the New York State Department of Health (NYSDOH), as required by the Site's Environmental Notice, to change the Site's land use from a "landfill" to a "closed landfill with Department-approved passive recreational uses". These waivers were provided in letters from the NYSDEC and NYSDOH dated December 13, 2017.

4.7 Periodic Review Report (PRR) Requirement

6 NYCRR Part 375 requires that PRRs confirming that the Institutional and Engineering Controls (ICs and ECs) are in effect be submitted on an appropriate Site-specific schedule. The NYSDEC has agreed to accept the FAL Five-Year Review Reports as the PRRs for the Site. The information in subsections 4.1 through 4.6 above satisfies the requirements of the second PRR for the FAL, covering the period from January 1, 2017 through December 31, 2021. The NYSDEC has also provided an IC/EC Certification Form to DEP covering the FAL second periodic review period. The DEP executed IC/EC form accompanies this Report.

Section 5 – Conclusions and Recommendations

Based on the results of the post-closure activities performed during this reporting period, the FAL engineering controls and associated institutional controls are in place, performing properly, and remain effective. The FAL remedy continues to be protective of public health and the environment and is compliant with the FAL ROD. The activities associated with the O&M Manual and the current Monitoring Plan (as approved by the NYSDEC) continue to be implemented.

Routine system maintenance and repair of each of the remediation systems should continue, in compliance with the requirements of the FAL O&M Manual. In general, it has previously been recommended that components exposed to the Hurricane Sandy storm surge that are currently operational, but were not designated for repair or replacement, will continue to be monitored and assessed over time and may be replaced in the future, if necessary.

During the Third Quarter of 2018, the DEP and NYS Parks entered into an agreement in support of NYS Parks' efforts to develop the PAL and FAL into the Shirley Chisholm State Park. Under this agreement, NYS Parks has made capital improvements to the sites to create the Park and is responsible for the maintenance of those improvements, as well as the maintenance of portions of the Final Cover System, Stormwater Management System and Ancillary System identified under Section 3 of this Report. All work performed by NYS Parks must be done in accordance with the sites' RODs, Consent Orders, Environmental Notices and O&M Manuals. DEP will continue to be responsible for the inspection and reporting of the condition of all components of these systems. The DEP and NYS Parks will continue to work together to coordinate these efforts.

Specific conclusions and recommendations for this reporting period for each of the remedial systems are identified in the following paragraphs.

5.1 Landfill Gas Management System

The landfill gas management system continued to be operational and prevent off-site gas migration during the Site's second five-year review period. As the landfill ages, the methane quality and quantity of gas generated by the landfill will continue to decline. The landfill gas management system should continue to be operated to maximize methane quality at the flare. The landfill gas management system performance should continue to be monitored to determine if adjustments and/or modifications to the system are necessary as the landfill gas quality and quantity diminishes in the future.

The operational equipment components that were impacted by the Hurricane Sandy storm surge, that are currently operational but were not designated for replacement, should continue to be monitored and assessed over time and may be replaced in the future, if necessary. In addition, the recommended corrective actions when listed in Form DP-1, Landfill Gas System, Descriptions of Deficiencies and Problems, in Appendix A of the Quarterly Reports should be implemented.

5.2 Final Cover System

Overall the landfill final cover system was in good condition and protected the landfill cap beneath it as intended during the Site's second five-year review period. Conditions found were typical of those encountered during the landfill post-closure period, with only a few deficiencies noted. It is recommended that routine maintenance continues to be performed to prevent problem areas from expanding and worsening. This would include filling ruts caused by erosion, reseeding areas where necessary, and maintaining landfill surface slope to promote stormwater runoff. Mowing should be conducted as needed to control invasive species and to provide access for inspections and maintenance. The recommended corrective actions listed in Form DP-1, FCS-1, Descriptions of Deficiencies and Problems, in Appendix B of the Quarterly Reports, should be implemented.

5.3 Stormwater Management System

The stormwater management system continued to convey stormwater runoff to its outfall locations during the Site's second five-year review period. Conditions found were typical of those encountered during the landfill post-closure period, with a few deficiencies noted. In general, it is recommended that silt and vegetation in drainage swales continue to be periodically removed and sediment be removed from other portions of the drainage system. Areas of the stormwater management system affected by Hurricane Sandy that were restored to their condition prior to the storm event under Contract No 1400-FLP, should continue to be maintained. Specifically, the recommended corrective actions listed in Form DP-1 (SWM-1, SWM-2 SWM-3), Descriptions of Deficiencies and Problems, in Appendix B of the Quarterly Reports, should be implemented.

5.4 Ancillary Systems

The roads of the ancillary system continued to provide access throughout the site while the fencing and gates continued to allow for controlled site access during the Site's second five-year review period. The shoreline embankment and the shoulder of Road A, damaged by Hurricane Sandy, were restored under Contract No. 1400-FLP and should continue to be maintained. Other conditions found were typical of those encountered during the landfill post-closure period, with a few deficiencies noted. In general, it is recommended that routine maintenances continue to be performed to control problem areas from expanding and worsening. This would include filling ruts and potholes in roads and repairing site fencing and gates when necessary. Specifically, the recommended corrective actions listed in Form DP-1, ANS-1, Descriptions of Deficiencies and Problems, in Appendix B of the Quarterly Reports, should be implemented.

5.5 Post-Closure Environmental Monitoring

The post-closure environmental monitoring performed to date confirms that the FAL remedy continues to be protective of public health and the environment and is compliant with the FAL ROD.

The results of the post-closure landfill-gas monitoring performed during this five-year period, showed that methane level measurements met the 6 NYCRR Part 360/363 requirements in the vicinity of the property line, indicating that the landfill gas being generated by the FAL is being contained by the collection and treatment system, and off-site methane migration is being prevented. It is expected that landfill gas concentrations will continue to decrease over time as the landfill ages.

Overall, the post-closure groundwater monitoring results obtained during this five-year review period are consistent with previous results, and continue to indicate that the FAL is not a significant source of releases of hazardous or toxic substances to groundwater.

Recommendations for this reporting period are to continue to perform the environmental monitoring in accordance with the current Monitoring Plan (2011). Specifically, as noted in Section 3, with the concurrence of the NYSDEC, groundwater monitoring is to be performed in

rotating calendar quarters (i.e., once every five quarters) and the reduction in the frequency of monitoring for pesticides and PCBs to once every five years. Accordingly, the next groundwater monitoring round will be performed during the second quarter of 2022, and the samples will be analyzed for all Plan parameters, including pesticides and PCBs.

Based on a review of the groundwater monitoring results for the first ten years of post-closure monitoring performed at the Site and presented in this Report, it is further recommended that a reduction in the frequency of ground-water monitoring for SVOCs to once every five years be made as previously requested in 2017 and the frequency of VOC monitoring also be reduced to once every five years. The reduction in frequency for these parameters is warranted based on the post-closure monitoring results to date discussed in Section 4.5.2 of this Report. Perimeter gas monitoring will continue to be performed quarterly.
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FIGURES

Figure 1: Fountain Avenue Landfill Site Map

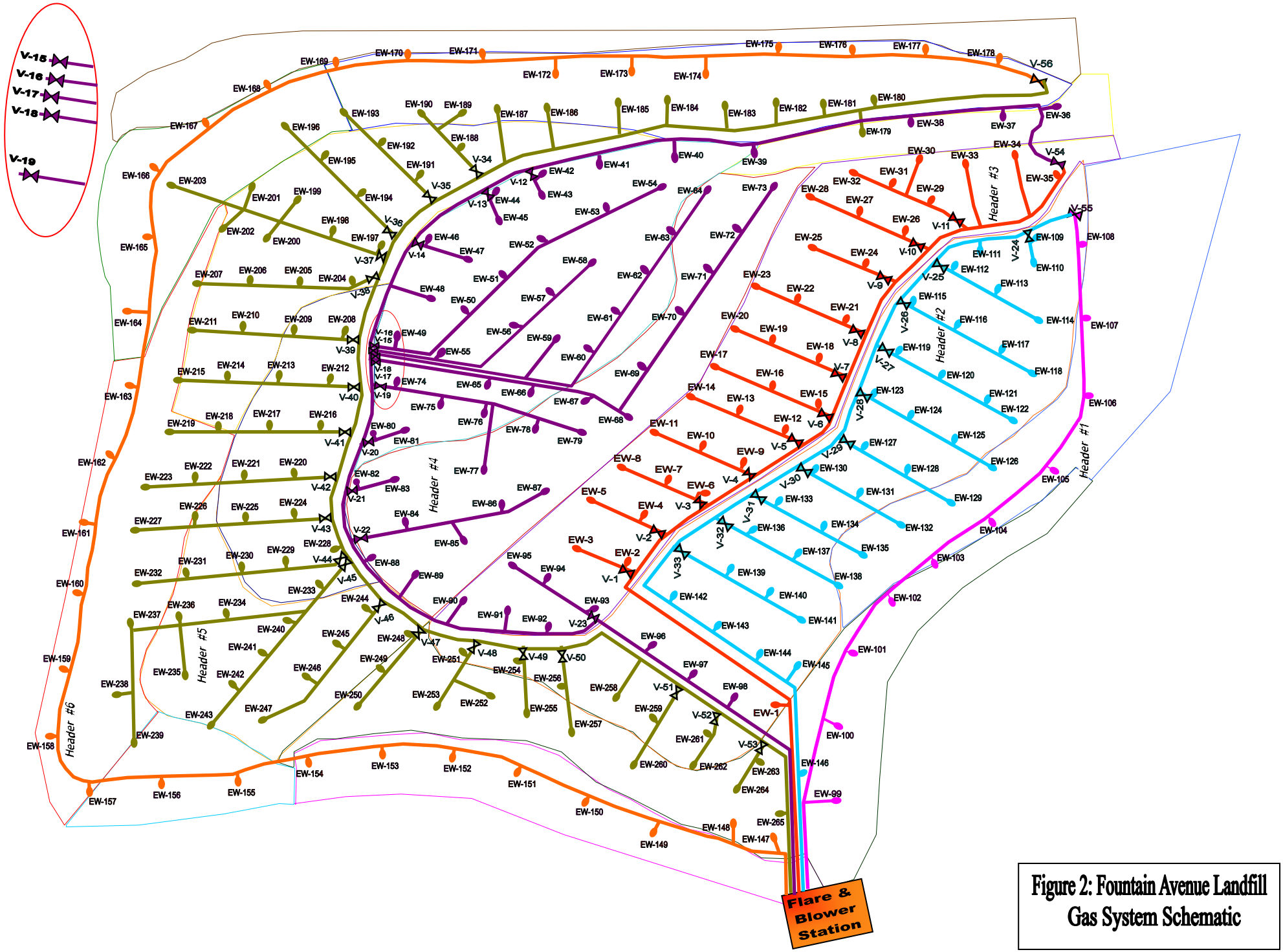
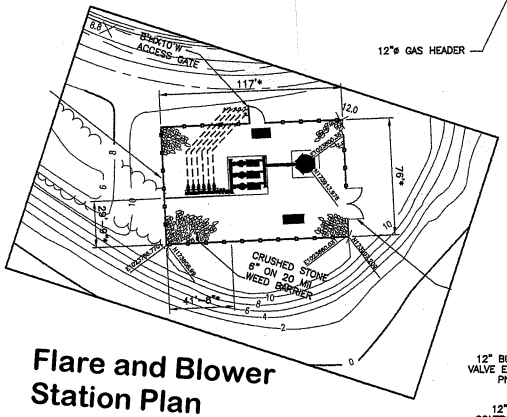
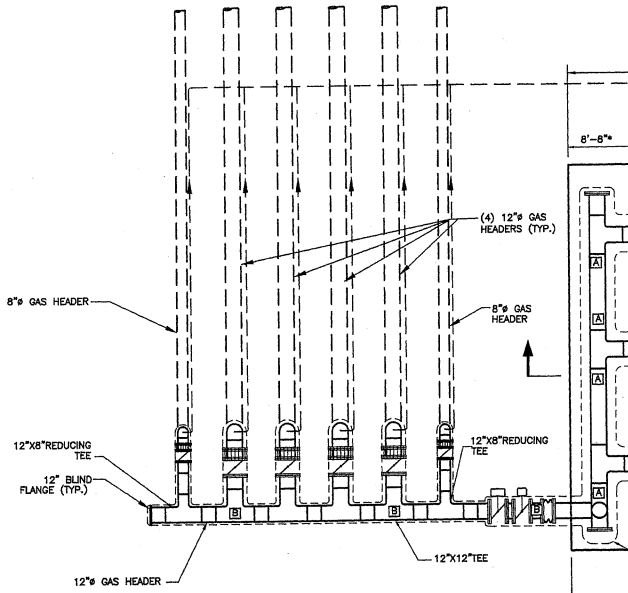


Figure 2: Fountain Avenue Landfill Gas System Schematic

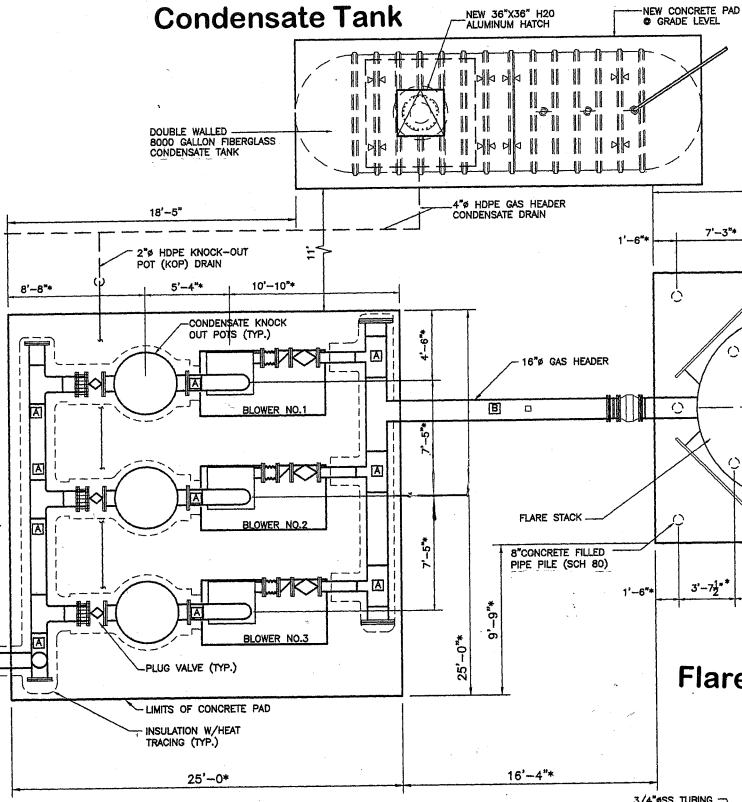
Figure 3: Fountain Avenue Landfill Flare and Blower Station

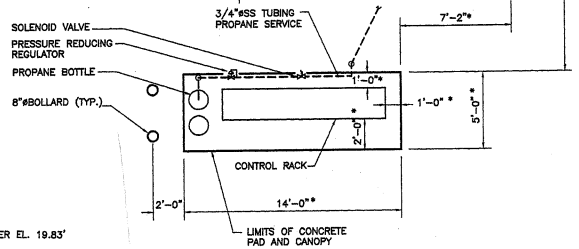


Flare and Blower Station Plan



LFG Headers





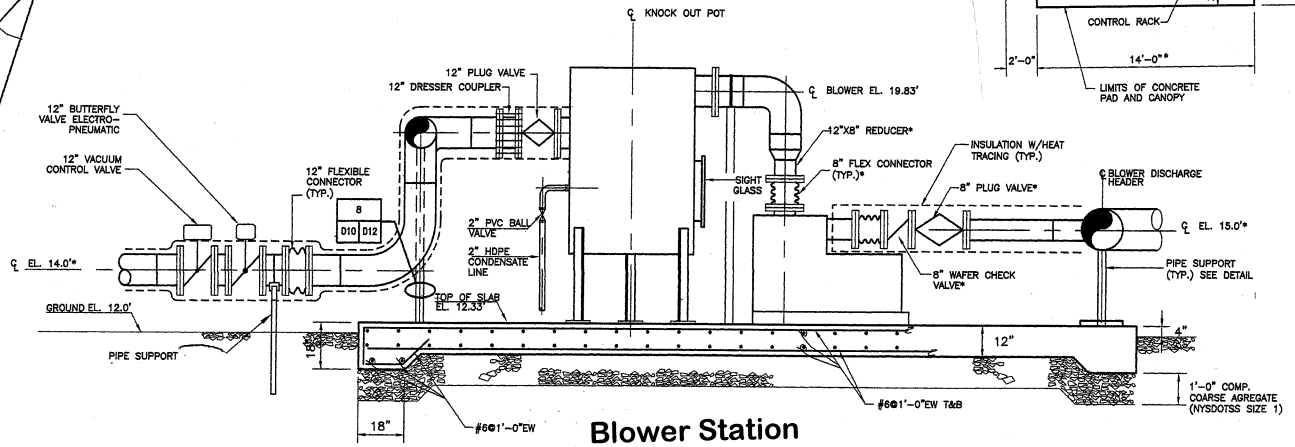


Figure 4: Fountain Avenue Landfill Stormwater Management, Final Cover Zones and Roads

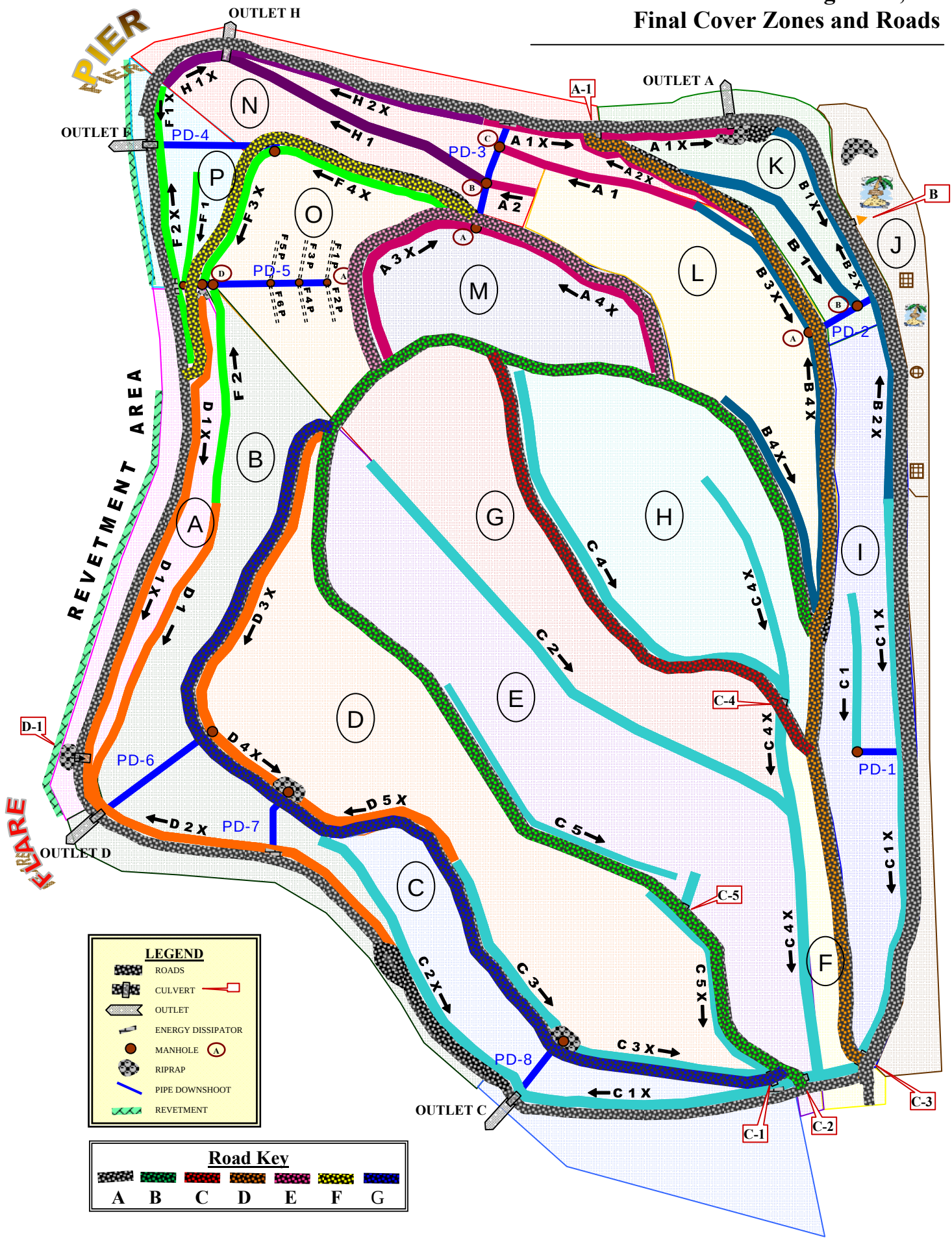
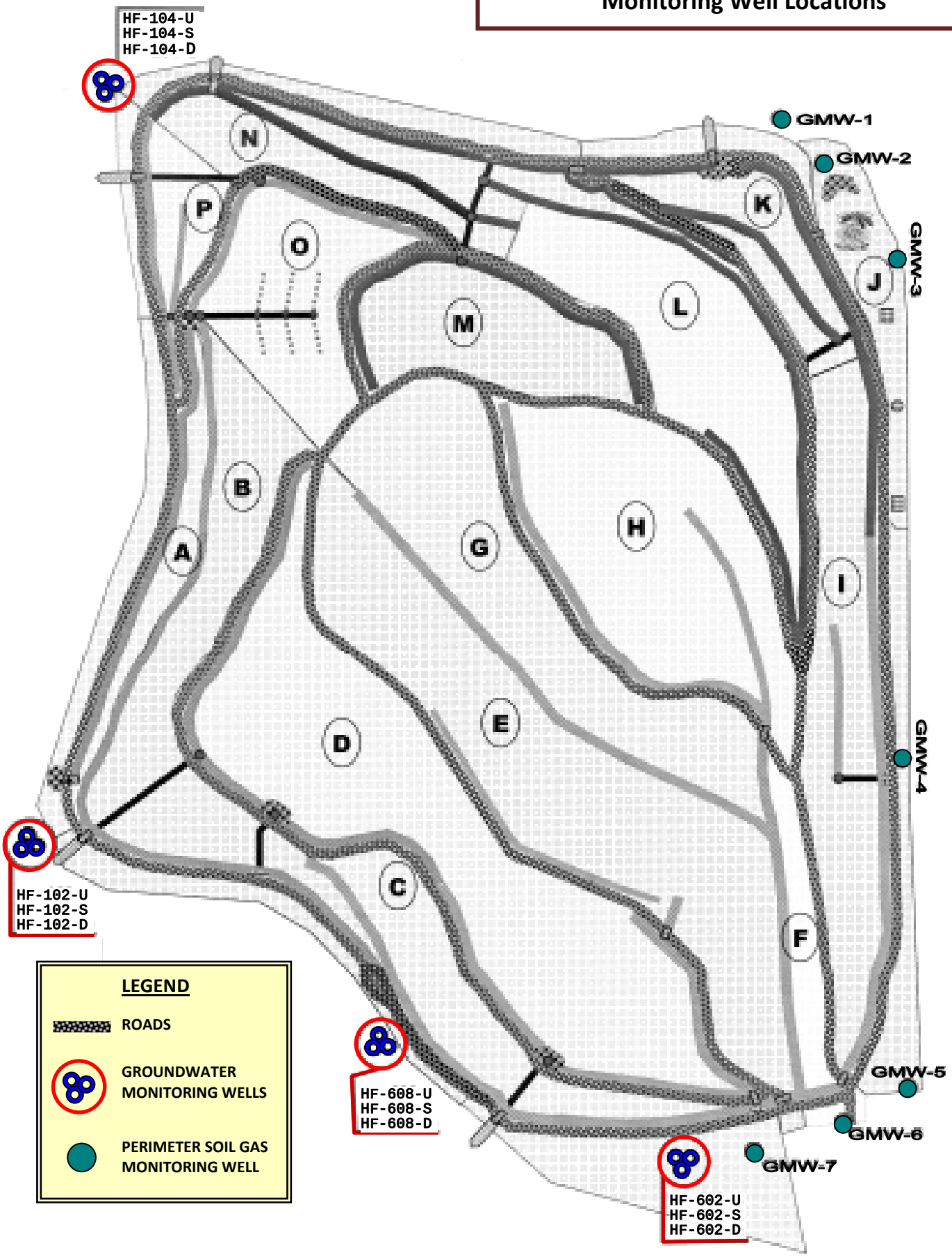


Figure 5: Fountain Avenue Landfill Groundwater and Perimeter Gas Monitoring Well Locations



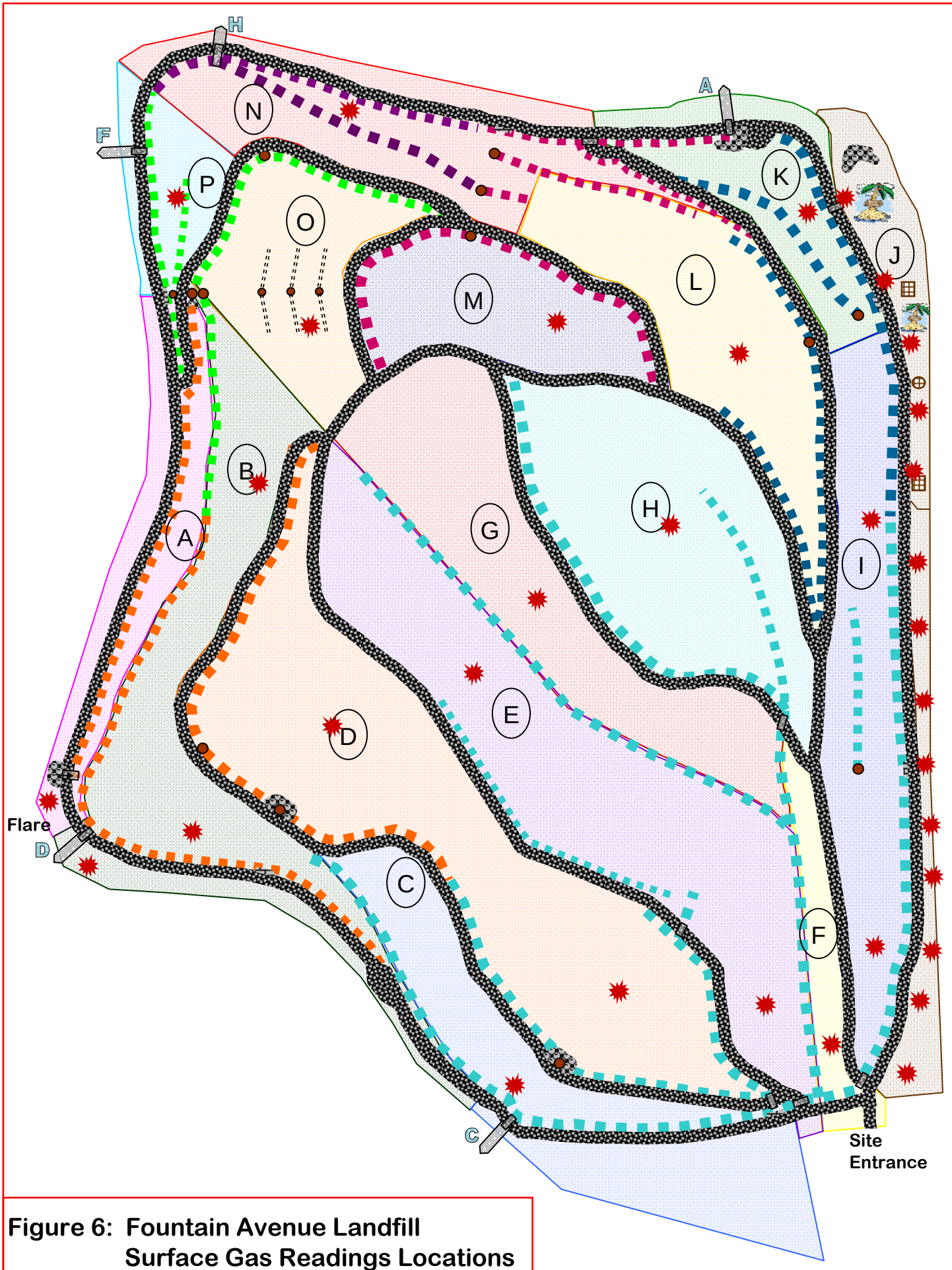


Figure 6: Fountain Avenue Landfill
Surface Gas Readings Locations

TABLES

Table 1

2021 Annual Summary of Perimeter Gas Monitoring Well Results

Fountain Avenue Landfill, Brooklyn, NY

		16-Feb*	5-Apr	26-Apr	26-May*	28-Jun	26-Jul*	7-Sep	17-Nov*	27-Dec
METHANE (% BY Volume)	GMW-1	0.0	0.0	0.0	0.0	0.0	1.2	1.1	0.0	0.0
	GMW-2	0.0	0.0	0.0	0.0	0.0	0.4	0.4	0.0	0.0
	GMW-3	2.3	2.9	3.3	3.1	4.2	1.5	1.6	3.1	4.6
	GMW-4	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0
	GMW-5	1.2	1.5	1.1	0.9	0.5	0.0	0.0	0.9	1.0
	GMW-6	13.9	14.4	15.6	18.3	16.7	13.9	12.8	18.3	19.6
	GMW-7	44.1	42.1	40.9	42.5	45.6	47.1	47.4	42.5	46.2
CARBON DIOXIDE (% BY Volume)	GMW-1	2.7	3.6	4.2	4.9	5.6	6.5	6.2	4.9	5.6
	GMW-2	1.2	1.5	3.4	3.5	3.7	5.9	5.7	3.5	3.3
	GMW-3	2.9	4.2	4.7	4.4	4.1	5.2	5.9	4.4	4.7
	GMW-4	2.7	2.5	3.6	5.2	5.8	5.3	4.8	5.2	6.3
	GMW-5	6.6	7.9	8.3	7.2	7.8	5.3	3.8	7.2	7.8
	GMW-6	8.8	7.6	7.1	9.6	9.1	7.4	7.1	9.6	9.1
	GMW-7	10.3	9.4	10.8	10.1	11.2	14.3	14.3	10.1	11.4
OXYGEN (% BY Volume)	GMW-1	16.4	15.7	16.4	16.7	16.5	17.2	17.8	16.7	16.4
	GMW-2	17.1	16.8	17.3	17.1	17.2	18.1	18.6	17.1	16.3
	GMW-3	15.7	16.1	15.1	14.2	13.8	18.3	18.3	14.2	13.7
	GMW-4	16.8	14.7	13.2	13.8	12.3	17.6	17.3	13.8	14.3
	GMW-5	0.0	0.0	0.0	0.0	0.0	17.8	19.1	0.0	0.0
	GMW-6	16.2	15.4	12.5	11.3	11.4	16.9	15.6	11.3	12.4
	GMW-7	0.0	0.0	0.0	0.0	0.0	2.0	1.9	0.0	0.0

BARHOLE READINGS

		Date	16-Feb*	5-Apr	26-Apr	26-May*	28-Jun	26-Jul*	7-Sep	17-Nov*	27-Dec
METHANE (% BY Volume)	GMW-3	5 ft East	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		5 ft West	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	GMW-6	5 ft North	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		5 ft South	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	GMW-7	5 ft North	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		5 ft South	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
CARBON DIOXIDE (% BY Volume)	GMW-3	5 ft East	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		5 ft West	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	GMW-6	5 ft North	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		5 ft South	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	GMW-7	5 ft North	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
		5 ft South	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
OXYGEN (% BY Volume)	GMW-3	5 ft East	20.8	20.8	20.8	20.8	20.6	20.6	20.6	20.8	20.8
		5 ft West	20.8	20.8	20.8	20.8	20.8	20.6	20.7	20.8	20.8
	GMW-6	5ft North	20.8	20.8	20.8	20.8	20.8	20.6	20.8	20.8	20.8
		5 ft South	20.8	20.8	20.8	20.8	20.8	20.8	20.6	20.8	20.8
	GMW-7	5 ft North	20.8	20.8	20.8	20.8	20.8	20.8	20.5	20.8	20.8
		5 ft South	20.6	20.6	20.6	20.6	20.6	20.6	20.8	20.6	20.6

* Quarterly Readings. Other readings were taken after extended intermittent flare outages.

Table 2: Summary of Target Volatile Organic Compounds (VOCs) Detected in Groundwater Samples

			Wells Screened in the Saturated Zone (Fill Aquifer) Above the Tidal Marsh Deposits				Wells Screened in the Upper Portion of the Upper Glacial Aquifer								Wells Screened in the Lower Portion of the Upper Glacial Aquifer							
			HF-602U		HF-608U		HF-102S		HF-104S		HF-602S		HF-608S		HF-102D		HF-104D		HF-602D		HF-608D	
ANALYTE	UNITS	NYSDEC Class GA Standard	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21
Acetone	ug/L	50[GV]	22.6	ND	14.8	ND	ND	Not	8.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzene	ug/L	1	ND	ND	ND	ND	ND	Sampled	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromomethane	ug/L	No Std.	ND	ND	ND	ND	ND	(Dry)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	5	ND	ND	**15**	**6.5**	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	3	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/L	5	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	5	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Iodomethane	ug/L	No Std.	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Footnotes:

Only the target VOCs detected in at least one sample during this reporting period are listed. All others target VOCs were not detected. TICs are not included in this summary table.

The NYSDEC Class GA water-quality standards and guidance values are for potable groundwater. The groundwater at the site is naturally saline and therefore non-potable.

There are no VOC standards for saline groundwater. Standards with the "GV" notation are guidance values only. "ND" = Not Detectable.

Results shown in bold font are higher than the Class GA water-quality standard or guidance value.

J = Estimated value.

Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They a

Table 3: Summary of Target Semi-Volatile Organic Compounds (SVOCs) Detected in Groundwater Samples

			Wells Screened in the Saturated Zone (Fill Aquifer) Above the Tidal Marsh Deposits				Wells Screened in the Upper Portion of the Upper Glacial Aquifer								Wells Screened in the Lower Portion of the Upper Glacial Aquifer							
			HF-602U		HF-608U		HF-102S		HF-104S		HF-602S		HF-608S		HF-102D		HF-104D		HF-602D		HF-608D	
ANALYTE	UNITS	NYSDEC Class GA Standard	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21
Acenaphthene	ug/L	20[GV]	ND	ND	ND	0.95 J	ND	Not	ND	0.59 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Anthracene	ug/L	50[GV]	ND	ND	ND	ND	ND	Sampled	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ug/L	No Std.	ND	ND	ND	ND	ND	(Dry)	ND	ND	ND	ND	0.71 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bis (2-ethylhexyl) phthalate	ug/L	5	ND	ND	ND	ND	ND		ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ug/L	5	ND	ND	0.67 J	0.53 J	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Cresol (m&p)	ug/L	2[GV]*	**3.1**	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo (a,h) anthracene	ug/L	No Std.	ND	ND	ND	ND	ND		ND	ND	ND	ND	0.61 J	ND	ND	ND	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	3	ND	ND	0.52 J	1	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Diethyl phthalate	ug/L	50[GV]	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.67 J	ND	ND
Di-n-butyl phthalate	ug/L	50	ND	ND	ND	ND	ND		ND	ND	0.50 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ug/L	50[GV]	ND	ND	ND	ND	ND		ND	ND	0.53 J	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Fluorene	ug/L	50[GV]	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Indeno (1,2,3-cd) pyrene	ug/L	0.002[GV]	ND	ND	ND	ND	ND		ND	ND	ND	ND	**0.59 J**	ND	ND	ND	ND	ND	ND	ND	ND	ND
2-Methylnaphthalene	ug/L	No Std.	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Naphthalene	ug/L	10[GV]	ND	ND	2.7	1.2	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ug/L	50[GV]	ND	ND	0.76 J	1	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Phenanthrene	ug/L	50[GV]	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Footnotes:

Only the target SVOCs detected in at least one sample during this reporting period are listed. All others target SVOCs were not detected. TICs are not included in this summary table.

The NYSDEC Class GA water-quality standards and guidance values are for potable groundwater. The groundwater at the site is naturally saline and therefore non-potable.

There are no SVOC standards for saline groundwater. Standards with the "GV" notation are guidance values only. "ND" = Not Detectable.

Results shown in bold font are higher than the Class GA water-quality standard or guidance value.

J = Estimated value.

* Guidance value for total cresol

Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 4: Summary of Leachate Indicator Parameters Detected In Groundwater Samples

ANALYTE	UNITS	NYSDEC Class GA Standard	Wells Screened in the Saturated Zone (Fill Aquifer) Above the Tidal Marsh Deposit					
			HF-602U		HF-608U			
			4Q19	1Q21	2Q17	3Q18	4Q19	1Q21
Alkalinity	mg/L	No Std.	453	344	5060	4690	2,540	8,240
Ammonia	mg/L	2	**2.4**	**2.7**	**881**	**931**	**397**	**535**
BOD_5	mg/L	No Std.	17.5	2.3	22.1 J	<28.6	14.1 J	44.1
Bromide	mg/L	2[GV]	0.092 J	<0.50	**15.3**	**14.7**	**8.7**	**9.8**
Chloride	mg/L	250	33.4	**712.0**	**1,320.0**	**1,550.0**	**708.0**	**1,130.0**
COD	mg/L	No Std.	107	35.6	1330	1430	810	755
Color	Units	15	**50**	**50**	**2000**	**1250**	**1250**	**1000**
Cyanide, Amenable	mg/L	0.2	<0.010	<0.010	<0.010	0.0123	0.006 J	<0.010
Hardness	mg/L	No Std.	460	340	270	200	200	127
Nitrate+Nitrite	mg/L	10	<0.050	<0.25	<0.050	<0.050	0.022 J	<0.25
Phenolics, Tot. Recov.	mg/L	0.001	**0.0029 J**	<0.005	**0.108**	**0.209**	**0.0050 J**	<0.005
Sulfate	mg/L	250	41.9	18.9	71.5	79.2	82	47.6
Tot. Dissolved Solids	mg/L	500	**586**	**1,460**	**5,090**	**5,540**	**3,020**	**3,460**
Tot. Kjeldahl N.	mg/L	No Std.	2.4	4.1	935	1820	404	504
Tot. Organic Carbon	mg/L	No Std.	29.5	7.7	385	478	185	178

ANALYTE	UNITS	NYSDEC Class GA Standard	Wells Screened in the Upper Portion of the Upper Glacial Aquifer								Wells Screened in the Lower Portion of the Upper Glacial Aquifer													
			HF-102S		HF-104S		HF-602S		HF-608S		HF-102D		HF-104D		HF-602D		HF-608D		HF-102D		HF-104D		HF-602D		HF-608D	
			4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	2Q17	3Q18	2Q17	3Q18	2Q17	3Q18	2Q17	3Q18	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21
Alkalinity	mg/L	No Std.	979	Not	1770	939	954	962	1020	1090	<1.0	<1.0	315	278	963	511	313	311	0.97 J	<5.0	359	392	435	372	311	314
Ammonia	mg/L	2	**25.5**	Sampled	**220.0**	**139**	**25.0**	**28.2**	**2.4**	<0.10	0.6	0.7	0.2	0.030 J	**5.7**	**2.2**	0.1	0.052 J	0.7	0.99	0.062 J	0.070 J	0.3	<0.10	0.1	<0.10
BOD_5	mg/L	No Std.	1.0 J	(Dry)	2.7 J	<2.0	2.1 J	<4.0	1.0 J	<2.0	10.8	29.9	1.0 J	<2.0	<4.0	<4.0	1.0 J	<2.0	23.4	8.1	1.0 J	<2.0	1.0 J	<2.0	1.0 J	<2.0
Bromide	mg/L	2[GV]	**44.4**		**6.3**	**2.5**	**8.7**	**6.5**	**24.2**	**17.0**	**9.6**	**10.2**	0.092 J	0.19 J	**32.8**	**28.4**	**38.0**	**36.3**	**14.0**	**9.6**	0.10 J	0.11 J	**35.0**	**23.9**	**45.3**	**29.7**
Chloride	mg/L	250	**10,900**		**670**	**359**	**1,480**	**1,190**	**6,020**	**5,500**	**2,940**	**4,110**	44	71	**10,200**	**9,660**	**12,600**	**13,400**	**3,650**	<2.0	41	71	**8,840**	**9,100**	**12,400**	**11,700**
COD	mg/L	No Std.	899		308	71.9	91	75.4	223	288	152	165	17.2	25.7	500	487	762	727	162	185	19	14.2	369	468	673	421
Color	Units	15	**150**		**75**	**30**	**30**	**50**	**75**	**200**	5	5	**10**	**15**	**40**	**50**	**20**	**20**	5	**40**	**60**	**30**	**20**	**25**	**25**	**20**
Cyanide, Amenable	mg/L	0.2	0.0036 J		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.003 J	<0.010	<0.010	<0.010	<0.010
Hardness	mg/L	No Std.	3400		700	320	600	600	1100	1,340	1430	1100	317	267	3150	7100	3500	6600	1500	1,000	300	280	3000	2,600	3700	3,500
Nitrate + Nitrite	mg/L	10	0.027 J		<0.050	<0.050	<0.050	<0.25	0.022 J	0.31	<0.050	0.092	4	2.2	3.1	<0.050	1.1	0.69	0.041 J	<0.25	<0.050	<0.050	0.54	1.4	0.77	0.69
Phenolics, Tot. Recov.	mg/L	0.001	**0.0026 J**		**0.0029 J**	<0.005	<0.005	<0.005	**0.0064**	<0.005	**0.0021 J**	**0.0038 J**	**0.0021 J**	**0.0054**	**0.0016 J**	<0.005	**0.0034 J**	**0.0012 J**	<0.005	<0.005	**0.0052**	<0.005	**0.0034 J**	<0.005	**0.0040 J**	<0.005
Sulfate	mg/L	250	**676**		<5.0	20.4	**414**	**351**	**936**	**761**	**285**	**377**	47.7	60.8	**774**	**1320**	**1410**	**1800**	**418**	**302**	42.1	46	**1330**	**1130**	**1840**	**1400**
Tot. Dissolved Solids	mg/L	500	**17,400**		**2,230**	**1,220**	**3,070**	**3,190**	**10,400**	**10,600**	**6,610**	**5,680**	464	472	**18,700**	**15,600**	**20,200**	**24,100**	**5,220**	**5,890**	498	**546**	**13,800**	**15,500**	**18,100**	**18,100**
Tot. Kjeldahl N.	mg/L	No Std.	23.3		228	129	25.5	26.3	9.6	0.2	0.47	0.83	0.4	2	7.8	3.4	0.49	0.49	0.55	0.84	0.76	0.64	4.3	<0.10	<0.10	<0.10
Tot. Organic Carbon	mg/L	No Std.	14.1		46.3	16.1	15.5	16.1	16.5	16.3	<1.0	0.33 J	3.7	4.3	5.4	5.1	3.4 J	4.4	<1.0	<1.0	3.5	4.2	4.8	4.2	3.8	3.9

Footnotes:

Analytes are the Part 363 Baseline leachate indicator parameters.

The NYSDEC Class GA water-quality standards and guidance values are for potable groundwater. The groundwater at the site is naturally saline and therefore non-potable.

There are no leachate indicator parameter standards for saline groundwater. Standards with the "GV" notation are guidance values only.

Results shown in bold font are higher than the potable groundwater standard or guidance value.

Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 5: Summary of Inorganic Parameters Detected In Groundwater Samples

			Wells Screened in the Saturated Zone (Fill Aquifer) Above the Tidal Marsh Deposit				Wells Screened in the Upper Portion of the Upper Glacial Aquifer								Wells Screened in the Lower Portion of the Upper Glacial Aquifer							
		NYSDEC Class	HF-602U		HF-608U		HF-102S		HF-104S		HF-602S		HF-608S		HF-102D		HF-104D		HF-602D		HF-608D	
ANALYTE	UNITS	GA Standard	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21	4Q19	1Q21
Aluminum	ug/L	No Std.	<200	<200	377	222	<200	Not	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200	<200
Antimony	ug/L	3	<60.0	<60.0	<60.0	<60.0	<60.0	Sampled	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0	<60.0
Arsenic*	ug/L	10**	<10.0	<10.0	<10.0	<10.0	<10.0	(Dry)	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Barium*	ug/L	1,000	300	394	357	318	177 J		690	200	6.7 J	<200	34.0 J	20.0 J	129 J	118 J	81.8 J	74.7 J	50.1 J	44.2 J	49.9 J	40.4 J
Beryllium	ug/L	3[GV]	<5.0	<5.0	<5.0	<5.0	0.18 J		0.081 J	<5.0	0.18 J	<5.0	0.30 J	<5.0	0.28 J	<5.0	<5.0	<5.0	0.14 J	<5.0	0.17 J	<5.0
Boron	ug/L	1,000	46.8 J	63.8	**6,670**	**6,360**	**3,470**		**2200**	861	**1800**	**1800**	**3210**	**2850**	138	198	89.0	107	**2,100**	**1,880**	**2,840**	**2,730**
Cadmium*	ug/L	5	<2.5	<2.5	<2.5	<2.5	<2.5		<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5	<2.5
Calcium	ug/L	No Std.	173,000	168000	56,500	31700	242,000		221,000	124000	65,000	71800	111,000	106000	308,000	322000	123,000	124000	227,000	216000	252,000	250000
Chromium*	ug/L	50	<10.0	<10.0	**147**	**109**	2.1 J		6.6 J	2.6 J	5.2 J	8.3 J	<10.0	3.4 J	<10.0	<10.0	<10.0	<10.0	<10.0	1.2 J	<10.0	<10.0
Cobalt	ug/L	No Std.	<50.0	<50.0	18.8 J	19.9 J	<50.0		3.4 J	<50.0	<50.0	<50.0	<50.0	<50.0	2.4 J	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Copper	ug/L	200	24.5 J	6.0 J	9.4 J	7.3 J	14.6 J		11.8 J	8.7 J	9.8 J	5.1 J	17.4 J	11.3 J	110	23.5 J	6.1 J	5.8 J	11.0 J	<25.0	13.8 J	4.7 J
Iron	ug/L	300	**1,360**	**2,510**	**4,050**	**3,000**	**13,200**		**1850**	**584**	53.0 J	227	**2870**	265	**244000**	**246000**	**2,540**	**545**	143	273	46.2 J	215
Iron and Manganese	ug/L	500	**2,171**	**2,631**	**4,135**	**3,059**	**13,649**		**1997**	**646.1**	61.7 J	239.7	**3231**	284.9	**249400**	**251330**	**2,595**	**583**	178	316	46.2 J	221
Lead*	ug/L	25	<5.0	<5.0	<5.0	<5.0	<5.0		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Magnesium	ug/L	35,000[GV]	20,200	20,600	23,900	21,900	**689,000**		**50,600**	24,000	**166,000**	**169,000**	**292,000**	**282,000**	**172,000**	**179,000**	17,400	20,700	**642,000**	**612,000**	**772,000**	**762,000**
Manganese	ug/L	300	**811**	121	84.9	58.5	**449**		147	62.1	8.7 J	12.7	**361**	19.9	**5400**	**5330**	54.7	37.5	34.7	43.1	<10.0	5.8 J
Mercury*	ug/L	0.7	<0.20	<0.20	<0.20	<0.20	<0.20		<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel	ug/L	100	15.0 J	10.1 J	47.3	53.9	15.0 J		20.6 J	21.1 J	16.6 J	29.1 J	17.1 J	42.1	<40.0	19.0 J	17.8 J	22.2 J	11.1 J	23.1 J	11.8 J	25.1 J
Potassium	ug/L	No Std.	2,940 J	6,780	197,000	212,000	284,000		132,000	71,100	124,000	136,000	212,000	210,000	60,000	65,100	7,720	8,590	259,000	258,000	258,000	341,000
Selenium*	ug/L	10	<10.0	<10.0	<10.0	<10.0	<10.0		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	**18.4**	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Silver*	ug/L	50	<10.0	<10.0	<10.0	<10.0	2.5 J		<10.0	<10.0	<10.0	<10.0	5.7 J	<10.0	4.9 J	2.5 J	<10.0	<10.0	2.5 J	<10.0	2.8 J	<10.0
Sodium	ug/L	20,000	18,200	**364,000**	**836,000**	**907,000**	**5,700,000**		**566,000**	**222,000**	**845,000**	**825,000**	**3,360,000**	**3,560,000**	**1,350,000**	**1,510,000**	**30,300**	**50,600**	**4,620,000**	**4,530,000**	**5,920,000**	**6,440,000**
Thallium	ug/L	0.5[GV]	<10.0	<10.0	<10.0	<10.0	<10.0		<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0
Vanadium	ug/L	No Std.	<50.0	<50.0	220	149	8.4 J		6.8 J	<50.0	26.7 J	29.2 J	7.6 J	7.2 J	6.7 J	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0	<50.0
Zinc	ug/L	2,000[GV]	13.8 J	20.5	9.6 J	16.3 J	<20.0		33.6	36.2	<20.0	<20.0	5.4 J	<20.0	5.5 J	<20.0	39.9	40.4	<20.0	<20.0	<20.0	<20.0

Footnotes:

The analytes are the Part 363 baseline inorganic parameters.

The NYSDEC Class GA water-quality standards and guidance values are for potable groundwater.

There are no leachate indicator parameter standards for saline ground water. Standards with the "GV" notation are guidance values only.

Results shown in bold font are higher than the potable groundwater standard or guidance value.

J = estimated value.

* = RCRA metals.

** = Federal MCL, which is more stringent than the 25-ug/L State Class GA water-quality

Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 6
Summary of Quarterly Perimeter Gas Monitoring Well Methane Results During the Second Five-Year Review Period
Fountain Avenue Landfill, Brooklyn, NY

Post- Closure Year	Quarterly Monitoring Round	GMW-1	GMW-2	GMW-3	GMW-4	GMW-5	GMW-6	GMW-7
		Methane (% by volume)						
6	1Q17	0.3	0.5	0.2	0.2	0.3	2.6	45.7
	2Q17	0.2	0.4	0.3	0.3	0.2	2.9	46.1
	3Q17	0.3	0.5	0.3	0.3	0.2	3.1	45.1
	4Q17	0.5	0.6	0.4	0.4	0.3	3.3	42.3
7	1Q18	0.3	0.4	0.2	0.2	0.1	3.1	42.1
	2Q18	0.4	0.7	0.4	0.4	0.3	3.3	42.3
	3Q18	0.5	0.6	0.4	0.5	0.3	4.1	40.2
	4Q18	0.7	0.8	0.6	0.7	0.5	4.3	40.4
8	1Q19	0.8	1.1	1.1	1.1	1.0	3.4	46.3
	2Q19	0.0	0.0	0.0	0.0	2.7	0.5	38.2
	3Q19	0.0	0.0	5.2	0.1	5.6	4.2	48.9
	4Q19	0.0	0.0	2.1	0.0	4.4	5.0	45.1
9	1Q20	0.0	0.0	2.4	0.0	4.2	6.6	43.0
	2Q20	0.0	0.0	2.2	0.0	0.6	5.5	41.6
	3Q20	0.0	0.0	1.5	0.0	0.6	10.4	44.0
	4Q20	0.0	0.0	1.6	0.0	0.9	13.0	43.9
10	1Q21	0.0	0.0	2.3	0.0	1.2	13.9	44.1
	2Q21	0.0	0.0	3.1	0.0	0.9	18.3	42.5
	3Q21	1.2	0.4	1.5	1.0	0.0	13.9	47.1
	4Q21	0.0	0.0	3.1	0.0	0.9	18.3	42.5

Note:

1. While Table 6 summarizes the Quarterly Perimeter Gas Monitoring event data for the second five-year post-closure period, it should be noted that additional monitoring events may have occurred each year during extended, but intermitted, flare outages. That data is provided in the Quarterly and Annual Reports. Details for all 2021 monitoring events, including after extended, but intermittent, flare outages can be found in Table 1 and discussed in Section 3, 2021 Annual Summary.

Table 7
Comparison of Results for Target Volatile Organic Compounds (VOCs) Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

ANALYTE	UNITS	NYSDEC Class GA Standard	Wells Screened in the Saturated Zone Above the Tidal Marsh Deposit															
			HF-602U								HF-608U							
			Remedial Investigation		1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average	Remedial Investigation		1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average
			3Q93	4Q93							3Q93	4Q93						
Acetone	ug/L	**50[GV]**	ND	R	2.8	5.7	ND	22.6	ND	7.1	ND	R	4.38	10.6	15.1	14.8	ND	10.1
Benzene	ug/L	**1**	**7 J**	**6 J**	**2.0**	ND	ND	ND	ND	ND	**8 J**	**11**	**3.25**	**3.6 J**	ND	ND	ND	0.9
Bromomethane	ug/L	**No Std.**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	**5**	**12**	**11**	2.6	ND	ND	ND	ND	ND	**17.0**	**21.0**	**13.0**	**14.9**	**13.4**	**15.0**	**6.5**	**12.5**
1,4-Dichlorobenzene	ug/L	**3**	ND	ND	2.0	ND	ND	ND	ND	ND	ND	ND	2.3	2.6 J	ND	ND	ND	0.7
1,1-Dichloroethane	ug/L	**5**	ND	ND	2.0	ND	ND	ND	ND	ND	ND	ND	2.0	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	**5**	ND	ND	2.0	ND	ND	ND	ND	ND	1 J	ND	3.3	4.2 J	ND	ND	ND	1.1
Iodomethane	ug/L	**No Std.**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Footnotes: Only the target VOCs detected during this reporting period are listed. All other target VOCs analyzed for were not detected. Only detected results are reported for the Remedial Investigation events.
The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no VOC standards for saline groundwater.
Standards with the (GV) notation are guidance values only.
NA = Not analyzed. NS = Not sampled. ND = Not detected.
R = Compound rejected due to contamination in associated method blank.
J = Estimated value.
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 7 (Cont'd)
Comparison of Results for Target Volatile Organic Compounds (VOCs) Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

Wells Screened in the Upper Portion of the Upper Glacial Aquifer

ANALYTE	UNITS	NYSDEC Class GA Standard	HF-102S Remedial Investigation 3Q93	HF-102S Remedial Investigation 4Q93	HF-102S 1st 5-Yr. Review Period Average	HF-102S Yr 6 (2Q17)	HF-102S Yr 7 (3Q18)	HF-102S Yr 8 (4Q19)	HF-102S Yr 10 (1Q21)	HF-102S 2nd 5-Yr. Review Period Average	HF-104S Remedial Investigation 3Q93	HF-104S Remedial Investigation 4Q93	HF-104S 1st 5-Yr. Review Period Average	HF-104S Yr 6 (2Q17)	HF-104S Yr 7 (3Q18)	HF-104S Yr 8 (4Q19)	HF-104S Yr 10 (1Q21)	HF-104S 2nd 5-Yr. Review Period Average
Acetone	ug/L	**50 (GV)**	ND	R	3.13	ND	ND	ND	Not	ND	7 J	R	3.13	ND	ND	ND	ND	ND
Benzene	ug/L	**1**	**2 J**	**4 J**	**2**	ND	ND	ND	Sampled	ND	1 J	ND	**1.88**	ND	ND	ND	ND	ND
Bromomethane	ug/L	**No Std.**	ND	ND	ND	ND	ND	ND	(Dry)	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	**5**	2 J	**6 J**	2	ND	ND	ND		ND	ND	ND	2	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	**3**	ND	ND	1.88	ND	ND	ND		ND	ND	ND	2	ND	ND	ND	ND	ND
1,1-Dichloroethane	ug/L	**5**	ND	ND	2	ND	ND	ND		ND	ND	ND	2	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	**5**	ND	ND	2	ND	ND	ND		ND	ND	ND	2	ND	ND	ND	ND	ND
Iodomethane	ug/L	**No Std.**	ND	ND	ND	ND	ND	ND		ND	ND	ND	ND	ND	ND	ND	ND	ND

ANALYTE	HF-602S Remedial Investigation 3Q93	HF-602S Remedial Investigation 4Q93	HF-602S 1st 5-Yr. Review Period Average	HF-602S Yr 6 (2Q17)	HF-602S Yr 7 (3Q18)	HF-602S Yr 8 (4Q19)	HF-602S Yr 10 (1Q21)	HF-602S 2nd 5-Yr. Review Period Average	HF-608S Remedial Investigation 3Q93	HF-608S Remedial Investigation 4Q93	HF-608S 1st 5-Yr. Review Period Average	HF-608S Yr 6 (2Q17)	HF-608S Yr 7 (3Q18)	HF-608S Yr 8 (4Q19)	HF-608S Yr 10 (1Q21)	HF-608S 2nd 5-Yr. Review Period Average
Acetone	ND	R	3.1	ND	ND	ND	ND	ND	ND	R	3.3	ND	ND	ND	ND	ND
Benzene	ND	ND	**2**	ND	ND	ND	ND	ND	ND	ND	**2**	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
1,1-Dichloroethane	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	4	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.7 J	ND	ND	ND	ND

Footnotes: Only the target VOCs detected during this reporting period are listed. All other target VOCs analyzed for were not detected. Only detected results are reported for the Remedial Investigation events.
The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no VOC standards for saline groundwater.
Standards with the (GV) notation are guidance values only.
NA = Not analyzed. NS = Not sampled. ND = Not detected.
R = Compound rejected due to contamination in associated method blank.
J = Estimated value.
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 7 (Cont'd)
Comparison of Results for Target Volatile Organic Compounds (VOCs) Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

Wells Screened in the Lower Portion of the Upper Glacial Aquifer

ANALYTE	UNITS	NYSDEC Class GA Standard	HF-102D Remedial Investigation 3Q93	HF-102D Remedial Investigation 4Q93	HF-102D 1st 5-Yr. Review Period Average	HF-102D Yr 6 (2Q17)	HF-102D Yr 7 (3Q18)	HF-102D Yr 8 (4Q19)	HF-102D Yr 10 (1Q21)	HF-102D 2nd 5-Yr. Review Period Average	HF-104D Remedial Investigation 3Q93	HF-104D Remedial Investigation 4Q93	HF-104D 1st 5-Yr. Review Period Average	HF-104D Yr 6 (2Q17)	HF-104D Yr 7 (3Q18)	HF-104D Yr 8 (4Q19)	HF-104D Yr 10 (1Q21)	HF-104D 2nd 5-Yr. Review Period Average
Acetone	ug/L	**50^{GV}**	ND	R	3.13	11.2	ND	ND	ND	3.3	13	R	3.13	2.7 J	ND	ND	ND	0.7 J
Benzene	ug/L	**1**	1 J	**8 J**	**2**	ND	ND	ND	ND	ND	ND	ND	**2**	ND	ND	ND	ND	ND
Bromomethane	ug/L	**No Std.**	ND	ND	ND	2.0 J	ND	ND	ND	0.5 J	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ug/L	**5**	4 J	**17**	2	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	**3**	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
Ethylbenzene	ug/L	**5**	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
Iodomethane	ug/L	**No Std.**	ND	ND	ND	1.4 J	ND	ND	ND	0.4 J	ND	ND	ND	ND	ND	ND	ND	ND

ANALYTE	HF-602D Remedial Investigation 3Q93	HF-602D Remedial Investigation 4Q93	HF-602D 1st 5-Yr. Review Period Average	HF-602D Yr 6 (2Q17)	HF-602D Yr 7 (3Q18)	HF-602D Yr 8 (4Q19)	HF-602D Yr 10 (1Q21)	HF-602D 2nd 5-Yr. Review Period Average	HF-608D Remedial Investigation 3Q93	HF-608D Remedial Investigation 4Q93	HF-608D 1st 5-Yr. Review Period Average	HF-608D Yr 6 (2Q17)	HF-608D Yr 7 (3Q18)	HF-608D Yr 8 (4Q19)	HF-608D Yr 10 (1Q21)	HF-608D 2nd 5-Yr. Review Period Average
Acetone	ND	ND	3.5	5.7	ND	ND	ND	1.4	ND	ND	3.1	3.7 J	ND	ND	ND	ND
Benzene	ND	ND	**2**	ND	ND	ND	ND	ND	ND	ND	**2**	ND	ND	ND	ND	ND
Bromomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Chlorobenzene	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
Ethylbenzene	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND
Iodomethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Footnotes: Only the target VOCs detected during this reporting period are listed. All other target VOCs analyzed for were not detected. Only detected results are reported for the Remedial Investigation events.
The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no VOC standards for saline groundwater.
Standards with the (GV) notation are guidance values only.
NA = Not analyzed. NS = Not sampled. ND = Not detected.
R = Compound rejected due to contamination in associated method blank.
J = Estimated value.
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 8
Comparison of Results for Target Semi-Volatile Organic Compounds (SVOCs) Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

ANALYTE	UNITS	NYSDEC Class GA Standard	Wells Screened in the Saturated Zone Above the Tidal Marsh Deposit														
			HF-602U							HF-608U							
			Remedial Investigation		1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average	Remedial Investigation		1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average
			3Q93	4Q93							3Q93	4Q93						
Acenaphthene	ug/L	**20[GV]**	2 J	3 J	0.5	ND	ND	ND	ND	ND	11 J	ND	0.63	2	2.3	ND	0.95 J	1.3
Anthracene	ug/L	**50[GV]**	ND	2 J	0.5	ND	ND	ND	ND	ND	ND	1 J	0.75	2	2	ND	ND	1.0
Benzo (g,h,i) perylene	ug/L	**No Std.**	ND	ND	0.5	ND	ND	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND	ND
Benzo (k) fluoranthene	ug/L	**0.002[GV]**	ND	ND	**0.5**	ND	ND	ND	ND	ND	ND	ND	**0.5**	ND	ND	ND	ND	ND
Bis (2-ethylhexyl) phthalate	ug/L	**5**	ND	ND	0.5	ND	0.55 J	ND	ND	0.1	ND	ND	0.63	ND	ND	ND	ND	ND
4-Chloroaniline	ug/L	**5**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.67 J	0.53 J	0.3
Cresol (m&p)	ug/L	**2[GV]***	ND	ND	ND	ND	0.76 J	3.1	ND	1.0	ND	ND	ND	ND	ND	ND	ND	ND
Dibenzo (a,h) anthracene	ug/L	**No Std.**	ND	ND	0.5	ND	ND	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	**3**	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	0.52 J	1	0.8
Diethyl Phthalate	ug/L	**50[GV]**	ND	ND	0.5	ND	1.3	ND	ND	0.3	ND	ND	0.5	ND	ND	ND	ND	ND
Di-n-Butyl Phthalate	ug/L	**50**	ND	ND	0.63	ND	ND	ND	ND	ND	2 J	ND	0.68	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ug/L	**50[GV]**	ND	ND	0.5	ND	ND	ND	ND	ND	ND	ND	0.5	ND	ND	ND	ND	ND
Fluorene	ug/L	**50[GV]**	ND	2 J	0.5	ND	ND	ND	ND	ND	3 J	ND	0.75	1.9	1.5	ND	ND	0.9
Indeno (1,2,3-cd) pyrene	ug/L	**0.002[GV]**	ND	ND	**0.5**	ND	ND	ND	ND	ND	ND	ND	**0.5**	ND	ND	ND	ND	ND
2-Methylnaphthalene	ug/L	**No Std.**	4 J	6 J	0.5	ND	ND	ND	ND	ND	27 J	12 J	2.3	5.1	3.4	ND	ND	2.1
Naphthalene	ug/L	**10[GV]**	ND	ND	0.5	ND	ND	ND	ND	ND	**230**	**150**	**42.3**	**57.0**	**65.5**	2.7	1.2	**31.6**
N-Nitrosodiphenylamine	ug/L	**50[GV]**	ND	ND	0.5	ND	ND	ND	ND	ND	ND	ND	0.88	2.1	2.2	0.76 J	1	1.5
Phenanthrene	ug/L	**50[GV]**	1 J	2 J	0.5	ND	ND	ND	ND	ND	4 J	4 J	0.5	ND	1.1	ND	ND	0.3

Footnotes: Only the target SVOCs detected during this reporting period are listed. All other target SVOCs analyzed for were not detected. Only detected results are reported for the Remedial Investigation events.
The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no SVOC standards for saline groundwater.
Standards with the GV notation are guidance values only.
Results shown in bold font are higher than the potable groundwater standad.
NS = Not Sampled.
ND= Not Detected.
J = Data qualified as estimated.
* Guidance value for total cresol
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 8 (Cont'd)
Comparison of Results for Target Semi-Volatile Organic Compounds (SVOCs) Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

Wells Screened in the Upper Portion of the Upper Glacial Aquifer

ANALYTE	UNITS	NYSDEC Class GA Standard	HF-102S Remedial Investigation 3Q93	HF-102S Remedial Investigation 4Q93	HF-102S 1st 5-Yr. Review Period Average	HF-102S Yr 6 (2Q17)	HF-102S Yr 7 (3Q18)	HF-102S Yr 8 (4Q19)	HF-102S Yr 10 (1Q21)	HF-102S 2nd 5-Yr. Review Period Average	HF-104S Remedial Investigation 3Q93	HF-104S Remedial Investigation 4Q93	HF-104S 1st 5-Yr. Review Period Average	HF-104S Yr 6 (2Q17)	HF-104S Yr 7 (3Q18)	HF-104S Yr 8 (4Q19)	HF-104S Yr 10 (1Q21)	HF-104S 2nd 5-Yr. Review Period Average
Acenaphthene	ug/L	**20^{GV}**	ND	NS	0.88	ND	0.82 J	ND	Not	0.3	ND	NS	2.8	2.1	ND	ND	0.59 J	0.7
Anthracene	ug/L	**50^{GV}**	ND	NS	0.5	ND	ND	ND	Sampled	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ug/L	**No Std.**	ND	NS	0.5	ND	ND	ND	(Dry)	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Benzo (k) fluoranthene	ug/L	**0.002^{GV}**	ND	NS	**0.5**	ND	ND	ND		ND	ND	NS	**0.5**	ND	ND	ND	ND	ND
Bis (2-ethylhexyl) phthalate	ug/L	**5**	ND	NS	0	ND	**29.3**	ND		**9.8**	ND	NS	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ug/L	**5**	ND	NS	0.5	ND	ND	ND		ND	ND	NS	0.5	ND	ND	ND	ND	ND
Cresol (m&p)	ug/L	**2^{GV}***	ND	NS	0.5	ND	ND	ND		ND	ND	NS	0.5	ND	ND	ND	ND	ND
Dibenzo (a,h) anthracene	ug/L	**No Std.**	ND	NS	0	ND	ND	ND		ND	ND	NS	ND	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	**3**	ND	NS	0.5	ND	0.57 J	ND		0.2	ND	NS	0.5	ND	ND	ND	ND	ND
Diethyl Phthalate	ug/L	**50^{GV}**	ND	NS	0	ND	ND	ND		ND	ND	NS	ND	ND	ND	ND	ND	ND
Di-n-Butyl Phthalate	ug/L	**50**	ND	NS	0.5	ND	ND	ND		ND	ND	NS	0.88	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ug/L	**50^{GV}**	ND	NS	0.5	ND	ND	ND		ND	ND	NS	0.63	ND	ND	ND	ND	ND
Fluorene	ug/L	**50^{GV}**	ND	NS	0.5	ND	ND	ND		ND	ND	NS	0.75	2.3	ND	ND	ND	0.6
Indeno (1,2,3-cd) pyrene	ug/L	**0.002^{GV}**	ND	NS	**0.5**	ND	ND	ND		ND	ND	NS	**0.5**	ND	ND	ND	ND	ND
2-Methylnaphthalene	ug/L	**No Std.**	ND	NS	0.5	ND	ND	ND		ND	ND	NS	0.5	ND	ND	ND	ND	ND
Naphthalene	ug/L	**10^{GV}**	ND	NS	0.5	ND	0.94 J	ND		0.3	ND	NS	0.5	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ug/L	**50^{GV}**	ND	NS	0.5	ND	ND	ND		ND	ND	NS	1.1	ND	ND	ND	ND	ND
Phenanthrene	ug/L	**50^{GV}**	ND	NS	0.5	ND	ND	ND		ND	ND	NS	0.5	ND	ND	ND	ND	ND

ANALYTE	HF-602S Remedial Investigation 3Q93	HF-602S Remedial Investigation 4Q93	HF-602S 1st 5-Yr. Review Period Average	HF-602S Yr 6 (2Q17)	HF-602S Yr 7 (3Q18)	HF-602S Yr 8 (4Q19)	HF-602S Yr 10 (1Q21)	HF-602S 2nd 5-Yr. Review Period Average	HF-608S Remedial Investigation 3Q93	HF-608S Remedial Investigation 4Q93	HF-608S 1st 5-Yr. Review Period Average	HF-608S Yr 6 (2Q17)	HF-608S Yr 7 (3Q18)	HF-608S Yr 8 (4Q19)	HF-608S Yr 10 (1Q21)	HF-608S 2nd 5-Yr. Review Period Average
Acenaphthene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Anthracene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.63	ND	ND	0.71 J	ND	0.2
Benzo (k) fluoranthene	ND	NS	**0.5**	ND	ND	ND	ND	ND	ND	NS	**0.88**	ND	ND	ND	ND	ND
Bis (2-ethylhexyl) phthalate	ND	NS	0	ND	1.4	2	ND	0.9	ND	NS	ND	ND	ND	ND	ND	ND
4-Chloroaniline	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Cresol (m&p)	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.63	ND	ND	ND	ND	ND
Dibenzo (a,h) anthracene	ND	NS	0	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	0.61 J	ND	0.2
1,4-Dichlorobenzene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Diethyl Phthalate	1 J	NS	0	ND	ND	ND	ND	ND	ND	NS	ND	ND	1.3	ND	ND	0.3
Di-n-Butyl Phthalate	2 J	NS	0.5	ND	ND	0.50 J	ND	0.1	ND	NS	0.5	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	NS	0.5	ND	ND	0.53 J	ND	0.1	ND	NS	0.5	ND	ND	ND	ND	ND
Fluorene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Indeno (1,2,3-cd) pyrene	ND	NS	**0.5**	ND	ND	ND	ND	ND	ND	NS	**0.5**	ND	ND	**0.59 J**	ND	**0.15**
2-Methylnaphthalene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.63	ND	ND	ND	ND	ND
Naphthalene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.63	ND	ND	ND	ND	ND
Phenanthrene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND

Footnotes: Only the target SVOCs detected during this reporting period are listed. All other target SVOCs analyzed for were not detected. Only detected results are reported for the Remedial Investigation events.
The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no SVOC standards for saline groundwater.
Standards with the GV notation are guidance values only.
Results shown in bold font are higher than the potable groundwater standad.
NS = Not Sampled.
ND= Not Detected.
J = Data qualified as estimated.
* Guidance value for total cresol
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 8 (Cont'd)
Comparison of Results for Target Semi-Volatile Organic Compounds (SVOCs) Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

Wells Screened in the Lower Portion of the Upper Glacial Aquifer

ANALYTE	UNITS	NYSDEC Class GA Standard	HF-102D Remedial Investigation 3Q93	HF-102D Remedial Investigation 4Q93	HF-102D 1st 5-Yr. Review Period Average	HF-102D Yr 6 (2Q17)	HF-102D Yr 7 (3Q18)	HF-102D Yr 8 (4Q19)	HF-102D Yr 10 (1Q21)	HF-102D 2nd 5-Yr. Review Period Average	HF-104D Remedial Investigation 3Q93	HF-104D Remedial Investigation 4Q93	HF-104D 1st 5-Yr. Review Period Average	HF-104D Yr 6 (2Q17)	HF-104D Yr 7 (3Q18)	HF-104D Yr 8 (4Q19)	HF-104D Yr 10 (1Q21)	HF-104D 2nd 5-Yr. Review Period Average
Acenaphthene	ug/L	20 GV	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Anthracene	ug/L	50 GV	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ug/L	No Std.	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Benzo (k) fluoranthene	ug/L	0.002 GV	ND	NS	**0.5**	ND	ND	ND	ND	ND	ND	NS	**0.5**	ND	ND	ND	ND	ND
Bis (2-ethylhexyl) phthalate	ug/L	5	ND	NS	0.625	ND	**42.8**	ND	ND	**14.3**	ND	NS	0.63	ND	ND	ND	ND	ND
4-Chloroaniline	ug/L	5	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND
Cresol (m&p)	ug/L	2 GV*	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND
Dibenzo (a,h) anthracene	ug/L	No Std.	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ug/L	3	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND
Diethyl Phthalate	ug/L	50 GV	ND	NS	0.5	ND	3.5	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Di-n-Butyl Phthalate	ug/L	50	1 J	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ug/L	50 GV	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Fluorene	ug/L	50 GV	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Indeno (1,2,3-cd) pyrene	ug/L	0.002 GV	ND	NS	**0.5**	ND	ND	ND	ND	ND	ND	NS	**0.5**	ND	ND	ND	ND	ND
2-Methylnaphthalene	ug/L	No Std.	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Naphthalene	ug/L	10 GV	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ug/L	50 GV	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Phenanthrene	ug/L	50 GV	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND

ANALYTE	HF-602D Remedial Investigation 3Q93	HF-602D Remedial Investigation 4Q93	HF-602D 1st 5-Yr. Review Period Average	HF-602D Yr 6 (2Q17)	HF-602D Yr 7 (3Q18)	HF-602D Yr 8 (4Q19)	HF-602D Yr 10 (1Q21)	HF-602D 2nd 5-Yr. Review Period Average	HF-608D Remedial Investigation 3Q93	HF-608D Remedial Investigation 4Q93	HF-608D 1st 5-Yr. Review Period Average	HF-608D Yr 6 (2Q17)	HF-608D Yr 7 (3Q18)	HF-608D Yr 8 (4Q19)	HF-608D Yr 10 (1Q21)	HF-608D 2nd 5-Yr. Review Period Average
Acenaphthene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Anthracene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Benzo (g,h,i) perylene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Benzo (k) fluoranthene	ND	NS	**0.5**	ND	ND	ND	ND	ND	ND	NS	**0.5**	ND	ND	ND	ND	ND
Bis (2-ethylhexyl) phthalate	ND	NS	0.5	ND	2	ND	ND	0.5	ND	NS	0.5	ND	ND	ND	ND	ND
4-Chloroaniline	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND
Cresol (m&p)	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND
Dibenzo (a,h) anthracene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
1,4-Dichlorobenzene	ND	NS	ND	ND	ND	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	ND
Diethyl Phthalate	ND	NS	0.5	ND	ND	ND	0.67 J	ND	ND	NS	0.5	ND	1.1	ND	ND	0.3
Di-n-Butyl Phthalate	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Di-n-octyl phthalate	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Fluorene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Indeno (1,2,3-cd) pyrene	ND	NS	**0.5**	ND	ND	ND	ND	ND	ND	NS	**0.5**	ND	ND	ND	ND	ND
2-Methylnaphthalene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Naphthalene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	1.1	ND	ND	ND	ND	ND
N-Nitrosodiphenylamine	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND
Phenanthrene	ND	NS	0.5	ND	ND	ND	ND	ND	ND	NS	0.5	ND	ND	ND	ND	ND

Footnotes: Only the target SVOCs detected during this reporting period are listed. All other target SVOCs analyzed for were not detected. Only detected results are reported for the Remedial Investigation events.
The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no SVOC standards for saline groundwater.
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J = Data qualified as estimated.
* Guidance value for total cresol
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 9
Comparison of Results for Leachate Indicator Parameters Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

ANALYTE	UNITS	NYSDEC Class GA Standard	Wells Screened in the Saturated Zone Above the Tidal Marsh Deposit														
			HF-602U							HF-608U							
			Remedial Investigation		1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average	Remedial Investigation		1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average
			3Q93	4Q93							3Q93	4Q93						
Alkalinity	mg/L	**No Std.**	3,190	3,040	718	523	726	453	344	512	3,920	3,220	4,763	5,060	4,690	2,540	8,240	5,133
Ammonia	mg/L	**2**	**516**	**887**	**45**	**30.1**	**21.8**	**2.4**	**2.7**	**14**	**778**	**955**	**776**	**881**	**931**	**397**	**535**	**686**
BOD_5	mg/L	**No Std.**	NA	NA	12	<13.3	<13.3	17.5	2.3	8.3	NA	NA	54	22.1 J	<28.6	14.1 J	44.1	24
Bromide	mg/L	**2^{GV}**	NA	NA	1.5	0.9	0.57	0.092 J	<0.50	0.45	NA	NA	**22**	**15.3**	**14.7**	**8.7**	**9.8**	**12**
Chloride	mg/L	**250**	**836**	**1,420**	123	93.1	73.4	33.4	**712**	228	**1,760**	**1,070**	**1,285**	**1,320**	**1,550**	**708**	**1,130**	**1,177**
COD	mg/L	**No Std.**	NA	NA	82	54.6	60.4	107	35.6	64	NA	NA	1,303	1,330	1,430	810	755	1,081
Color	Color units	**15**	NA	NA	**43**	**30**	**25**	**50**	**50**	**39**	NA	NA	**1,453**	**2,000**	**1,250**	**1,250**	**1,000**	**1,375**
Cyanide, Amenable	mg/L	**0.2**	ND	ND	0.01	<0.010	<0.010	<0.010	<0.010	0.01	0.102	ND	**1.3**	<0.010	0.0123	0.006 J	<0.010	0.01
Hardness	mg/L	**No Std.**	748	762	758	700	500	460	340	500	652	638	625	270	200	200	127	199
Nitrate	mg/L	**10**	ND	ND	0.06	ND	ND	ND	ND	0.00	ND	ND	0.04	ND	ND	ND	ND	0.00
Phenolics, Tot. Recov.	mg/L	**0.001**	**0.099**	**0.047**	**0.002**	**0.0065 J**	<0.005	**0.0029 J**	<0.005	**0.004**	**0.044**	**0.033**	**0.016**	**0.108**	**0.209**	**0.0050 J**	<0.005	**0.081**
Sulfate	mg/L	**250**	83.8	20.6	72	18.7	20.1	41.9	18.9	25	ND	ND	200	71.5	79.2	82.0	47.6	70.1
Tot. Dissolved Solids	mg/L	**500***	**4,470**	**4,190**	**870**	**660**	**720**	**586**	**1,460**	**857**	**4,820**	**3,300**	**5,475**	**5,090**	**5,540**	**3,020**	**3,460**	**4,278**
Tot. Organic Carbon	mg/L	**No Std.**	NA	NA	44	17	15.1	29.5	7.7	17	NA	NA	524	385	478	185	178	307
Tot. Kjeldahl N.	mg/L	**No Std.**	416 N	970	46	40.3	29	2.4	4.1	19	856 N	569	858	935	1,820	404	504	916

Footnotes: The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no saline groundwater standards for these parameters.
Results shown in bold font are higher than the potable groundwater standad.
NA = Not analyzed.
NS = Not sampled.
ND= Not detected.
R = Data qualified as rejected.
* = Federal MCL, which is more stringent than the 1,000-mg/L NYSDEC limit.
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 9 (Cont'd)
Comparison of Results for Leachate Indicator Parameters Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

Wells Screened in the Upper Portion of the Upper Glacial Aquifer

ANALYTE	UNITS	NYSDEC Class GA Standard	HF-102S Remedial Investigation 3Q93	HF-102S Remedial Investigation 4Q93	HF-102S 1st 5-Yr. Review Period Average	HF-102S Yr 6 (2Q17)	HF-102S Yr 7 (3Q18)	HF-102S Yr 8 (4Q19)	HF-102S Yr 10 (1Q21)	HF-102S 2nd 5-Yr. Review Period Average	HF-104S Remedial Investigation 3Q93	HF-104S Remedial Investigation 4Q93	HF-104S 1st 5-Yr. Review Period Average	HF-104S Yr 6 (2Q17)	HF-104S Yr 7 (3Q18)	HF-104S Yr 8 (4Q19)	HF-104S Yr 10 (1Q21)	HF-104S 2nd 5-Yr. Review Period Average
Alkalinity	mg/L	**No Std.**	1,250	2,040	456	426	544	979	Not	650	3,220	790	1,888	912	1,320	1,770	939	1,235
Ammonia	mg/L	**2**	**57.2**	**160**	**9.4**	**9.8**	**2.4**	**25.5**	Sampled	**12.6**	**652**	**124**	**293**	**72.6**	**159**	**220**	**139**	**148**
BOD_5	mg/L	**No Std.**	NA	NA	8.1	<4.0	<4.0	1.0 J	(Dry)	1.5	NA	NA	15	2.6 J	7.3	2.7 J	<2.0	3.4
Bromide	mg/L	**2^{GV}**	NA	NA	**12.7**	**21.3 J**	0.41 J	**44.4**		**22.0**	NA	NA	**12**	1.5	**4.7**	**6.3**	**2.5**	**3.8**
Chloride	mg/L	**250**	**5,160**	**1,310**	**3,975**	<2.0	140	**10,900**		**3,680**	**5,350**	**2,380 N**	**705**	229	**683**	**670**	**359**	**485**
COD	mg/L	**No Std.**	NA	NA	145	810	33.9	899		581	NA	NA	291	125	124	308	71.9	157
Color	Color units	**15**	NA	NA	**78**	**30**	**75**	**150**		**85**	NA	NA	**178**	**40**	**75**	**75**	**30**	**55**
Cyanide, Amenable	mg/L	**0.2**	0.142	0.0669	0.01	<0.010	0.007 J	0.0036 J		0.01	0.0775	0.117	0.01	<0.010	<0.010	<0.010	<0.010	0.01
Hardness	mg/L	**No Std.**	1,850	1,100	1,525	2,730	320	3,400		2,150	1,620	2,200	823	485	320	700	320	456
Nitrate	mg/L	**10**	**31.3**	**21.4**	0.10	ND	ND	ND		0.00	1.64	5.87	0.28	ND	ND	ND	ND	0.00
Phenolics, Tot. Recov.	mg/L	**0.001**	**0.012**	**0.027**	**0.002**	**0.0016 J**	<0.005	**0.0026 J**		**0.002**	**0.44**	**0.018 N**	**0.006**	**0.0098**	**0.0089**	**0.0029 J**	<0.005	**0.006**
Sulfate	mg/L	**250**	**411**	98.4	**304**	**1,160**	49.6	**676**		**629**	**505**	**1,270**	150	47.3	31.5	<5.0	20.4	25.4
Tot. Dissolved Solids	mg/L	**500***	**9,530**	**3,520**	**6,327**	**18,100**	**694**	**17,400**		**12,065**	**11,300**	**8,930**	**2,196**	**6,720**	**1,480**	**2,230**	**1,220**	**2,913**
Tot. Organic Carbon	mg/L	**No Std.**	NA	NA	5.9	4.8 J	8.2	14.1		9.0	NA	NA	201	21.8	4.2	46.3	16.1	22.1
Tot. Kjeldahl N.	mg/L	**No Std.**	71.2 N	144	10	9.5	4.5	23.3		12.4	460	177	293	79.2	140	228	129	144

ANALYTE	HF-602S Remedial Investigation 3Q93	HF-602S Remedial Investigation 4Q93	HF-602S 1st 5-Yr. Review Period Average	HF-602S Yr 6 (2Q17)	HF-602S Yr 7 (3Q18)	HF-602S Yr 8 (4Q19)	HF-602S Yr 10 (1Q21)	HF-602S 2nd 5-Yr. Review Period Average	HF-608S Remedial Investigation 3Q93	HF-608S Remedial Investigation 4Q93	HF-608S 1st 5-Yr. Review Period Average	HF-608S Yr 6 (2Q17)	HF-608S Yr 7 (3Q18)	HF-608S Yr 8 (4Q19)	HF-608S Yr 10 (1Q21)	HF-608S 2nd 5-Yr. Review Period Average
Alkalinity	357	942	779	812	1,020	954	962	937	49	39	915	800	999	1,020	1,090	977
Ammonia	0.64	1.25	**27**	**27.6**	**25.8**	**25**	**28.2**	**27**	1.7	0.13	1.7	**2.4**	**3.0**	**2.4**	<0.10	2.0
BOD_5	NA	NA	5.3	<6.7	6.6	2.1 J	<4.0	3.5	NA	NA	2.1	<4.0	<4.0	1.0 J	<2.0	1.5
Bromide	NA	NA	**5.8**	**7.2**	**7.9 J**	**8.7**	**6.5**	**7.6**	NA	NA	**49.8**	**21.2 J**	**17.8**	**24.2**	**17.0**	**20.1**
Chloride	**836**	**1,500**	**1,338**	**1,210**	**1,470**	**1,480**	**1,190**	**1,338**	142	236	**6,025**	**6,800**	**5,960**	**6,020**	**5,500**	**6,070**
COD	NA	NA	97	119	146	91	75.4	108	NA	NA	192	252	273	223	288	259
Color	NA	NA	**73**	**40**	**100**	**30**	**50**	**55**	NA	NA	**183**	**50**	**150**	**75**	**200**	**119**
Cyanide, Amenable	ND	ND	0.01	<0.010	<0.010	<0.010	<0.010	0.01	0.0144	ND	0.01	<0.010	<0.010	<0.010	<0.010	0.01
Hardness	188	573	895	850	980	600	600	758	76	104	1,570	1,700	960	1,100	1,340	1,275
Nitrate	0.67	0.21	0.04	ND	ND	ND	ND	0.00	0.14	2.84	0.15	ND	ND	ND	ND	0.00
Phenolics, Tot. Recov.	**0.01**	**0.015**	**0.002**	**0.0101**	<0.005	<0.005	<0.005	**0.004**	**0.012**	ND	**0.005**	**0.0012 J**	**0.0028 J**	**0.0064**	<0.005	**0.003**
Sulfate	42.4	109	**413**	**354**	**474**	**414**	**351**	**398**	25.9	38.7	**737**	**830**	**959**	**936**	**761**	**872**
Tot. Dissolved Solids	**1,240**	**3,460**	**3,290**	**3,060**	**3,100**	**3,070**	**3,190**	**3,105**	365	453	**10,695**	**11,100**	**9,980**	**10,400**	**10,600**	**10,520**
Tot. Organic Carbon	NA	NA	64.8	15.2	18.2	15.5	16.1	16.3	NA	NA	58.7	11.6	20.9	16.5	16.3	16.3
Tot. Kjeldahl N.	104 N	13.1	27.1	38.6	28.3	25.5	26.3	29.7	26.4 N	0.51	4.0	3.3	12.6	9.6	0.2	6.4

Footnotes: The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no saline groundwater standards for these parameters.
Results shown in bold font are higher than the potable groundwater standad.
NA = Not analyzed.
NS = Not sampled.
ND= Not detected.
R = Data qualified as rejected.
* = Federal MCL, which is more stringent than the 1,000-mg/L NYSDEC limit.
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 9 (Cont'd)
Comparison of Results for Leachate Indicator Parameters Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

Wells Screened in the Lower Portion of the Upper Glacial Aquifer

ANALYTE	UNITS	NYSDEC Class GA Standard	HF-102D								HF-104D							
			Remedial Investigation 3Q93	Remedial Investigation 4Q93	1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average	Remedial Investigation 3Q93	Remedial Investigation 4Q93	1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average
Alkalinity	mg/L	**No Std.**	2,350	NS	63	<1.0	<1.0	0.97 J	<5.0	1	1,460	NS	385	315	278	359	392	336
Ammonia	mg/L	**2**	**237**	NS	0.51	0.64	0.7	0.71	0.99	0.8	**111**	NS	**19**	0.19	0.030 J	0.062 J	0.070 J	0.09
BOD_5	mg/L	**No Std.**	NA	NS	9.8	10.8	29.9	23.4	8.1	18.1	NA	NS	1.9	1.0 J	<2.0	1.0 J	<2.0	1.0
Bromide	mg/L	**2^{GV}**	NA	NS	**4.3**	**9.6**	**10.2**	**14.0**	**9.6**	**10.9**	NA	NS	**105**	0.092 J	0.19 J	0.10 J	0.11 J	0.12
Chloride	mg/L	**250**	**717**	NS	**2,014**	**2940**	**4,110**	**3,650**	<2.0	**2,675**	**10,400**	NS	**6,346**	43.8	70.8	40.8	70.6	57
COD	mg/L	**No Std.**	NA	NS	41	152	165	162	185	166	NA	NS	154	17.2	25.7	19	14.2	19
Color	Color units	**15**	NA	NS	**42**	5	5	5	**40**	14	NA	NS	**66**	10	**15**	**60**	**30**	**29**
Cyanide, Amenable	mg/L	**0.2**	ND	NS	0.01	<0.010	<0.010	<0.010	<0.010	0.01	0.0975	NS	0.01	<0.010	<0.010	<0.010	0.003 J	ND
Hardness	mg/L	**No Std.**	1,000	NS	1,003	1,430	1,100	1,500	1,000	1,258	2,470	NS	1,663	317	267	300	280	291
Nitrate	mg/L	**10**	0.36	NS	0.04	ND	ND	ND	ND	0.00	2.17	NS	2.3	ND	ND	ND	ND	0.0
Phenolics, Tot. Recov.	mg/L	**0.001**	**0.035**	NS	**0.002**	**0.0021 J**	**0.0038 J**	<0.005	<0.005	**0.003**	**0.03**	NS	**0.002**	**0.0021 J**	**0.0054**	**0.0052**	<0.005	**0.004**
Sulfate	mg/L	**250**	ND	NS	184	**285**	**377**	**418**	**302**	**346**	**752**	NS	**1,052**	47.7	60.8	42.1	46	49
Tot. Dissolved Solids	mg/L	**500***	**2,780**	NS	**3,044**	**6,610**	**5,680**	**5,220**	**5,890**	**5,850**	**17,200**	NS	**14,012**	464	472	498	**546**	495
Tot. Organic Carbon	mg/L	**No Std.**	NA	NS	0.36	<1.0	0.33 J	<1.0	<1.0	0.5	NA	NS	31	3.7	4.3	3.5	4.2	3.9
Tot. Kjeldahl N.	mg/L	**No Std.**	256 N	NS	0.62	0.47	0.83	0.55	0.84	1	154	NS	20	0.4	2	0.76	0.64	1.0

ANALYTE	HF-602D								HF-608D							
	Remedial Investigation 3Q93	Remedial Investigation 4Q93	1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average	Remedial Investigation 3Q93	Remedial Investigation 4Q93	1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average
Alkalinity	61.8	NS	921	963	511	435	372	570	33.8	NS	274	313	311	311	314	312
Ammonia	0.1	NS	**7.8**	**5.7**	**2.2**	0.26	<0.10	**2.1**	0.5	NS	0.31	0.11	0.052 J	0.14	<0.10	0.09
BOD_5	NA	NS	2.8	<4.0	<4.0	1.0 J	<2.0	1.5	NA	NS	1.5	1.0 J	<2.0	1.0 J	<2.0	1.0
Bromide	NA	NS	**65**	**32.8**	**28.4**	**35.0**	**23.9**	**30.0**	NA	NS	**89.0**	**38.0**	**36.3**	**45.3**	**29.7**	**37.3**
Chloride	86	NS	**10,043**	**10,200**	**9,660**	**8,840**	**9,100**	**9,450**	15	NS	**8,220**	**12,600**	**13,400**	**12,400**	**11,700**	**12,525**
COD	NA	NS	167	500	487	369	468	456	NA	NS	160	762	727	673	421	646
Color	NA	NS	**48**	**40**	**50**	**20**	**25**	**34**	NA	NS	**26**	**20**	**20**	**25**	**20**	**21**
Cyanide, Amenable	ND	NS	0.01	<0.010	<0.010	<0.010	<0.010	0.01	ND	NS	0.01	<0.010	<0.010	<0.010	<0.010	0.01
Hardness	38.4	NS	2,950	3,150	7,100	3,000	2,600	3,963	32	NS	2,888	3,500	6,600	3,700	3,500	4,325
Nitrate	ND	NS	1.1	ND	ND	ND	ND	0.0	0.22	NS	0.63	ND	ND	ND	ND	0.00
Phenolics, Tot. Recov.	**0.007**	NS	**0.003**	**0.0016 J**	<0.005	**0.0034 J**	<0.005	**0.003**	ND	NS	**0.002**	**0.0034 J**	**0.0012 J**	**0.0040 J**	<0.005	**0.003**
Sulfate	11	NS	**846**	**774**	**1,320**	**1,330**	**1,130**	**1,139**	ND	NS	**960**	**1,410**	**1,800**	**1,840**	**1,400**	**1,613**
Tot. Dissolved Solids	205	NS	**8,957**	**18,700**	**15,600**	**13,800**	**15,500**	**15,900**	110	NS	**16,000**	**20,200**	**24,100**	**18,100**	**18,100**	**20,125**
Tot. Organic Carbon	NA	NS	62	5.4	5.1	4.8	4.2	4.9	NA	NS	24	3.4 J	4.4	3.8	3.9	3.9
Tot. Kjeldahl N.	0.28 N	NS	7.5	7.8	3.4	4.3	<0.10	3.9	3.4 N	NS	0.5	0.49	0.49	<0.10	<0.10	0.27

Footnotes: The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no saline groundwater standards for these parameters.
Results shown in bold font are higher than the potable groundwater standad.
NA = Not analyzed.
NS = Not sampled.
ND= Not detected.
R = Data qualified as rejected.
* = Federal MCL, which is more stringent than the 1,000-mg/L NYSDEC limit.
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 10
Comparison of Results for Inorganic Parameters Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

ANALYTE	UNITS	NYSDEC Class GA Standard	Wells Screened in the Saturated Zone Above the Tidal Marsh Deposit								HF-608U							
			HF-602U															
			Remedial Investigation		1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average	Remedial Investigation		1st 5-Yr. Review Period Average	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period Average
			3Q93	4Q93							3Q93	4Q93						
Aluminum	ug/L	**No Std.**	422	132 B	ND	22.2 J	<200	<200	<200	5.55	377	946	330	800	960	377	222	590
Antimony	ug/L	**3**	ND	**23.8 B**	ND	<60.0	<60.0	<60.0	<60.0	ND	ND	**23.6 B**	ND	<60.0	<60.0	<60.0	<60.0	ND
Arsenic*	ug/L	**10***	9.1 B	6 BE*	ND	<10.0	<10.0	<10.0	<10.0	ND	ND	6.5 BW*	2.3	<10.0	<10.0	<10.0	<10.0	ND
Barium*	ug/L	**1,000**	467	462	227	170 J	239	300	394	276	865	682	924	807	705	357	318	547
Beryllium	ug/L	**3**[GV]	ND	ND	ND	<5.0	<5.0	<5.0	<5.0	ND	ND	ND	ND	<5.0	<5.0	<5.0	<5.0	ND
Boron	ug/L	**1,000**	NA	NA	591	320	250 J	46.8 J	63.8	170	NA	NA	**7,378**	**9380**	**8,890**	**6,670**	**6,360**	**7,825**
Cadmium*	ug/L	**5**	ND	ND	0.15	0.16 J	<2.5	<2.5	<2.5	0.04	2.4 B	2.7 B	0.23	0.64 J	<2.5	<2.5	<2.5	ND
Calcium	ug/L	**No Std.**	84,700	96,300	169,250	130,000	197,000 J	173,000	168,000	167,000	70,200	85,800	93,200	54,600	49,900	56,500	31,700	48,175
Chromium*	ug/L	**50**	29.5	31.6	ND	2.4 J	<10.0	<10.0	<10.0	0.6	**55.9**	48.8	**223**	236	184	147	109	169
Cobalt	ug/L	**No Std.**	24.5 B	28.1 B	0.13	0.67 J	<50.0	<50.0	<50.0	0.17	43.8 B	28.9 B	43	38.1 J	36.7 J	18.8 J	19.9 J	28
Copper	ug/L	**200**	27.8	ND	85	5.1 J	<25.0	24.5 J	6.0 J	8.9	22.9 B	12.5 B	37	7.0 J	<25.0	9.4 J	7.3 J	5.9
Iron	ug/L	**300**	**14,200**	**15,100**	**1,662**	262	**564**	**1,360**	**2,510**	**1,174**	**17,100**	**27,800**	**5,170**	**8,160**	**11,100**	**4,050**	**3,000**	**6,578**
Lead*	ug/L	**25**	3.2	ND	1.1	8.2	1.7 J	<5.0	<5.0	2.5	1.3 B	7.8 N*	6.3	13.3	5.4	<5.0	<5.0	4.7
Magnesium	ug/L	**35,000**[GV]	**101,000**	**116,000**	29,600	19,900	24,200	20,200	20,600	21,225	**94,700**	**100,000**	**50,200**	**37,200**	35,000	23,900	21,900	29,500
Manganese	ug/L	**300**	126	137	269	83.7	**309**	**811**	121	**331**	128	146	89	104	144	84.9	58.5	98
Mercury*	ug/L	**0.7**	ND	ND	ND	0.10 J	<0.20	<0.20	<0.20	0.03	ND	ND	0.04	0.10 J	0.25	<0.20	<0.20	0.09
Nickel	ug/L	**100**	32.8 B	27.1 B	3.7	3.0 J	<40.0	15.0 J	10.1 J	7.0	58.8	34.3 B	99	67.6	52.7	47.3	53.9	55
Potassium	ug/L	**No Std.**	267,000	298,000	27,500	17,300	15,100 J	2,940 J	6,780	10,530	328,000	279,000	374,500	311,000	313,000	197,000	212,000	258,250
Selenium*	ug/L	**10**	ND	ND	ND	<10.0	<10.0 J	<10.0	<10.0	ND	ND	ND	6.2	<10.0	<10.0	<10.0	<10.0	ND
Silver*	ug/L	**50**	ND	ND	ND	<10.0	<10.0	<10.0	<10.0	ND	ND	ND	ND	<10.0	<10.0	<10.0	<10.0	ND
Sodium	ug/L	**20,000**	**960,000**	**1,300,000**	**122,625**	**77,400**	**75,600 J**	18,200	**364,000**	**133,800**	**1,080,000**	**757,000**	**1,437,500**	**1,590,000**	**1,470,000**	**836,000**	**907,000**	**1,200,750**
Thallium	ug/L	**0.5**[GV]	NA	NA	ND	<10.0	<10.0	<10.0	<10.0	ND	NA	NA	ND	<10.0	<10.0	<10.0	<10.0	ND
Vanadium	ug/L	**No Std.**	35.8 B	31.8 B	1.0	3.1 J	5.4 J	<50.0	<50.0	2.1	82.8	46 B	295	287	268	220	149	231
Zinc	ug/L	**2,000**[GV]	24.4	8.4 B	39	4.8 J	2.4 J	13.8 J	20.5	10	21.2	11B	63	28.1	21	9.6 J	16.3 J	19

Footnotes:

The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no saline groundwater standards.
Standards with the GV notation are guidance values only.
Results shown in bold font are higher than the potable groundwater standad.
NS = Not sampled.
ND= Not detected.
J = Estimated value.
* = RCRA metals.
** Limit for arsenic is the Federal MCL, which is more stringent than the 25-ug/L NYSDEC Class GA standard.
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 10 (Cont'd)
Comparison of Results for Inorganic Parameters Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

			Wells Screened in the Upper Portion of the Upper Glacial Aquifer																																	
			HF-102S								HF-104S								HF-602S								HF-608S										
			Remedial Investigation		Review Period	Yr 6	Yr 7	Yr 8	Yr 10	Review Period	Remedial Investigation		Review Period	Yr 6	Yr 7	Yr 8	Yr 10	Review Period	Remedial Investigation		Review Period	Yr 6	Yr 7	Yr 8	Yr 10	Review Period	Remedial Investigation		Review Period	Yr 6	Yr 7	Yr 8	Yr 10	Review Period			
ANALYTE	UNITS	NYSDEC Class GA Standard	3Q93	4Q93	Average	(2Q17)	(3Q18)	(4Q19)	(1Q21)	Average	3Q93	4Q93	Average	(2Q17)	(3Q18)	(4Q19)	(1Q21)	Average	3Q93	4Q93	Average	(2Q17)	(3Q18)	(4Q19)	(1Q21)	Average	3Q93	4Q93	Average	(2Q17)	(3Q18)	(4Q19)	(1Q21)	Average			
Aluminum	ug/L	**No Std.**	176 B	243	32	<200	<200	<200	Not	ND	272	113 B	50	31.9 J	22.0 J	<200	<200	13	2,060	77.9 B	6.2	20.5 J	<200	<200	<200	5.1	2,510	349	62	26.9 J	<200	<200	<200	6.7			
Antimony	ug/L	**3**	**38.1 B**	ND	ND	<60.0	<60.0	<60.0	Sampled	ND	ND	**39.3 B**	ND	<60.0	<60.0	<60.0	<60.0	ND	ND	ND	ND	<60.0	<60.0	<60.0	<60.0	ND	ND	ND	ND	<60.0	<60.0	<60.0	<60.0	ND			
Arsenic*	ug/L	**10***	2.2 B	ND	ND	<10.0	<10.0	<10.0	(Dry)	ND	**10.6 B**	3.7 B	ND	<10.0	<10.0	<10.0	<10.0	ND	ND	ND	ND	<10.0	<10.0	<10.0	<10.0	ND	2.1 B	1.1	ND	<10.0	<10.0	<10.0	<10.0	ND			
Barium*	ug/L	**1,000**	783	652	139	239	261	177 J		226	574	411	402	189 J	235	690	200	329	16.5 B	29.9 B	1.8	7.9 J	8.8 J	6.7 J	<200	5.9	12.8 B	11.1 B	25	42.5 J	35.1 J	34.0 J	20.0 J	32.9			
Beryllium	ug/L	**3**[GV]	ND	ND	ND	<5.0	<5.0	0.18 J		0.06	ND	ND	ND	<5.0	<5.0	0.081 J	<5.0	0.02	ND	ND	0.05	<5.0	<5.0	0.18 J	<5.0	0.05	ND	ND	ND	<5.0	<5.0	0.30 J	<5.0	0.08			
Boron	ug/L	**1,000**	NA	NA	**1,060**	2510	258	3,470		**2,079**	NA	NA	**2,965**	893	**1,150**	**2,200**	861	**1,276**	NA	NA	**1,823**	**1,770**	**1,740**	**1,800**	**1,800**	**1,778**	NA	NA	**2,870**	**3,110**	**2,780**	**3,210**	**2,850**	**2,988**			
Cadmium*	ug/L	**5**	4.6 B	ND	0.13	0.87 J	<2.5	<2.5		0.29	4.2 B	ND	0.08	<2.5	<2.5	<2.5	<2.5	ND	**7.7**	ND	ND	0.18 J	<2.5	<2.5	<2.5	0.05	ND	ND	ND	0.60 J	<2.5	<2.5	<2.5	0.15			
Calcium	ug/L	**No Std.**	160,000	278,000	192,750	274,000	174,000	242,000		230,000	117,000	150,000	176,750	143,000	131,000	221,000	124,000	154,750	16,800	42,800	65,875	66,500	72,300	65,000	71,800	68,900	16,800	19,600	106,000	121,000	96,600	111,000	106,000	108,650			
Chromium*	ug/L	**50**	27	31.1	0.98	<10.0	<10.0	2.1 J		0.70	**60.7**	42.1	14	5.5 J	4.5 J	6.6 J	2.6 J	4.8	8.4 B	3 B	4.9	7.6 J	7.3 J	5.2 J	8.3 J	7.1	10	ND	3.3	5.8 J	11.5	<10.0	3.4 J	5.2			
Cobalt	ug/L	**No Std.**	11.5 B	14.3 B	ND	5.1 J	<50.0	<50.0		1.7	19.1 B	12.1 B	5.6	2.1 J	0.64 J	3.4 J	<50.0	1.5	ND	ND	0.125	1.7 J	1.7 J	<50.0	<50.0	0.85	4.2 B	ND	ND	3.4 J	1.6 J	<50.0	<50.0	1.3			
Copper	ug/L	**200**	8.9 B	46	45	<25.0	<25.0	14.6 J		5	19.5 B	27.8	32.5	<25.0	<25.0	11.8 J	8.7 J	5.1	29.3	ND	61	<25.0	<25.0	9.8 J	5.1 J	3.7	31.7	ND	0.3	<25.0	<25.0	17.4 J	11.3 J	7.2			
Iron	ug/L	**300**	**27,900**	**27,900**	**10,923**	**18,400**	**3,060**	**13,200**		**11,553**	**9,700**	**6,020**	**867**	233	**594**	**1,850**	**584**	**815**	**3,010**	**2,680**	50	15.0 J	133	53.0 J	227	107	**4,180**	**544**	**590**	**7,690**	**33,900**	**2,870**	265	**11,181**			
Lead*	ug/L	**25**	**79.4**	**94.8**	2.375	1.4 J	3.4 J	<5.0		1.6	**56.9**	**27.6**	1.7	<5.0	1.9 J	<5.0	<5.0	0.475	4.9	ND	1.1	12.2	1.3 J	<5.0	<5.0	3.4	3.7	ND	ND	20.2	<5.0	<5.0	<5.0	5.1			
Magnesium	ug/L	**35,000**[GV]	**233,000**	**93,100**	**255,325**	**646,000**	23,600	**689,000**		**452,867**	**284,000**	**370,000**	**62,950**	30,900	29,600	**50,600**	24,000	33,775	17,500	**107,000**	**161,000**	**165,000**	**174,000**	**166,000**	**169,000**	**168,500**	9,010	14,200	**275,000**	**346,000**	**251,000**	**292,000**	**282,000**	**292,750**			
Manganese	ug/L	**300**	**405**	**585**	**457**	**748**	278	**449**		**492**	291	**417**	106	77.8	61.2	147	62.1	87	47.9	104	3.3	6.6 J	9.5 J	8.7 J	12.7	9.4	49.5	19.3	31.2	231	**716**	**361**	19.9	**332**			
Mercury*	ug/L	**0.7**	ND	ND	ND	<0.20	0.15 J	<0.20		0.05	ND	ND	0.2825	0.14 J	0.14 J	<0.20	<0.20	0.07	ND	ND	0.0275	0.096 J	0.15 J	<0.20	<0.20	0.0615	ND	ND	ND	0.083 J	0.12 J	<0.20	<0.20	0.05			
Nickel	ug/L	**100**	11.7 B	20.1 B	1.5	3.0 J	<40.0	15.0 J		6	53.4	46.0	9.9	2.0 J	<40.0	20.6 J	21.1 J	10.9	ND	ND	0.8	1.7 J	<40.0	16.6 J	29.1 J	12	18.9 B	ND	ND	3.0 J	<40.0	17.1 J	42.1	15.6			
Potassium	ug/L	**No Std.**	206,000	144,000	95,875	237,000	5,520	284,000		175,507	316,000	293,000	150,000	47,200	71,400	132,000	71,100	80,425	11,100	62,800	98,500	119,000	119,000	124,000	136,000	124,500	6,740	121,000	159,000	183,000	140,000	212,000	210,000	186,250			
Selenium*	ug/L	**10**	ND	ND	ND	6.4 J	<10.0	<10.0		2.1	ND	ND	ND	<10.0	<10.0	<10.0	<10.0	ND	ND	ND	ND	<10.0	<10.0	<10.0	<10.0	ND	ND	ND	ND	<10.0	<10.0	<10.0	<10.0	ND			
Silver*	ug/L	**50**	ND	ND	ND	<10.0	<10.0	2.5 J		0.83	9.5 B	ND	ND	<10.0	<10.0	<10.0	<10.0	ND	ND	ND	ND	<10.0	<10.0	<10.0	<10.0	ND	ND	ND	ND	<10.0	<10.0	5.7 J	<10.0	1.4			
Sodium	ug/L	**20,000**	**2,400,000**	**627,000**	**1,226,500**	**5,220,000**	**47,600**	**5,700,000**		**3,655,867**	**3,370,000**	**3,910,000**	**705,750**	**196,000**	**284,000**	**566,000**	**222,000**	**317,000**	**212,000**	**1,370,000**	**929,750**	**867,000**	**897,000**	**845,000**	**825,000**	**858,500**	**74,900**	**121,000**	**820,000**	**4,060,000**	**3,120,000**	**3,360,000**	**3,560,000**	**3,525,000**			
Thallium	ug/L	**0.5**[GV]	NA	NA	ND	<10.0	<10.0	<10.0		ND	NA	NA	ND	<10.0	<10.0	<10.0	<10.0	ND	NA	NA	ND	<10.0	<10.0	<10.0	<10.0	ND	NA	NA	ND	<10.0	<10.0	<10.0	<10.0	ND			
Vanadium	ug/L	**No Std.**	58.2	37.9 B	3.1	3.3 J	1.7 J	8.4 J		4.5	36.4 B	38.9 B	12	3.3 J	2.6 J	6.8 J	<50.0	3.2	21.3 B	78	32	25.9 J	27.2 J	26.7 J	29.2 J	27	14.7 B	ND	ND	6.6 J	13.3 J	7.6 J	7.2 J	8.7			
Zinc	ug/L	**2,000**[GV]	ND	159	75	5.4 J	18.4 J	<20.0		7.9	ND	ND	56	4.7 J	9.4 J	33.6	36.2	21	52.4	82.3	38	1.2 J	3.2 J	<20.0	<20.0	1.1	41.5	25	ND	3.1 J	<20.0	5.4 J	<20.0	2.1			

Footnotes:

The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no saline groundwater standards.
Standards with the GV notation are guidance values only.
Results shown in bold font are higher than the potable groundwater standad.
NS = Not sampled.
ND= Not detected.
J = Estimated value.
* = RCRA metals.
** Limit for arsenic is the Federal MCL, which is more stringent than the 25-ug/L NYSDEC Class GA standard.
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.

Table 10 (Cont'd)
Comparison of Results for Inorganic Parameters Detected in Groundwater Samples
Fountain Avenue Landfill, Brooklyn, NY

Wells Screened in the Lower Portion of the Upper Glacial Aquifer

HF-102D

ANALYTE	UNITS	NYSDEC Class GA Standard	Remedial Investigation 3Q93	Remedial Investigation 4Q93	1st 5-Yr. Review Period	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period
Aluminum	ug/L	No Std.	52.3 B	NS	34	<200	50.1 J	<200	<200	13
Antimony	ug/L	3	**36.9 B**	NS	ND	<60.0	<60.0	<60.0	<60.0	ND
Arsenic*	ug/L	10*	ND	NS	ND	**34.6**	<10.0	<10.0	<10.0	8.7
Barium*	ug/L	1,000	627	NS	170	143 J	151 J	129 J	118 J	135
Beryllium	ug/L	3^{GV}	ND	NS	ND	<5.0	<5.0	0.28 J	<5.0	0.07
Boron	ug/L	1,000	NA	NS	98	182	164	138	198	171
Cadmium*	ug/L	5	2 B	NS	**12**	4.6	<25.0	<2.5	<2.5	1.2
Calcium	ug/L	No Std.	209,000	NS	225,000	306,000	317,000	308,000	322,000	313,250
Chromium*	ug/L	50	19.7	NS	22	52.7	24.4	<10.0	<10.0	19.3
Cobalt	ug/L	No Std.	10.2 B	NS	7.5	2.1 J	<50.0	2.4 J	<50.0	1.1
Copper	ug/L	200	5.6 B	NS	49.6	7.9 J	<250	110	23.5 J	35.4
Iron	ug/L	300	**16,600**	NS	**163,075**	**239,000**	**228,000**	**244,000**	**246,000**	**239,250**
Lead*	ug/L	25	16.7	NS	1.5	5.4	8.1	<5.0	<5.0	3.4
Magnesium	ug/L	$35,000^{GV}$	**86,900**	NS	**92,250**	**161,000**	**160,000**	**172,000**	**179,000**	**168,000**
Manganese	ug/L	300	248	NS	**3,475**	**5,110**	**5,420**	**5,400**	**5,330**	**5,315**
Mercury*	ug/L	0.7	ND	NS	0.1	0.12 J	0.15 J	<0.20	<0.20	0.1
Nickel	ug/L	100	12.6 B	NS	8.1	5.1 J	<40.0	<40.0	19.0 J	6.0
Potassium	ug/L	No Std.	146,000	NS	21,225	44,600	41,400	60,000	65,100	52,775
Selenium*	ug/L	10	ND	NS	5.4	<10.0	<10.0	<10.0	**18.4**	4.6
Silver*	ug/L	50	ND	NS	9.2	19	<10.0	4.9 J	2.5 J	6.7
Sodium	ug/L	20,000	**459,000**	NS	**620,250**	**1,290,000**	**1,290,000**	**1,350,000**	**1,510,000**	**1,360,000**
Thallium	ug/L	0.5^{GV}	NA	NS	0.5	**8.3 J**	<10.0	<10.0	<10.0	**2.1**
Vanadium	ug/L	No Std.	52.3	NS	0.3	<50.0	<50.0	6.7 J	<50.0	1.7
Zinc	ug/L	$2,000^{GV}$	23.4	NS	98	11.9 J	13.2 J	5.5 J	<20.0	7.7

HF-104D

ANALYTE	Remedial Investigation 3Q93	Remedial Investigation 4Q93	1st 5-Yr. Review Period	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period
Aluminum	65.1 B	NS	56	51.0 J	68.3 J	<200	<200	30
Antimony	ND	NS	ND	<60.0	<60.0	<60.0	<60.0	ND
Arsenic*	2.6 B	NS	ND	<10.0	<10.0	<10.0	<10.0	ND
Barium*	301	NS	140	57.7 J	47.8 J	81.8 J	74.7 J	66
Beryllium	ND	NS	ND	<5.0	<5.0	<5.0	<5.0	ND
Boron	NA	NS	**1,349**	95	86.7	89	107	94
Cadmium*	2.9 B	NS	0.08	<2.5	0.063 J	<2.5	<2.5	0.02
Calcium	125,000	NS	174,000	101,000	93,800	123,000	124,000	110,450
Chromium*	18.1	NS	ND	<10.0	2.0 J	<10.0	<10.0	0.5
Cobalt	6.3 B	NS	0.4	<50.0	<50.0	<50.0	<50.0	ND
Copper	12.9 B	NS	1.9	3.7 J	5.2 J	6.1 J	5.8 J	5.2
Iron	**1,460**	NS	**15,444**	41	159	**2,540**	**545**	**821**
Lead*	1.8	NS	ND	<5.0	2.4 J	<5.0	<5.0	0.6
Magnesium	**438,000**	NS	**291,475**	15,700	15,400	17,400	20,700	17,300
Manganese	222	NS	241	10.0 J	13.2	54.7	37.5	29
Mercury*	ND	NS	ND	0.12 J	<0.20	<0.20	<0.20	0.03
Nickel	20.6 B	NS	1.8	1.1 J	1.1 J	17.8 J	22.2 J	11
Potassium	425,000	NS	120,253	6,890	6,810	7,720	8,590	7,503
Selenium*	ND	NS	ND	<10.0	<10.0	<10.0	<10.0	ND
Silver*	ND	NS	ND	<10.0	<10.0	<10.0	<10.0	ND
Sodium	**4,910,000**	NS	**2,473,350**	**48,400**	**50,800**	**30,300**	**50,600**	**45,025**
Thallium	NA	NS	ND	<10.0	<10.0	<10.0	<10.0	ND
Vanadium	ND	NS	ND	<50.0	<50.0	<50.0	<50.0	ND
Zinc	ND	NS	18	12.0 J	12.4 J	39.9	40.4	26

HF-602D

ANALYTE	Remedial Investigation 3Q93	Remedial Investigation 4Q93	1st 5-Yr. Review Period	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period
Aluminum	234	NS	7.8	44.7 J	<200	<200	<200	11.2
Antimony	ND	NS	ND	<60.0	<60.0	<60.0	<60.0	ND
Arsenic*	ND	NS	ND	<10.0	<10.0	<10.0	<10.0	ND
Barium*	16.6 B	NS	29.8	34.6 J	42.7 J	50.1 J	44.2 J	42.9
Beryllium	ND	NS	ND	<5.0	<5.0	0.14 J	<5.0	0.04
Boron	NA	NS	**2,430**	**2,840**	**1,950**	**2,100**	**1,880**	**2,193**
Cadmium*	ND	NS	0.18	0.20 J	<2.5	<2.5	<2.5	0.05
Calcium	9,700	NS	183,000	198,000	235,000	227,000	216,000	219,000
Chromium*	4.3 B	NS	0.9	<10.0	<10.0	<10.0	1.2 J	0.3
Cobalt	ND	NS	0.2	4.9 J	4.7 J	<50.0	<50.0	2.4
Copper	21.6 B	NS	112	3.8 J	<25.0	11.0 J	<25.0	3.7
Iron	**972**	NS	**548**	57	**2,360**	143	**273**	**708**
Lead*	2.6 B	NS	0.8	10	<5.0	<5.0	<5.0	2.5
Magnesium	4,280 B	NS	**585,250**	**622,000**	**647,000**	**642,000**	**612,000**	**630,750**
Manganese	26.9	NS	123	79.6	195	34.7	43.1	88.1
Mercury*	ND	NS	0.03	0.083 J	0.16 J	<0.20	<0.20	0.1
Nickel	ND	NS	1.5	5.2 J	<40.0	11.1 J	23.1 J	10
Potassium	20,100	NS	335,000	261,000	200,000	259,000	258,000	244,500
Selenium*	ND	NS	ND	<10.0	<10.0	<10.0	<10.0	ND
Silver*	ND	NS	ND	<10.0	<10.0	2.5 J	<10.0	0.6
Sodium	**36,000**	NS	**2,841,500**	**5,860,000**	**4,470,000**	**4,620,000**	**4,530,000**	**4,870,000**
Thallium	NA	NS	ND	<10.0	<10.0	<10.0	<10.0	ND
Vanadium	ND	NS	0.9	3.0 J	1.2 J	<50.0	<50.0	1.1
Zinc	24.2	NS	58	5.4 J	<20.0	<20.0	<20.0	1.4

HF-608D

ANALYTE	Remedial Investigation 3Q93	Remedial Investigation 4Q93	1st 5-Yr. Review Period	Yr 6 (2Q17)	Yr 7 (3Q18)	Yr 8 (4Q19)	Yr 10 (1Q21)	2nd 5-Yr. Review Period
Aluminum	560	NS	30	<200	<200	<200	<200	ND
Antimony	ND	NS	ND	<60.0	<60.0	<60.0	<60.0	ND
Arsenic*	ND	NS	7.0	<10.0	<100	<10.0	<10.0	ND
Barium*	23.8 B	NS	40.5	43.6 J	45.9 J	49.9 J	40.4 J	45.0
Beryllium	ND	NS	ND	<5.0	<5.0	0.17 J	<5.0	0.04
Boron	NA	NS	**2,300**	**2,650**	**2,750**	**2,840**	**2,730**	**2,743**
Cadmium*	2.3 B	NS	ND	<2.5	<2.5	<2.5	<2.5	ND
Calcium	10,200	NS	244,000	242,000	276,000	252,000	250,000	255,000
Chromium*	ND	NS	ND	<10.0	<10.0	<10.0	<10.0	ND
Cobalt	ND	NS	ND	4.7 J	5.5 J	<50.0	<50.0	2.6
Copper	18.5 B	NS	1.4	<25.0	<25.0	13.8 J	4.7 J	4.6
Iron	**2,150**	NS	**317**	48	<20.0	46.2 J	**215**	77.2
Lead*	2.1 B	NS	ND	10.2	<5.0	<5.0	<5.0	2.6
Magnesium	1,670 B	NS	**711,000**	**747,000**	**835,000**	**772,000**	**762,000**	**779,000**
Manganese	20.5	NS	ND	<100	**1160**	<10.0	5.8 J	291
Mercury*	ND	NS	ND	0.088 J	0.16 J	<0.20	<0.20	0.1
Nickel	8.3 B	NS	ND	1.7 J	<40.0	11.8 J	25.1 J	9.7
Potassium	1,550 B	NS	260,000	276,000	284,000	258,000	341,000	289,750
Selenium*	ND	NS	ND	<10.0	<10.0	<10.0	<10.0	ND
Silver*	ND	NS	ND	<10.0	<10.0	2.8 J	<10.0	0.7
Sodium	9,630	NS	**779,000**	**6,300,000**	**5,900,000**	**5,920,000**	**6,440,000**	**6,140,000**
Thallium	NA	NS	ND	<10.0	<10.0	<10.0	<10.0	ND
Vanadium	ND	NS	ND	1.8 J	<50.0	<50.0	<50.0	0.5
Zinc	34.3	NS	ND	<20.0	<20.0	<20.0	<20.0	ND

Footnotes:

The NYSDEC Class GA Standards are for potable groundwater. The groundwater at the site is naturaly saline; therefore, non-potable. There are no saline groundwater standards.
Standards with the GV notation are guidance values only.
Results shown in bold font are higher than the potable groundwater standad.
NS = Not sampled.
ND= Not detected.
J = Estimated value.
* = RCRA metals.
** Limit for arsenic is the Federal MCL, which is more stringent than the 25-ug/L NYSDEC Class GA standard.
Wells HF-102U and HF-104U could not be sampled during this reporting period because they were dry. They are not listed in the above table.