BROOKHAVEN NATIONAL LABORATORY
2024 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

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Executive Summary

This report documents the Operations and Maintenance activities undertaken during calendar year 2024 for the Current Landfill (Area of Concern [AOC] 3) and the Former Landfill Areas. The Former Landfill Areas include the Former Landfill (AOC 2A), Interim Landfill (AOC 2D), and Slit Trench (AOC 2E). Brookhaven National Laboratory is responsible for performing this work to comply with the post-closure O&M requirements specified in 6 New York State Code of Rules and Regulations (NYCRR) Part 360, Solid Waste Management Facilities, updated July 22, 2023. The landfill caps are functioning as designed and the 2024 monitoring results are consistent with results from previous years.

GROUNDWATER QUALITY

The groundwater quality at the Current Landfill remains relatively unchanged from 2023. Volatile organic compounds (VOCs) and metals continue to be detected downgradient of the Current Landfill. The most prevalent VOCs detected above NYSDEC Class GA groundwater guidance values are chloroethane, 1,1-dichloroethane and benzene, at maximum concentrations of 24 micrograms per liter (µg/L), 9.1 µg/L and 1.9 µg/L, respectively. As with previous years, aluminum, antimony, arsenic, iron, manganese, and sodium were detected downgradient from the Current Landfill at concentrations above applicable standards. Concentrations of these metals were similar to those detected historically. Maximum concentrations of aluminum, antimony, arsenic, iron, manganese, and sodium in downgradient wells were 248 µg/L, 11.1 µg/L, 16.4 µg/L, 87,000 µg/L, 1,150 µg/L and 51,000 µg/L, respectively. These results are an indicator of continued low-level leachate generation at this landfill. There were no detections of radionuclides above standards at the Current Landfill during 2024 nor have there been since 1998. Detections of 1,4-dioxane above the standard were detected at a maximum of 3.0 µg/L. The maximum Perfluorooctane sulfonate (PFOS) value was detected above the standard at a maximum of 51.6 nanograms per liter (ng/L). The maximum Perfluorooctanoic acid (PFOA) value was detected above the standard at a maximum of 17.9 ng/L.

The groundwater monitoring well network for the Current Landfill Area is adequate at this time. VOCs, metals and water quality parameters will continue to be monitored semi-annually but VOCs will be monitored quarterly in wells 088-109 and 098-99. Radionuclides will continue to be monitored annually on wells 087-23, 087-27, 088-109 and 088-21. 1,4-Dioxane and PFAS compounds were added to the list of analytes during 2024 and are expected to remain on the sampling schedule on an annual basis.

The Former Landfill groundwater monitoring program was discontinued in 2020.

SOIL-GAS MONITORING

Soil-gas monitoring at the Current Landfill indicates that decomposition is still occurring. However, as with prior years, there is no indication that the vapors are migrating beyond the monitoring well network. Soil-gas monitoring at the Former Landfill Area indicates that there is no detection of gas emanating from the landfill. The existing soil gas monitoring well networks are sufficient to monitor both landfill areas.

MAINTENANCE AND REPAIR

Monthly inspections and routine maintenance of the cap, drainage channels and wells were performed throughout 2024.

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ACRONYMS

AOC	Area of concern
BLS	Below Land Surface
BNL	Brookhaven National Laboratory
BSA	Brookhaven Science Associates
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
CY	Calendar year
DCS	Derived concentration technical standard
DOE	United States Department of Energy
DQOs	Data quality objectives
EIMS	Environmental Information Management System
Ft	Feet
HWMF	Former Hazardous Waste Management Facility
LEL	Lower explosive limit
LLDPE	Linear low-density polyethylene
LUIC	Land Use and Institutional Controls
µg/L	Micrograms per liter
mg/L	Milligrams per liter
mrem	Millirem
MS/MSD	Matrix spike/matrix spike duplicate
ng/L	Nanograms per liter
NPL	National Priorities List
6NYCRR	6 New York State Code of Rules and Regulations
NYSDEC	New York State Dept. of Environmental Conservation
NYSDOH	New York State Department of Health
O&M	Operations and Maintenance
OU	Operable Unit
PCBs	Polychlorinated biphenyls
pCi/L	Picocuries per liter
PFAS	Per- and polyfluoroalkyl substances
PFOA	Perfluorooctanoic acid
PFOS	Perfluorooctane sulfonate
PPM	Parts per million
QA/QC	Quality Assurance/Quality Control
QAPP	Quality Assurance Project Plan
SCDHS	Suffolk County Department of Health Services
SOP	Standard Operating Procedure
Sr-90	Strontium 90
TDS	Total dissolved solids
TKN	Total Kjeldahl nitrogen
TOGS	Technical and Operational Guidance Series
TSS	Total suspended solids
TVOCs	Total volatile organic compounds
UEL	Upper explosive limit
µg/L	Microgram per liter
USEPA	United States Environmental Protection Agency
VOCs	Volatile Organic Compounds

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1.0 INTRODUCTION

This report documents the Operation and Maintenance (O&M) activities and summarizes monitoring data collected during calendar year (CY) 2024 for the Current Landfill (Area of Concern [AOC] 3) and the Former Landfill Areas (Former Landfill AOC 2A, Interim Landfill AOC 2D, and Slit Trench AOC 2E). Brookhaven National Laboratory (BNL) is responsible for performing this work to comply with the post-closure O&M requirements specified in the 6 New York State Code of Rules and Regulations (6NYCRR) Part 360, Solid Waste Management Facilities, revised July 22, 2023. The details of the O&M programs are described in the Final Operations and Maintenance Manuals for the Current Landfill (CDM Federal, 1996a) and the Former Landfill Areas (CDM Federal, 1996c).

The following are the primary objectives of the O&M program:

- Monitor the effectiveness of the impermeable caps in protecting groundwater quality;
- Monitor the potential generation and migration of soil-gas; and
- Maintain and monitor the various components of the closure system (e.g., landfill caps, drainage structures, and environmental monitoring systems).

This is the twenty-ninth year of O&M for the Current Landfill, the twenty-eighth year for the Former Landfill and Slit Trench, and the twenty-seventh year for the Interim Landfill.

1.1 Site Description and Project Background

BNL is a 5,265-acre site located in central eastern Long Island, New York. The facility is a federally owned and funded international research and learning center managed by Brookhaven Science Associates (BSA) under contract with the United States Department of Energy (DOE). On December 21, 1989, the site was placed on the United States Environmental Protection Agency (USEPA) National Priorities List (NPL), a ranking of hazardous waste sites as part of the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). Placing BNL on the NPL resulted in the establishment of an investigation and remediation task list for

various locations around the facility. At the onset of the landfill closures the site was divided into seven separate remediation work areas known as Operable Units (OU). Since landfill closures, the site has subsequently been divided into ten OUs. The Current Landfill and Former Landfill Areas are located in OU I, near the south-central portion of the BNL site **(Figure 1)**.

Current Landfill. The Current Landfill consists of one unlined waste-cell that operated from the late 1960s until 1990 for disposing of waste generated at the Laboratory. An impermeable cap system covering the cell was completed in November 1995. The capping system consists of the following: eight-ounce geotextile fabric; one foot of gas venting layer material (screened soil); ten gas vents; a double-sided, textured, 40-mil Linear Low-Density Polyethylene (LLDPE) geomembrane liner; two feet of protection layer material; six inches of topsoil; vegetation; and erosion control blankets on areas with slopes greater than or equal to four percent. Additional information about the cap's construction can be obtained from the *Construction Certification Report for the Current Landfill* (CDM Federal, 1996b). Following the installation of the cap, the post-closure groundwater monitoring program was implemented in January 1996, in compliance with 6 NYCRR Part 360 Section 2.15, Solid Waste Management Facilities.

Groundwater quality near the Current Landfill is monitored under the O&M program for a wide variety of volatile organic compounds (VOCs), metals, radionuclides, and water chemistry (landfill leachate) parameters. Monitoring in this vicinity was expanded in 1999 to include a wetland area adjacent to the landfill's eastern boundary. The area shown on **Figure 2**, known as the Wooded Wetland area, is a two-acre wetland located between the Former Hazardous Waste Management Facility (HWMF) and the Current Landfill. The wetland receives surface runoff from the Current Landfill and usually contains standing surface water during the spring/early summer and is dry in late summer/fall. Monitoring of the Wooded Wetland area was incorporated into the Current Landfill Monitoring Program and consisted of sampling and analyzing surface water and sediment annually through 2008, and then every other year to evaluate the potential for leachate migrating into this area, as originally performed under the *OU I Ecological Risk Assessment* (CDM Federal, 1999). In response to information provided in the *2015 Environmental Monitoring Report, Current and Former Landfill Areas* (BNL 2016) and additional tiger salamander information provided upon the request of the NYSDEC, it was agreed that further monitoring of the Wooded Wetlands would be limited to visual tiger salamander assessments. Furthermore, it

was agreed to that no further sediment and surface water samples will be collected, and care would be taken by BNL to not disturb the buildup of detritus material in the Wooded Wetland.

As required under 6 NYCRR Part 360, groundwater quality must be monitored for a minimum of five years, after which the permittee may request modification of the sampling and analysis requirements. In October 2001, BNL submitted the *Five-Year Evaluation Report for the Current Landfill* (BNL, 2001b). This report assessed groundwater trends over the five years after capping, and proposed changes to the sampling program. These changes were implemented in CY 2002. In July 2006, March 2011, June 2016 and June 2021 BNL issued CERCLA Five-Year Review Reports which discussed all remediation areas at the site, including the Current Landfill (BNL 2006, BNL 2011, BNL 2016, BNL 2021).

Former Landfill Area. The Former Landfill Area encompasses three closely located landfill units; the Former Landfill, the Slit Trench, and the Interim Landfill. The Former Landfill is an unlined waste-disposal area originally used by the United States Army starting in 1918. Waste disposal operations ceased in 1966, and the landfill was covered with soil. The Interim Landfill also is unlined and was reportedly used for approximately one year between the time the Former Landfill was closed, and the Current Landfill was opened. The Slit Trench is unlined as well and is believed to have operated between 1960 and 1967 for disposal of construction and demolition debris (CDM Federal, 1996c).

The Former Landfill and Slit Trench were capped in November 1996 and the Interim Landfill was capped in October 1997. The Former Landfill and Slit Trench cap system consists of eight-ounce geotextile, twelve inches of gas venting material, a 40-mil LLDPE geomembrane liner, eighteen to twenty-four inches of liner protection soil, six inches of topsoil, vegetation, and erosion control fabric. In areas where the slope exceeds 15%, the geomembrane is textured on both sides and the protection layer is twenty-four inches. In the remaining locations, the geomembrane is smooth on both sides and protection layer is eighteen inches. Additionally, the cap is equipped with ten passive vents. The Interim Landfill cap system consists of eight-ounce geotextile, twelve inches of gas venting material, a 40-mil LLDPE geomembrane liner, eighteen inches of protection soil, six inches of topsoil, vegetation, and erosion control fabric. All of the membrane is of double textured variety, with the protection layer a minimum of eighteen inches thick over the entire

landfill. Additionally, the cap is equipped with two passive vents. Additional information about the construction of the caps can be found in the *Construction Certification Report for the Former Landfill* (Roy F. Weston, 1997) and *Construction Certification Report for the Interim Landfill Capping* (PW Grosser, 1997). BNL started O&M activities in December 1996 at the Former Landfill and Slit Trench, and in November 1997 at the Interim Landfill. Under this O&M program, groundwater quality in downgradient wells near the Former Landfill was monitored for VOCs, metals, radionuclides, and landfill-leachate parameters.

In March 2002, BNL submitted a *Five-Year Evaluation Report for the Former Landfill* (P.W. Grosser, 2002), which assessed trends in groundwater quality over the five-year period following capping and proposed changes to the sampling program. These changes were implemented in CY 2003. In July 2006, March 2011, June 2016 and June 2021 BNL issued CERCLA Five-Year Review Reports which discussed all remediation areas at the site including the Former Landfill Area (BNL 2006, BNL 2011, BNL 2016, BNL 2021). With the groundwater data collected during the past two decades as evidence, and groundwater impact nonexistent, it was recommended in the *2020 Environmental Monitoring Report, Current and Former Landfill Areas* (BNL 2021) that groundwater monitoring of the Former Landfill monitoring well network be discontinued. With NYSDEC acceptance of the *2020 Environmental Monitoring Report, Current and Former Landfill Areas* (BNL 2021) Report, these changes were implemented in CY 2021.

1.2 Overview of the Monitoring Program

Groundwater Monitoring

Data quality objectives (DQOs) for each of BNL's groundwater monitoring programs are presented in the *BNL Environmental Monitoring Plan* (BNL, 2025). The design of the data collection network was optimized as part of the process. Such optimization continues annually as part of the O&M program and is based on the interpretation of new data as well as historical trends. The primary DQO decision identified for the landfill monitoring programs is "Are the controls effectively improving groundwater quality below and downgradient of the landfill?"

Groundwater samples are collected from monitoring wells positioned upgradient and downgradient of each landfill area. Analytical data are reviewed, and determinations are made regarding the effectiveness of landfill controls.

The additional monitoring programs for the landfill areas consist of:

Soil-gas Monitoring. Measurements of methane, Lower Explosive Limit (LEL), and hydrogen sulfide are taken quarterly from monitoring locations surrounding the Current Landfill and annually from monitoring locations surrounding the Former Landfill to evaluate the movement of soil-gas from the landfills.

Routine Visual Inspection, Maintenance, and Repair. Monthly inspections are performed to monitor the structural and/or operational status of the landfill caps, drainage structures, and environmental monitoring systems. Semi-annual inspections of the landfills are also performed to ensure that institutional controls continue to be maintained.

Leachate Discharge. Visual inspections of the landfills are performed monthly to monitor for signs of leachate discharge. If observed, samples of the leachate are collected and analyzed. Leachate was not observed during 2024.

These activities are discussed in greater detail in **Sections 2 through 4** of this report. **Section 5** contains the conclusions and recommendations. References are included in **Section 6**.

2.0 GROUNDWATER MONITORING

2.1 Monitoring Well Networks

2.1.1 Current Landfill

Since January 1996, groundwater quality at the Current Landfill has been monitored using eleven downgradient wells and one background monitoring well. **Figure 2** depicts the location of the monitoring wells. **Figure 3** shows the water table contours for this area in August 2024. The depths of the screen intervals for the Current Landfill wells and fourth quarter depth to water elevations are listed below.

Well ID	Depth to Water (ft BLS) 4th Q 2024	Screen Interval (ft BLS)	Screen Zone
087-09*	26.73	24–34	Shallow Upper Glacial
087-11	14.67	11–21	Shallow Upper Glacial
087-23	32.82	25–40	Shallow Upper Glacial
087-24	32.74	70–80	Middle Upper Glacial
087-26	13.33	70–80	Middle Upper Glacial
087-27	13.46	5–20	Shallow Upper Glacial
088-109	11.85	6–21	Shallow Upper Glacial
088-110	13.72	10–25	Shallow Upper Glacial
088-21	8.39	5–20	Shallow Upper Glacial
088-22	8.43	70–80	Middle Upper Glacial
088-23	8.26	120–130	Deep Upper Glacial
098-99	11.39	39.5-49.5	Middle Upper Glacial

Ft BLS = Feet Below Land Surface

*Background well

2.1.2 Former Landfill

Starting in January 1997, groundwater quality at the Former Landfill area was monitored using 14 shallow monitoring wells (three background and 11 downgradient). However, as recommended in the *2020 Environmental Monitoring Report, Current and Former Landfill Areas* (BNL 2021), groundwater monitoring of the Former Landfill monitoring well network has been discontinued. This change was implemented during CY 2021. For historical purposes, the screen zones for the Former Landfill Area wells are summarized below.

Well ID	Depth to Water (ft BLS) 4th Q 2024	Screen Interval (ft BLS)	Screen Zone
086-42*	NS	65–75	Middle Upper Glacial
086-72*	NS	41.5–56.5	Shallow Upper Glacial
087-22*	NS	43–53	Shallow Upper Glacial
097-17	NS	29–39	Shallow Upper Glacial
097-64	NS	29–44	Shallow Upper Glacial
097-277	NS	40–55	Shallow Upper Glacial
106-02	NS	55–65	Middle Upper Glacial
106-30	NS	29–44	Shallow Upper Glacial
106-20	NS	85-95	Middle Upper Glacial
106-21	NS	55-65	Shallow Upper Glacial
106-43	NS	43-53	Shallow Upper Glacial
106-44	NS	44-54	Shallow Upper Glacial

106-45	NS	44-55	Shallow Upper Glacial
106-64	NS	30-40	Shallow Upper Glacial

BLS = Below Land Surface
*Background well
NS = Not sampled

2.1.3 Sampling Frequency and Analytical Parameters

The majority of monitoring wells for the Current Landfill were sampled for VOCs, metals, and water chemistry parameters semiannually during May and November 2024. A quarterly VOC sampling frequency was maintained for wells 088-109 and 098-99. Samples were analyzed for radionuclides once during 2024 for wells 087-23, 087-27, 088-21, and 088-109. Samples were collected from all the Current Landfill monitoring wells for 1,4-dioxane and per- and polyfluoroalkyl substances (PFAS) analysis during the fourth quarter 2024.

The BNL field sampling team conducted the groundwater sampling and General Engineering Laboratories, Inc. (GEL) of Charleston, South Carolina, and Eurofins/TestAmerica Laboratories Inc. analyzed the samples. Groundwater samples were collected using BNL standard operating procedure (SOP) EM-SOP-302, *Groundwater Sampling-Low Flow Purging and Sampling Using Dedicated Bladder Pumps.* See **Table 1** for a summary of analyses performed by well and sampling round.

2.1.4 Quality Assurance / Quality Control

The groundwater samples were collected and analyzed in accordance with strict quality assurance/ quality control (QA/QC) requirements as described in the BNL SOPs for groundwater monitoring. The analytical results for groundwater samples collected during 2024 satisfied the data-quality objectives. Furthermore, a master calibration/maintenance log is maintained for each field-measuring device (e.g., pH, conductivity, turbidity meters).

The analytical results of samples collected for the Current Landfill project underwent data verification, using EM-SOP-203, *Chemical Data Verification*, and EM-SOP-204, *Radiochemical Data Verification*. These procedures are designed to verify the accuracy and/or completeness of analytical data. The data verification process is implemented to detect the most common analytical problems that affect the quality of the results. To accomplish this task, QA/QC items such as the following were checked: holding times, matrix spikes, laboratory and field blanks, and field logs.

If items are found that can affect the use and interpretation of the data, they are either corrected, as in the case of unreadable information on the field logs, or the data are "qualified," as in the case of contamination of the blanks or violations of the holding time.

Guidance on the collection of QA/QC samples is contained in BNL procedure EM-SOP-200, *Collection and Frequency of Field Quality Control Samples*. The QA/QC samples collected included trip blanks, field blanks, matrix spike/matrix spike duplicate (MS/MSDs), and blind duplicates.

Trip blanks were analyzed for aqueous VOCs only. One trip blank was shipped to the analytical laboratory with each set of samples submitted for VOC analyses. The results of the blank samples did not indicate significant impact on the quality of the results. One duplicate sample was collected from the Current Landfill during each of the four quarters. No inconsistencies were detected in the blind duplicate analyses. The results were indicative of consistency with contract analytical laboratories and sampling methods, resulting in valid, reproduceable data. Matrix spike/matrix spike duplicate (MS/MSD) samples were collected at the same frequency as the blind duplicates. Due to lab exceedances of some internal method blank quality control standards, BNL provided a secondary data verification review qualifier on a limited set of analytical data. The data has been qualified for the samples that were affected by this exceedance and subsequently denoted in the respective data tables. The holding time for nitrate and nitrite was exceeded at the analytical laboratory for three wells during the fourth quarter. The data was qualified and fell within the expected historical range for these wells. The qualified data was within acceptable limits and did not adversely impact the review of groundwater quality.

2.2 Landfill Groundwater Monitoring Results

This section summarizes the 2024 results for VOCs, metals, water-chemistry parameters, radionuclides, 1,4-dioxane, and PFAS detected for the Current Landfill. The historical trends in concentrations of key contaminants were assessed and shown graphically in **Figures 4 through 7**. Summary tables of the 2024 landfill groundwater data are presented in **Tables 2 through 7**. Detections that exceed groundwater standards are presented in bold text. The tables include

groundwater standards, laboratory results, reporting limits, minimum detectable activity, laboratory data qualifiers, and BNL data verification qualifiers.

The groundwater standards used for evaluating non-radiological groundwater data are those contained in the NYSDEC Division of Water Technical and Operational Guidance Series (TOGS)1.1.1 Ambient Water Quality Standards and Guidance Values (June 1998, with addendums April 2000, June 2004 and February 2023) (NYSDEC 1998, 2000, 2004 and 2023) and 6NYCRR Part 703.5. Groundwater standards for radiological isotopes were supplemented with New York State Department of Health (NYSDOH) and United States Environmental Protection Agency (EPA) strontium-90 and tritium standards for drinking water. There were no groundwater standards for the gamma constituents; therefore, a Groundwater Screening Level was used. This value is based on a dose equivalent of 4 millirem (mrem)/year and was calculated as 4% of the DOE Derived Concentration Technical Standards (DCS) (DOE-STD-1196-2021) for the isotope of concern. These values are listed under the "groundwater standards" column in the summary tables and annotated where appropriate. Laboratory results that exceed the lower of the groundwater standards, or the Cleanup Goals listed in the Record of Decision (ROD), are highlighted in the data summary tables to facilitate review of the information.

The laboratory data qualifiers included in the tables vary for the different analyses. Explanations for the data qualifiers are included in the notes in each table. The complete 2024 laboratory data reports and chain of custody forms were archived and are available upon request. The 2024 Groundwater Sampling Logs are included as **Appendix C**. In addition, analytical results are stored in the BNL Environmental Information Management System (EIMS) database.

2.2.1 Current Landfill

2.2.1.1 Volatile Organic Compounds (VOCs)

Benzene and chloroethane have historically been the primary groundwater contaminants detected downgradient of the Current Landfill. Benzene was detected above its standard of 1 microgram per liter (µg/L) in monitoring well 087-11 and 088-110. 1,1-Dichloroethane was detected above the groundwater standard of 5 µg/L in downgradient monitoring well 088-109 during 2024 **(Table 2)**. Chloroethane was detected in well 088-109 above the groundwater standard of 5 µg/L. No other VOCs were detected above groundwater standards during 2024.

Benzene exceeded the 1 µg/L standard in well 087-11 during the May 2024 sampling event, with a maximum concentration of 1.9 µg/L. Chloroethane exceeded the 5 µg/L standard in well 088-109 for May, September and November with a concentration of 19 µg/L, 24 µg/L, and 16 µg/L, respectively. These concentrations are significantly below the historic high of 560 ug/L detected in this well in 1998. Well 088-109 detected 1,1-dichloroethane above the standard of 5 µg/L for September and November at a concentration of 8.4 µg/L and 9.1 µg/L, respectively. There was a recent correlation with water table elevation fluctuations and an increase in VOC concentrations in this well based on an assessment of local groundwater elevation data from 2023 through 2024.

Figure 4 plots the concentration trends of total VOCs (TVOC), benzene and chloroethane. Overall, the trend plots show a distinct decrease in VOC concentrations from the high concentrations seen prior to the installation of the cap. This reflects the positive effects of the capping on the groundwater quality downgradient of the landfill. During 2024, well 088-109 has shown VOC concentrations slightly increasing during the year. The long-term historical trend on this well shows fluctuating levels of VOCs and the magnitude during 2024 remains within the expected range.

2.2.1.2 Water Chemistry Parameters

Groundwater samples near the Current Landfill were analyzed semi-annually and annually for 088-22 and 088-23 for ammonia, total Kjeldahl nitrogen (TKN), cyanide, sulfate, nitrite, nitrate, total nitrogen, chloride, alkalinity, total dissolved solids (TDS or residue, nonfilterable), and total suspended solids (TSS or residue, filterable) during 2024. The results are provided in **Table 3**. Elevated levels of these parameters can be indicative of the presence of landfill leachate. A comparison of downgradient and background wells shows that leachate continues to be generated from the Current Landfill, albeit at low concentrations. The establishment of stable water chemistry concentration levels indicates that the capping continues to effectively reduce the generation and migration of leachate.

During 2024, ammonia was the only water chemistry parameter detected above standards. Ammonia was detected above the standard of 2 milligrams per liter (mg/L) in well 087-11. The highest concentration in well 087-11 was 2.3 mg/L in May 2024 **(Table 3)**. The levels of ammonia detected in downgradient wells are consistent with historic data.

Chloride was not detected above the standard of 250 mg/L in 2024. Downgradient wells 088-21 and 087-24 had the highest concentration of chloride at 73 mg/L. **Figure 5** plots the trends for alkalinity and chloride. The trends for downgradient wells show low levels of chloride concentrations near the Current Landfill. The historical concentration trends plotted show overall stable levels of chloride apart from 087-26 and 087-27 which are showing a slight overall upward trend.

Alkalinity, is the measurement of a body of waters ability to neutralize acids and bases and is directly related to the ratio of bicarbonate, carbonate and hydroxyl anions, and is often used as an indicator of leachate contamination. The alkalinity in background well 087-09 ranged from 16 mg/L to 38 mg/L. The highest alkalinity concentration during 2024 was detected in downgradient, shallow Upper Glacial aquifer well 087-11, at 180 mg/L. There is no groundwater standard for alkalinity. The historical concentration trends plotted in **Figure 5** show overall stable to decreasing levels of alkalinity apart from 087-24, 087-26 and 088-23 which are showing a slight upward trend.

During 2024, the concentration of sulfate remained below the groundwater standard of 250 mg/L. The highest sulfate value detected was 14 mg/L in May 2024 from monitoring well 087-09. This is consistent with historic background levels at the Current Landfill.

TDS and TSS results were similar to those from previous years. TDS concentrations in background well 087-09 ranged from 133 mg/L to 140 mg/L. TSS concentrations ranged from non-detect to 1.2 mg/L for well 087-09. The maximum concentrations observed in downgradient wells were 230 mg/L and 43 mg/L of TDS and TSS, respectively.

No water chemistry parameters have exceeded groundwater standards in downgradient wells 087-24, 088-22, and 088-23, since 1998. These wells are all screened in the mid to deep-Upper Glacial aquifer to monitor the vertical extent of contamination from the Current Landfill.

2.2.1.3 Metals

Historically, iron is detected consistently above groundwater standards in the upgradient well, and the majority of downgradient wells surrounding the landfill. Historically, precipitated iron from the BNL Water Treatment Plant was disposed of at the Current Landfill during past operations.

However, metals concentrations in upgradient well 087-09 are still lower than in several downgradient wells, suggesting continued leachate migration from the landfill into groundwater.

During 2024, iron, manganese and sodium exceeded the groundwater standard in background well 087-09. Aluminum, antimony, arsenic, iron, manganese, and sodium exceeded their respective groundwater standards in several downgradient wells **(Table 4)**.

Aluminum was reported above the standard of 200 µg/L in downgradient well 087-11 at a maximum concentration of 248 µg/L. This result is consistent with historic results reported for several Current Landfill wells, including background well 087-09.

Antimony was reported above the standard of 3 µg/L in downgradient wells 087-11, 087-23, 087-24, 087-26, 087-27 and 088-110 with a maximum concentration of 11 µg/L. These results are consistent with sporadic historic results reported for several Current Landfill wells, including background well 087-09. These sporadic results do not represent continuous or ongoing antimony releases from the landfill.

Arsenic was reported above the standard of 10 µg/L in wells 087-11 and 088-110 at a high concentration of 16.4 µg/L. Arsenic detections have historically been observed at similar concentrations in Current Landfill wells.

Iron was reported above the standard of 300 µg/L in wells 087-09, 087-11, 087-23, 087-27, 088-109, and 088-110. The background concentrations in well 087-09 were 42,700 µg/L while downgradient concentrations ranged up to 87,000 µg/L in well 087-11. Well 087-11 has shown fluctuating elevated iron concentrations since the fourth quarter of 2017. Iron trend graphs are plotted on **Figure 6**.

Manganese was detected above the standard of 300 µg/L in wells 087-09, 087-11, 087-23, 087-27, 088-109, and 088-110. Manganese was detected up to 1,150 µg/L in background well 087-09, and up to 2,830 µg/L in the downgradient well 088-110.

Sodium was detected above the standard of 20,000 µg/L in wells 087-09, 087-24, 087-26, 087-27 088-21, 088-22, and 088-110. Upgradient well 087-09 had a maximum sodium concentration of 29,000 µg/L. Downgradient sodium levels ranged up to 51,000 µg/L in well 087-24.

2.2.1.4 Radionuclides

No strontium-90, tritium, or gamma constituents were detected above groundwater standards during 2024 as shown in **Table 5**. As noted in **Section 2.2**, there are no groundwater standards for the gamma constituents; therefore, a groundwater screening level was used for comparison purposes and annotated where appropriate. Tritium and strontium-90 were not detected during 2024. The last time tritium was detected was in well 087-27 at a concentration of 318 picocuries per liter (pCi/L) in December of 2015. This is significantly below the groundwater standard of 20,000 pCi/L. **Figure 7** shows the historical strontium-90 and tritium concentration trends for the four wells sampled.

2.2.1.5 1,4-Dioxane

1,4-Dioxane was added in February 2023 as an addendum to the NYSDEC Division of Water TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values with a guidance value of 0.35 µg/L. During 2024, 1,4-dioxane was added to the list of analytes to be analyzed for in each of the twelve Current Landfill wells on an annual basis. The analytical data is shown on **Table 6.**

1,4-Dioxane was detected above the standard of 0.35 µg/L in wells 087-11, 087-27, 088-23, 088-109, 088-110 and 098-99. 1,4-Dioxane was not detected in upgradient well 087-09 while the maximum detected concentration of 1,4-dioxane was found in downgradient well 087-11 at 3 µg/L.

2.2.1.6 Per- and Polyfluoroalkyl Substances (PFAS)

Guidance values for Perfluorooctane Sulfonate (PFOS) and Perfluorooctanoic Acid (PFOA) were added in February 2023 as an addendum to the NYSDEC Division of Water TOGS 1.1.1 Ambient Water Quality Standards and Guidance Values. The guidance values for each compound are 2.7 nanograms per liter (ng/L) and 6.7 ng/L, respectively. During 2024, PFAS compounds were added to the list of analytes to be analyzed for in each of the twelve Current Landfill wells on an annual basis. The analytical data is found in **Table 7.**

PFOS was detected above the standard of 2.7 ng/L in wells 087-11, 087-24, 087-26, 088-21, 088-22, 088-109, and 098-99. PFOS was not detected in upgradient well 087-09 while the maximum detected PFOS was found in downgradient well 088-22 at a concentration of 51.6 ng/L.

PFOA was detected above the standard of 6.7 ng/L in one well 087-11 with a maximum detected PFOA concentration of 17.9 ng/L **(Table 7).**

Concentration trend graphs have not been created due to the lack of significant historical data with respect to 1,4-dioxane and PFAS.

2.2.2 Former Landfill

As recommended in the *2020 Environmental Monitoring Report, Current and Former Landfill Areas* (BNL 2021), groundwater monitoring of the Former Landfill monitoring well network has been discontinued.

3.0 SOIL-GAS MONITORING

3.1 Soil-gas Monitoring Networks

Soil-gas readings were collected from wells surrounding the Current Landfill in March, June, September, and December 2024, and from the Former Landfill in August 2024. Methane, LEL, and hydrogen sulfide were measured using a Landtec® GEM5000. The LEL for methane is 5.3% and the upper explosive limit (UEL) is 15%.

3.1.1 Current Landfill

Along the perimeter of the Current Landfill, 58 points were sampled for soil-gas, which includes four outpost soil-gas well clusters, GSGM-1 to GSGM-4, located along the south side of Brookhaven Avenue. The sampling points include 12 soil-gas well clusters consisting of three sampling intervals per cluster, and 11 soil-gas well couplets consisting of two sampling intervals per couplet. **Table 8** describes each soil-gas well adjacent to the landfill. Their locations are illustrated on **Figure 8**.

3.1.2 Former Landfill Area

Twenty-four sampling points were monitored for the Former Landfill Area. These points include 12 well couplets consisting of two sampling points per couplet. Details of each soil-gas well are given in **Table 8** and their locations shown in **Figure 9**.

3.1.3 Sampling Frequency

Soil-gas was monitored for each landfill in the following months.

Sampling Event	Current Landfill	Former Landfill
Round 1	March 2024	August 2024
Round 2	June 2024	None
Round 3	September 2024	None
Round 4	December 2024	None

3.2 Results of Soil-Gas Monitoring

Action levels for soil-gas are specified in 6 NYCRR Part 360-2.17(f) in terms of percent LEL, which is primarily related to the amount of methane present. This discussion focuses primarily on the methane levels detected during monitoring. Hydrogen sulfide is monitored but has no regulatory action level. 6 NYCRR Part 360-2.17(f) specifies that active measures to control decomposition gases are required when the concentration of methane or other explosive gases exceeds 25 percent (%) of the LEL (or 1.3% methane) in facility structures, or 100% of the LEL (or 5.3% methane) at the site boundary.

3.2.1 Current Landfill

A total of 23 soil-gas monitoring well clusters are positioned around the Current Landfill **(Figure 8)** and were sampled quarterly during 2024. Potential receptors, or areas where methane can accumulate near the Current Landfill, include the National Weather Service office building located 480 feet north northwest of the Current Landfill on the north side of Brookhaven Avenue. Four outpost soil-gas locations, GSGM-1 to GSGM-4, are located along the south side of Brookhaven Avenue, and are used to monitor the northern extent of the migration of landfill gas. Should methane extend to the south side of Brookhaven Avenue at concentrations exceeding 25% of the LEL (or 1.3% methane), active measures may be required to control its migration. This is a BNL administrative limit that would trigger further evaluation.

The results of the soil-gas monitoring for 2024 are summarized in **Table 9**. **Appendix A** contains the field notes recorded during the sampling events. Instrument measurements show that methane continues to be generated in several areas of the landfill. The percent of the LEL is elevated along the western side and the southeast boundary of the Current Landfill. In addition, SGMW-19B along the northern side of the Current Landfill had elevated LEL readings in two of the four quarterly sampling events. The LEL readings in these areas have remained stable since 1996 when monitoring began. The current gas venting system appears to be effective in controlling gas accumulation. These data are consistent with previous years.

Outpost wells, GSGM-1 through GSGM-4, located along the south side of Brookhaven Avenue and immediately upgradient of the landfill showed no methane during 2024. This indicates that the methane accumulation and migration does not extend to this area. Should methane, at concentrations exceeding 25 % of the LEL (or 1.3% methane) extend to these outpost wells on the south side of Brookhaven Avenue, active measures may be required to control its migration.

Hydrogen sulfide is a product of anaerobic decay in landfills and can produce an odor like rotten eggs. It is a nuisance, but rarely a toxicity problem. For reference, the National Institute of Occupational Safety and Health sets an exposure limit of 10 parts per million (ppm) hydrogen sulfide in the breathing zone for an 8-hour period.

Hydrogen sulfide measurements collected from the soil-gas monitoring wells ranged from 0 ppm to 40 ppm. Well SGMW-12A located along the southern section of the landfill, had the highest hydrogen sulfide concentration of 40 ppm, which was above the 10 ppm exposure limit. However, the measurement was taken from a vapor point screened 2.5 to 7.5 ft below land (bls) surface, and not from the ambient breathing zone. Elevated hydrogen sulfide was also detected in well SGMW-11A south of the landfill, which is also screened 2.5 to 7.5 ft bls at a concentration of 35 ppm. Like methane, receptors to hydrogen sulfide are considered to be in areas such as basements where the gas can accumulate. Based upon the readings obtained from the outpost soil-gas wells along the south side of Brookhaven Avenue (GSGM-1 to GSGM-4), there is no evidence that hydrogen sulfide is migrating toward the National Weather Service building.

3.2.1.1 Trend in Soil-Gas Data

Historically, the levels of methane and hydrogen sulfide in the wells along the northwest landfill boundary and southeast corner have remained elevated but stable.

3.2.2 Former Landfill Area

A total of 12 soil-gas monitoring well clusters are positioned around the Former Landfill Area **(Figure 9)**. During 2024, the well clusters were monitored once, in August. The only existing operating facility within the immediate vicinity of the Former Landfill Area is Building 670, located approximately 650 feet to the southeast. This building houses the Chemical Holes Sr-90 groundwater treatment system. This facility does not have a basement. Based upon the sampling

event, there was no methane or hydrogen sulfide detected. **Table 10** details the 2024 soil-gas monitoring results for the Former Landfill Area. **Appendix A** contains the field notes recorded during the sampling events.

3.2.2.1 Trends in Soil-Gas Data

The results of monitoring the Former Landfill Area continue to be consistent with the initial survey of the methane gas migration conducted in 1995, during which concentrations between 0% to 0.1% methane were recorded. Methane has not been detected since 2005. Although hydrogen sulfide gas was measured during this initial survey it has not been detected since 2010.

Presently, there is no measured pathway for methane gas migration, nor do the concentrations represent an explosive hazard, as shown by the non-detectable readings on the landfill gas analyzer. The age of the Former Landfill Area and the types of materials disposed of would likely result in low levels or the absence of methane or hydrogen sulfide.

4.0 MAINTENANCE AND REPAIR

Monthly site inspections were performed by BNL at the Current and Former Landfill areas to monitor the structural and/or operational status of the landfill cap, gas vents, drainage structure, fences and environmental monitoring system (groundwater wells, soil-gas wells) in accordance with the O&M Manuals. A copy of the inspection reports and photos taken during inspections is included in **Appendix B**. Maintenance and repair work completed by BNL is discussed below.

4.1 Landfill Cap and Gas Vents

To prevent ruts in the landfills caused by the weight of the lawn mowers during periods of above normal precipitation, grass cutting is typically only conducted when soil conditions are optimal. During 2024, the grass at the Current and Former Landfills was cut during June and September. Several animal burrows at the Current Landfill were filled in throughout 2024. Photos of these areas have been included in **Appendix B.** The burrows did not penetrate past the protection layer of the cap.

4.2 Drainage Structures

The drainage structures at both the Current and Former Landfill areas were maintained. They were observed to be operational and structurally sound during the site inspections. Small pine seedlings and weeds were noted growing in the drainage channels of both landfills during various times of the year. The weeds died off as cold weather set in. If they grow back in sufficient numbers, they will either be cut back or sprayed with herbicide.

4.3 Environmental Monitoring System

The monitoring wells and soil-gas monitoring wells associated with the landfills required no significant maintenance. Access to the soil-gas monitoring wells was cleared via mechanical weed whacking prior to each sampling event.

4.4 Related Structures

No structures other than those described above required maintenance during 2024.

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 Groundwater Monitoring

5.1.1 Conclusions for the Current Landfill

- Although low levels of contaminants continue to be detected, the landfill controls are effective at reducing the impact of the Current Landfill on groundwater quality.

- Benzene was detected in downgradient wells 087-11 and 088-110 at concentrations slightly above the groundwater standard with a maximum concentration of 1.9 µg/L in well 087-11. The other VOCs detected above the groundwater standard were chloroethane and 1,1-dichloroethane. 1,1-Dichloroethane was detected above the standard of 5 µg/L in monitoring well 088-109 with a maximum concentration of 9.1 µg/L. Chloroethane was detected in wells 088-109 above the groundwater standard of 5 µg/L with concentrations up to 24 µg/L. Although VOCs continue to be detected in downgradient wells, an analysis of the trends of VOCs indicate the concentrations are stable, or decreasing, apart from well 088-109 which has shown VOC concentrations slightly increasing during the year. The long-term historical trend for this well shows fluctuating levels of VOCs and the magnitude during 2024 remains within the expected range. These VOCs are naturally attenuating as they migrate south as shown by groundwater monitoring and are not detected at the site boundary above the drinking water standard.

- Concentrations of landfill water chemistry parameters and metals, such as ammonia and iron, in several downgradient wells were above the upgradient values. This suggests that leachate continues to emanate from the landfill into groundwater. Ammonia was the only water chemistry parameter detected above the standard of 2 mg/L, in downgradient well 087-11, at a maximum of 2.3 mg/L.

- Concentrations of aluminum, antimony, arsenic, iron, manganese, and sodium in several downgradient wells were detected above their respective groundwater standards. Iron, manganese and sodium were also detected in upgradient well 087-09. These parameters and concentrations are consistent with historic values.

- Tritium and strontium-90 were not detected in any of the wells sampled during 2024. There have been no detections of radionuclides above the drinking water standards since 1998.

5.1.2 Recommendations for the Current Landfill

- The monitoring well network for the Current Landfill is adequate, and no changes to the network or the sampling frequency are recommended at this time. However, as mentioned in **Section 2.2**, 1,4-dioxane and PFAS compounds were added to the list of analytes and are expected to remain on the sampling schedule on an annual basis.

5.2 Soil-Gas Monitoring

5.2.1 Conclusions for the Current Landfill

- Methane and/or hydrogen sulfide levels in wells located along the west landfill boundary, north landfill boundary and southeast corner have remained stable and have not shown any significant increases or decreases over time. No significant gas migration has been observed this year at the outpost soil-gas wells along Brookhaven Avenue.

5.2.2 Recommendations for the Current Landfill

- The soil-gas monitoring program is adequate at this time and no changes are recommended.

5.2.3 Conclusions for the Former Landfill Area

- Methane and hydrogen sulfide monitoring at the Former Landfill Area continue to show no detectable levels of landfill gas. Methane has not been detected at or above standards since monitoring began in 1996.

5.2.4 Recommendations for the Former Landfill Area

- The soil-gas monitoring program is adequate at this time and no changes are recommended.

5.3 Maintenance and Repair

- Maintenance of the landfill caps will continue in accordance with the O&M requirements.

5.3.1 Current Landfill

- Monthly inspections and maintenance will continue in accordance with the O&M requirements. Access to the soil-gas monitoring wells will continue to be cleared via

mechanical weed whacking. Continued removal of small pines and weeds in the drainage channel during 2025.

5.3.2 Former Landfill Area

- Monthly inspections and maintenance will continue in accordance with the O&M requirements. Access to the soil-gas monitoring wells will continue to be cleared via mechanical weed whacking. Continued removal of small pines and weeds in the drainage channel during 2025.

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Table 1

2024 Analytical Requirements for Groundwater Samples

Well ID	Project 1	Project 2	Decision Subunit	EPA 8260 Low Level VOCs	Pesticides Method 608	PCBs Method 608	TSS/TDS	Sufates/Chloride/Alkalinity	TK Nitrogen	Total Nitrogen	Nitrates	Nitrites	Ammonia	TAL Metals	Cyanide	EPA 901 Gamma Spec	EPA 906 Tritium	EPA 905 Sr-90	8270 SIM 1,4-dioxane	EPA 1633 PFAS/PFOA	Frequency (events/year)
087-09	CLF		Background	X[b]			X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]				X[a]	X[a]	2b
087-11	CLF		Downgradient	X[b]			X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]				X[a]	X[a]	2b
087-23	CLF		Downgradient	X[b]			X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[a]	X[a]	X[a]	X[a]	X[a]	2b
087-24	CLF		Downgradient	X[a]			X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]				X[a]	X[a]	2b
087-26	CLF		Downgradient	X[b]			X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]				X[a]	X[a]	2b
087-27	CLF		Downgradient	X[b]			X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[a]	X[a]	X[a]	X[a]	X[a]	2b
088-109	CLF		Downgradient	X			X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[a]	X[a]	X[a]	X[a]	X[a]	4
088-110	CLF		Downgradient	X[b]			X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]				X[a]	X[a]	2b
088-21	CLF		Downgradient	X[b]			X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[b]	X[a]	X[a]	X[a]	X[a]	X[a]	2b
088-22	CLF		Downgradient	X[a]			X[a]	X[a]	X[a]	X[a]	X[a]	X[a]	X[a]	X[a]	X[a]				X[a]	X[a]	1a
088-23	CLF		Downgradient	X[a]			X[a]	X[a]	X[a]	X[a]	X[a]	X[a]	X[a]	X[a]	X[a]				X[a]	X[a]	1a
098-99	CLF	OU I (South Boundary)	Downgradient	X															X[a]	X[a]	4

NOTES:
a: Collect in 4th Quarter only.
b: Collect in 2nd and 4th Quarters.

Table 2
Current Landfill - Summary of 2024 Volatile Organic Compounds.

		087-09		087-09		087-11		087-11		087-23		087-23		087-24	
	Groundwater Standards	5/28/2024		11/12/2024		5/30/2024		11/14/2024		5/30/2024		11/14/2024		11/14/2024	
Analyte	(ug/L)	(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)	
1,1,1,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.04	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.6	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	0.5	U	0.5	U	**1.9**		0.92	J	0.41	J	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1-methylethyl-	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	5	0.5	U	0.5	U	0.88		0.34	J	0.37	J	0.5	U	0.5	U
Chlorobromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	5	0.5	U	0.5	U	1.5		0.73	J	0.5	U	0.5	U	0.5	U
Chloroform	7	0.27	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	J
cis-1,2-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.04	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.05	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	5	1	U	0.5	U	1	U	0.5	U	1	U	0.5	U	0.5	U
Methyl bromide	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	10	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	5	0.5	U	0.5	U*	0.5	U	1.1	U*	0.5	U	1.01	U*	1.01	U*
n-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	10	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.29	J	0.5	U	0.5	U
o-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	3	0.5	U	0.5	U	0.33	J	0.5	U	0.22	J	0.5	U	0.5	U
sec-Butylbenzene	5	0.5	U	0.5	U	0.26	J	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	5	1.5	U	3	U	1.5	U	3	U	1.5	U	3	U	3	U
8260 TVOC	--	0.27		0		4.87		1.99		1.29		0		0.5	

U: Analyte was analyzed for, but not detected above the MDL.

J: Value is estimated.

R: A rejected result; the data is rejected, not usable, and unreliable.

Bold/Shaded: Value exceeds Standard/Guiadance Value.

*: Data qualified during secondary data verification review by BNL.

Table 2
Current Landfill - Summary of 2024 Volatile Organic Compounds.

		087-26		087-26		087-27		087-27		088-109		088-109		088-109	
	Groundwater Standards	5/29/2024		11/13/2024		5/29/2024		11/13/2024		3/15/2024		5/28/2024		9/6/2024	
Analyte	(ug/L)	(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)	
1,1,1,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.92		2.6		**8.4**	
1,1-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.04	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.6	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	0.5	U	0.5	U	0.5	U	0.61	J	0.5	U	0.5	U	0.56	
Benzene, 1,2,4-trimethyl	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1-methylethyl-	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	5	0.5	U	0.5	U	0.5	U	0.37	J	2.5		**19**		**24**	
Chloroform	7	3.6		4.66		2.2		0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.04	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.05	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	5	1	U	0.5	U	1	U	0.5	U	1	U	1	U	1	U
Methyl bromide	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	10	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	5	0.5	U	1.01	U*	0.5	U	1.09	U*	0.5	U	0.5	U	0.5	U
n-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	10	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	5	1.5	U	3	U	1.5	U	3	U	1.5	U	1.5	U	1.5	U
8260 TVOC	--	3.6		4.66		2.2		0.98		3.42		21.6		32.96	

U: Analyte was analyzed for, but not detected above the MDL.

J: Value is estimated.

R: A rejected result; the data is rejected, not usable, and unreliable

Bold/Shaded: Value exceeds Standard/Guiadance Value.

*: Data qualified during secondary data verification review by BNL.

Table 2
Current Landfill - Summary of 2024 Volatile Organic Compounds.

		088-109		088-110		088-110		088-21		088-21		088-22		088-23	
	Groundwater Standards	11/12/2024		5/29/2024		11/13/2024		5/30/2024		11/14/2024		11/14/2024		11/14/2024	
Analyte	(ug/L)	(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)		(ug/L)	
1,1,1,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	5	**9.08**		0.41	J	0.35	J	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.04	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.6	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	0.5	U	**1.1**		0.69	J	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1-methylethyl-	--	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	5	0.5	U	0.28	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	5	**16**		3.5		3.12		0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	7	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	3.78		0.5	U
cis-1,2-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.04	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.05	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	5	0.5	U	1	U	0.5	U	1	U	0.5	U	0.5	U	0.5	U
Methyl bromide	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	10	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	5	0.5	U	0.5	U	1.1	U*	0.5	U	0.99	U*	1.02	U*	0.97	U*
n-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	10	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	3	0.5	U	0.21	J	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	2	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	5	3	U	1.5	U	3	U	1.5	U	3	U	3	U	3	U
8260 TVOC	--	25.08		5.5		4.16		0		0		3.78		0	

U: Analyte was analyzed for, but not detected above the MDL.

J: Value is estimated.

R: A rejected result; the data is rejected, not usable, and unreliable

Bold/Shaded: Value exceeds Standard/Guiadance Value.

*: Data qualified during secondary data verification review by BNL.

Table 2
Current Landfill - Summary of 2024 Volatile Organic Compounds.

Analyte	Groundwater Standards (ug/L)	098-99 3/12/2024 (ug/L)		098-99 5/29/2024 (ug/L)		098-99 9/6/2024 (ug/L)		098-99 11/14/2024 (ug/L)	
1,1,1,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U
1,1,1-Trichloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2,2-Tetrachloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U
1,1,2-Trichloroethane	1	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloroethane	5	1.9		2.3		2.1		1.04	
1,1-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U
1,1-Dichloropropene	5	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U
1,2,3-Trichloropropane	0.04	0.5	U	0.5	U	0.5	U	0.5	U
1,2,4-Trichlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloroethane	0.6	0.5	U	0.5	U	0.5	U	0.5	U
1,2-Dichloropropane	1	0.5	U	0.5	U	0.5	U	0.5	U
1,3-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U
2,2-Dichloropropane	5	0.5	U	0.5	U	0.5	U	0.5	U
Benzene	1	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,2,4-trimethyl	5	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1,3,5-trimethyl-	5	0.5	U	0.5	U	0.5	U	0.5	U
Benzene, 1-methylethyl-	--	0.5	U	0.5	U	0.5	U	0.5	U
Bromobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U
Bromodichloromethane	50	0.5	U	0.5	U	0.5	U	0.5	U
Bromoform	50	0.5	U	0.5	U	0.5	U	0.5	U
Carbon tetrachloride	5	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobenzene	5	0.5	U	0.5	U	0.5	U	0.5	U
Chlorobromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U
Chloroethane	5	0.5	U	0.5	U	0.5	U	0.5	U
Chloroform	7	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,2-Dichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U
cis-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U
Cymene	5	0.5	U	0.5	U	0.5	U	0.5	U
DBCP	0.04	0.5	U	0.5	U	0.5	U	0.5	U
Dibromochloromethane	5	0.5	U	0.5	U	0.5	U	0.5	U
Dibromomethane	5	0.5	U	0.5	U	0.5	U	0.5	U
Dichlorodifluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U
EDB	0.05	0.5	U	0.5	U	0.5	U	0.5	U
Ethene, 1,2-dichloro-, (E)-	5	0.5	U	0.5	U	0.5	U	0.5	U
Ethylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U
Hexachlorobutadiene	0.5	0.5	U	0.5	U	0.5	U	0.5	U
m-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U
m/p xylene	5	1	U	1	U	1	U	0.5	U
Methyl bromide	5	0.5	U	0.5	U	0.5	U	0.5	U
Methyl chloride	5	0.5	U	0.5	U	0.5	U	0.5	U
Methyl tert-butyl ether	10	0.5	U	0.5	U	0.5	U	0.5	U
Methylene chloride	5	0.5	U	0.5	U	0.5	U	0.98	U*
n-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U
n-Propylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U
Naphthalene	10	0.5	U	0.5	U	0.5	U	0.5	U
o-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U
o-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U
o-Xylene	5	0.5	U	0.5	U	0.5	U	0.5	U
p-Chlorotoluene	5	0.5	U	0.5	U	0.5	U	0.5	U
p-Dichlorobenzene	3	0.5	U	0.5	U	0.5	U	0.5	U
sec-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U
Styrene	5	0.5	U	0.5	U	0.5	U	0.5	U
tert-Butylbenzene	5	0.5	U	0.5	U	0.5	U	0.5	U
Tetrachloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U
Toluene	5	0.5	U	0.5	U	0.5	U	0.5	U
trans-1,3-Dichloropropene	0.4	0.5	U	0.5	U	0.5	U	0.5	U
Trichloroethylene	5	0.5	U	0.5	U	0.5	U	0.5	U
Trichlorofluoromethane	5	0.5	U	0.5	U	0.5	U	0.5	U
Vinyl chloride	2	0.5	U	0.5	U	0.5	U	0.5	U
Xylene (total)	5	1.5	U	1.5	U	1.5	U	3	U
8260 TVOC	--	1.9		2.3		2.1		1.04	

U: Analyte was analyzed for, but not detected above the MDL.
J: Value is estimated.
R: A rejected result; the data is rejected, not usable, and unreliable
Bold/Shaded: Value exceeds Standard/Guiadance Value.
*: Data qualified during secondary data verification review by BNL.

Table 3

Current Landfill-Summary of 2024 Water Chemistry Data

Analyte	Groundwater Standards (mg/L)	087-09 5/28/2024 (mg/L)		087-09 11/12/2024 (mg/L)		087-11 5/30/2024 (mg/L)		087-11 11/14/2024 (mg/L)		087-23 5/30/2024 (mg/L)		087-23 11/14/2024 (mg/L)		087-24 5/30/2024 (mg/L)	
Alkalinity (as CaCO3)	--	38		16		180		172		47		50.5		35	
Ammonia (as N)	2	0.046	U*	0.017	U	**2.3**		1.75		0.26		0.06		0.1	U
Chloride	250**	51	J*	50.7		25		14.8		10		15.7		73	
Cyanide	0.2	0.01	U	0.00167	U	0.01	U	0.00167	U	0.01	U	0.00167	U	0.01	U
Nitrate (as N)	10	0.74	J*	1.27		0.5	U	0.602		0.2	B	0.23	JH	0.23	B
Nitrite (as N)	1	0.5	U	0.382	J	0.5	U	0.033	U	0.5	U	0.033	U	0.5	U
Nitrite + Nitrate-N	10	0.79		1.77		0.1	U	0.085	U	0.19		0.136	J	0.22	
Nitrogen	--	0.79		1.81		2.9		2.93		0.19		0.547		0.22	
Sulfate	250**	14	J*	7.79		2.7		0.582		4.4		4.88		11	
TDS	500**	140		133		230		207		74		92		170	
Total Kjeldahl Nitrogen	--	1	U	0.043	U*	2.9		2.93		1	U	0.411		1	U
TSS	--	1.2	B	0.648	U	6.8		13.5		3.6	B	4.4	J	4	U

U: Analyte was analyzed for, but not detected above MDL.

J: Value is estimated.

B: The reported value is less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

H: Holding time violation.

*: Data qualified during secondary data verification review by BNL.

Bold/Shaded: Concentration exceeds Standard/Guidance Value.

NS: No sample data.

**: USEPA Secondary Maximum Contaminant Levels (SMCLs). Non-enforceable secondary drinking water regulations for aesthetics.

Table 3

Current Landfill-Summary of 2024 Water Chemistry Data

Analyte	Groundwater Standards (mg/L)	087-24 11/14/2024 (mg/L)		087-26 5/29/2024 (mg/L)		087-26 11/13/2024 (mg/L)		087-27 5/29/2024 (mg/L)		087-27 11/13/2024 (mg/L)		088-109 5/28/2024 (mg/L)		088-109 11/12/2024 (mg/L)	
Alkalinity (as CaCO3)	--	33.1		29		27.6		58		126		31		151	
Ammonia (as N)	2	0.017	U	0.052	B	0.017	U	0.27		0.808		0.42	J*	1.73	
Chloride	250**	35		52		44.6		14		53.9		21	J*	29.1	
Cyanide	0.2	0.00167	U	0.01	U	0.00167	U	0.01	U	0.00167	U	0.007	U*	0.00167	U
Nitrate (as N)	10	0.446		0.36	B	0.323	H	0.17	B	0.554	JH	0.5	U	0.158	J
Nitrite (as N)	1	0.033	U	0.5	U	0.033	UH	0.5	U	0.033	UH	0.5	U	0.033	U
Nitrite + Nitrate-N	10	0.525		0.4		0.357		0.13		0.085	U	0.1	U	0.085	U
Nitrogen	--	0.668		0.4		0.464		0.13		1.46		0.1	U	2.42	
Sulfate	250**	5.91		12		9.06		9		10.4		13	J*	6.19	
TDS	500**	118		120		105		99		220		92		154	
Total Kjeldahl Nitrogen	--	0.143	U*	1	U	0.107	U*	1	U	1.46		1	U	2.42	
TSS	--	0.62	U	1.6	B	0.74	U	8.8		43.2		7.2		11	J

U: Analyte was analyzed for, but not detected above MDL.

J: Value is estimated.

B: The reported value is less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

H: Holding time violation.

*: Data qualified during secondary data verification review by BNL.

Bold/Shaded: Concentration exceeds Standard/Guidance Value.

NS: No sample data.

**: USEPA Secondary Maximum Contaminant Levels (SMCLs). Non-enforceable secondary drinking water regulations for aesthetics.

Table 3

Current Landfill-Summary of 2024 Water Chemistry Data

Analyte	Groundwater Standards (mg/L)	088-110 5/29/2024 (mg/L)		088-110 11/13/2024 (mg/L)		088-21 5/30/2024 (mg/L)		088-21 11/14/2024 (mg/L)		088-22 11/14/2024 (mg/L)		088-23 11/14/2024 (mg/L)	
Alkalinity (as CaCO3)	--	81		138		35		14.6		20.3		32.9	
Ammonia (as N)	2	1.2		0.643		0.1	U	0.017	U	0.017	U	0.017	U
Chloride	250**	39		31.5		73		55.5		46		16	
Cyanide	0.2	0.01	U	0.00167	U	0.01	U	0.00167	U	0.00167	U	0.00167	U
Nitrate (as N)	10	0.5	U	0.132	U	0.18	B	0.187		0.31		0.48	
Nitrite (as N)	1	0.5	U	0.033	U	0.5	U	0.033	U	0.033	U	0.033	U
Nitrite + Nitrate-N	10	0.1	U	0.085	U	0.1	U	0.157	J	0.335		0.58	
Nitrogen	--	1.3		1.24		0.1	U	0.287		0.393		0.612	
Sulfate	250**	13		12.8		3.8		4.54		10.1		12.9	
TDS	500**	220		197		150		123		146		92.9	
Total Kjeldahl Nitrogen	--	1.3		1.2		1	U	0.13		0.058	J	0.033	U
TSS	--	24		11.6		4	U	0.6	U	0.594	U	0.613	U

U: Analyte was analyzed for, but not detected above MDL.

J: Value is estimated.

B: The reported value is less than the Contract Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit (IDL).

H: Holding time violation.

*: Data qualified during secondary data verification review by BNL.

Bold/Shaded: Concentration exceeds Standard/Guidance Value.

NS: No sample data.

**: USEPA Secondary Maximum Contaminant Levels (SMCLs). Non-enforceable secondary drinking water regulations for aesthetics.

Table 4

Current Landfill-Summary of 2024 Metals Data

Analyte	Groundwater Standards (ug/L)	087-09 5/28/2024 (ug/L)		087-09 11/12/2024 (ug/L)		087-11 5/30/2024 (ug/L)		087-11 11/14/2024 (ug/L)		087-23 5/30/2024 (ug/L)		087-23 11/14/2024 (ug/L)		087-24 5/30/2024 (ug/L)		087-24 11/14/2024 (ug/L)	
Aluminum	200*	15	U	68	U	100		**248**		15		68	U	15	U	68	U
Antimony	3	2	U	3.5	U	0.8	B	**7.15**	B	2	U	**11.1**	B	2	U	**4.41**	B
Arsenic	10**	2	U	2	B	6.7		**16.4**		6.1		8.55		2	U	2	U
Barium	1000	31		39.2	B	24		24.3	B	23		24.3	B	15		9.09	B
Beryllium	3	0.3	U	1	U	0.3	U	1	U	0.3	U	1	U	0.3	U	1	U
Cadmium	5	0.5	U	1	U	0.5	U	1	U	0.5	U	1	U	0.5	U	1	U
Calcium	--	14000		25000		20000		18100		3900		3010	B	5500		3100	B
Chromium	50	15		1	U	1.1	B	1.4	B	3	U	1	U	3	U	1	U
Cobalt	--	1.1		4.83	B	1.7		1	U	9.5		8.61	B	1	U	1	U
Copper	200	2		3	U	3.7		3	U	1	U	3	U	1	U	3	U
Iron	300	210	U*	**42700**		**87000**		**83700**		**23000**		**25500**		13	B	30	U
Lead	15***	1	U	0.5	U	0.88	B	0.5	U	1	U	0.5	U	1	U	0.5	U
Magnesium	35000	3900		4620	B	3000		3230	B	1200		1230	B	2900		1790	B
Manganese	300	140		**1150**		**1400**		**1650**		**2800**		**2690**		3	U	2	U
Mercury	0.7	0.2	U	0.067	U	0.2	U	0.067	U	0.2	U	0.067	U	0.2	U	0.067	U
Nickel	100	53		1.5	U	2	U	1.5	U	2.7		1.5	U	2	U	1.5	U
Potassium	--	1800		4850	B	2800		3600	B	960		842	B	1300		995	B
Selenium	10	5	U	1.5	U	5	U	1.5	U	5	U	1.5	U	5	U	1.5	U
Silver	50	1	U	1.18	B	1	U	1	U	1	U	1	U	1	U	1	U
Sodium	20000	**29000**		17200		15000		8040		5600		9150		**51000**		**35300**	
Thallium	0.5	0.5	U	0.6	U	0.5	U	0.6	U	0.5	U	0.6	U	0.5	U	0.6	U
Vanadium	--	2	U	1	U	2	U	2.43	B	2	U	1	U	2	U	1	U
Zinc	2000	5.6	B	3.3	U	2.6	B	8.38	B	4.4	B	5.27	B	10	U	7.17	B

Table 4

Current Landfill-Summary of 2024 Metals Data

Analyte	Groundwater Standards (ug/L)	087-26 5/29/2024 (ug/L)		087-26 11/13/2024 (ug/L)		087-27 5/29/2024 (ug/L)		087-27 11/13/2024 (ug/L)		088-109 5/28/2024 (ug/L)		088-109 11/12/2024 (ug/L)		088-110 5/29/2024 (ug/L)		088-110 11/13/2024 (ug/L)	
Aluminum	200*	15	U	68	U	15	U	68	U	65		68	U	15	U	68	U
Antimony	3	2	U	**8.48**	B	2	U	**10.3**	B	2	U	3.5	U	2	U	**8.43**	B
Arsenic	10**	2	U	2	U	0.66	B	6.96		2.1		8.89		8.6		**11.5**	
Barium	1000	31		31.4	B	8.7		31.6	B	20		7.14	B	32		29.2	B
Beryllium	3	0.3	U	1	U	0.3	U	1	U	0.3	U	1	U	0.3	U	1	U
Cadmium	5	0.5	U	1	U	0.5	U	1	U	0.5	U	1	U	0.5	U	1	U
Calcium	--	7900		8510		13000		17300		10000		50	U	18000		19400	
Chromium	50	3	U	1	U	3	U	1.18	B	3	U	1	U	3	U	1	U
Cobalt	--	1	U	1	U	1.2		1.43	B	1.8		1	U	6.1		3.35	B
Copper	200	1.6		3	U	1	U	3	U	1	U	3	U	1	U	3	U
Iron	300	31	B	108		**7600**		**63300**		**13000**	^	30	U	**59000**		**55700**	
Lead	15***	1	U	0.5	U	1	U	0.5	U	0.32	B	0.5	U	1	U	0.5	U
Magnesium	35000	4200		4480	B	6000		3210	B	3900		110	U	4600		4770	B
Manganese	300	3	U	2	U	240		**1910**		**380**		2	U	**2500**		**2830**	
Mercury	0.7	0.2	U	0.067	U	0.2	U	0.067	U	0.2	U	0.067	U	0.2	U	0.067	U
Nickel	100	2	U	1.5	U	2	U	2.24	B	2	U	1.5	U	2	U	1.5	U
Potassium	--	1400		1550	B	1300		3470	B	1300		50	U	2500		3060	B
Selenium	10	5	U	1.5	U	5	U	1.5	U	5	U	1.5	U	5	U	1.5	U
Silver	50	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Sodium	20000	**30000**		**29300**		12000		**38400**		11000		100	U	**24000**		**20600**	
Thallium	0.5	0.5	U	0.6	U	0.5	U	0.6	U	0.5	U	0.6	U	0.5	U	0.6	U
Vanadium	--	2	U	1	U	2	U	1	U	2	U	1	U	2	U	1	U
Zinc	2000	10	U	3.3	U	10	U	3.3	U	10	U	3.3	U	10	U	4.24	B

Table 4

Current Landfill-Summary of 2024 Metals Data

Analyte	Groundwater Standards (ug/L)	088-21 5/30/2024 (ug/L)		088-21 11/14/2024 (ug/L)		088-22 11/14/2024 (ug/L)		088-23 11/14/2024 (ug/L)	
Aluminum	200*	34		68	U	68	U	68	U
Antimony	3	2	U	14.1	U*	7.21	U*	3.5	U
Arsenic	10**	2	U	2	U	2	U	2	U
Barium	1000	15		35.2	B	34.5	B	3.18	B
Beryllium	3	0.3	U	1	U	1	U	1	U
Cadmium	5	0.5	U	1	U	1	U	1	U
Calcium	--	5200		4210	B	6650		12300	
Chromium	50	3	U	1	U	1	U	1	U
Cobalt	--	1	U	1	U	1	U	1	U
Copper	200	1	U	3	U	3	U	3	U
Iron	300	85	B	30	U	30	B	132	
Lead	15***	1	U	0.5	U	0.5	U	0.5	U
Magnesium	35000	2500		2580	B	4390	B	3070	B
Manganese	300	20		5.14	B	4.51	B	15.6	
Mercury	0.7	0.2	U	0.067	U	0.067	U	0.067	U
Nickel	100	2	U	1.5	U	1.5	U	1.5	U
Potassium	--	1100		1490	B	1780	B	563	B
Selenium	10	5	U	1.5	U	1.5	U	1.5	U
Silver	50	1	U	1	U	1	U	1	U
Sodium	20000	**49000**		**34800**		**26900**		12200	
Thallium	0.5	0.5	U	0.6	U	0.6	U	0.6	U
Vanadium	--	2	U	1	U	1	U	1	U
Zinc	2000	10	U	3.3	U	3.3	U	3.3	U

U: Analyte was analyzed for, but not detected above MDL.

J: Value is estimated

^: RPD of the LCS and LCSD exceeds the contol limits

Bold/Shaded: Concentration exceeds Standard/Guidance Value.

B: Indicates that the value was less then the Required Detection Limit (CRDL), but greater than or equal to the Instrument Detection Limit(IDL).

E: %Difference of sample and SD is greater then 10%

N:The Matrix spike sample recovery is not within control limits.

*: USEPA SMCL Secondary Maximum Contaminant Levels (SMCLs)

** USEPA Maximum Contaminiant Level (MCL)

*** OUI Record of Decision Selected Cleanup Goal

Table 5

Current Landfill-Summary of 2024 Radionuclide Data

Analyte	**Groundwater Standards** pCi/L	**087-23 11/14/2024 pCi/L**				**087-27 11/13/2024 pCi/L**				**088-109 11/12/2024 pCi/L**				**088-21 11/14/2024 pCi/L**			
		Result	Qual	MDC	Error	Result	Qual	MDC	Error	Result	Qual	MDC	Error	Result	Qual	MDC	Error
Americium-241	29.6*	1.42	U	15.3	9.01	1.58	U	17.5	9.35	-1.64	U	17.6	9.6	-3.14	U	12.9	7.33
Beryllium-7	100000*	-26.3	U	30.8	21.4	-1.81	U	32.2	18	1.46	U	31.6	17.3	0.809	U	30.1	16.3
Cesium-134	156*	-0.695	U	2.92	1.68	1.59	U	3.67	1.78	1.29	U	3.79	1.89	0.62	U	3.11	1.6
Cesium-137	164*	-0.0603	U	3.06	2.11	0.714	U	3.36	1.82	0.295	U	3.29	1.82	-0.976	U	2.54	1.51
Co-60	560*	0.195	U	3.08	1.54	-0.66	U	3.46	2.16	-1.56	U	3.33	2.22	0.546	U	3.64	1.81
Cobalt-57	14800*	0.731	U	2.63	1.47	0.545	U	2.64	1.47	2.02	U	2.63	2.89	-0.503	U	2.06	1.21
Europium-152	3000*	-0.944	U	8.26	4.5	2.48	U	9.7	5.15	-1.29	U	8.85	4.91	2.17	U	7.93	4.06
Europium-154	2720*	1.57	U	7.8	4.03	0.798	U	9.66	5.07	-0.549	U	8.68	4.89	-1.2	U	6.06	3.22
Europium-155	40000*	-4.41	U	9.15	5.47	0.702	U	11	6.14	0.355	U	11.1	6.24	-0.618	U	8.82	5.03
Manganese-54	3920*	-0.0181	U	2.87	1.58	1.84	U	3.38	1.61	0.316	U	3.21	1.67	-0.607	U	2.75	1.61
Sodium-22	640*	0.528	U	2.75	1.42	0.254	U	3.41	1.79	-0.195	U	3.08	1.73	-0.456	U	2.12	1.13
Strontium-90	8***	0.0214	U	0.788	0.417	0.117	U	0.782	0.437	0.262	U	0.436	0.261	0.31	U	0.784	0.459
Tritium	20000***	198	U	497	289	172	U	497	286	-25.8	U-DL	515	297	246	U	498	295
Zinc-65	48*	-0.434	UJ(-)B^	5.36	3.15	-2.02	UJ(-)B^	6.8	3.93	5.53	UJ(-)B^	6.42	4.91	1.76	U	6.94	3.72

N2: Not usable based on the results that are not distinguishable from background. The reported activity value is less than or equal to the sum of the MDC and the uncertainty.

U: Analyte was analyzed for but not detected above the MDC.

J: Estimated value. Based on secondary review verification and review of MS/MSD data collected from this sample.

*: Department of Energy (DOE) Groundwater Screening Level.

***:Environmental Protection Agency (EPA) Drinking Water Standards.

UI: Gamma Spectroscopy-Uncertain identification.

DL: Failed required detection limit.

MDC: Minimum Detectable Concentration.

UJ(-)B: Sample results less than the MDC (i.e., undetected) shall be qualified as potential false negatives and estimated (UJ (-) B

^: Data qualified during secondary data verification review by BNL.

Table 6

Current Landfill-Summary of 2024 1,4-Dioxane Data

Analtye	**Groundwater Standards (µg/L)**	**087-09**		**087-11**		**087-23**		**087-24**		**087-26**		**087-27**	
		11/12/2024		**11/14/2024**		**11/14/2024**		**11/14/2024**		**11/13/2024**		**11/13/2024**	
		(µg/L)		**(µg/L)**		**(µg/L)**		**(µg/L)**		**(µg/L)**		**(µg/L)**	
1,4-Dioxane	0.35	0.2	U	**3**		0.302		0.0488	J	0.088	J	**0.44**	

U: Analyte was analyzed for, but not detected above MDL.

J: Value is estimated.

Bold/Shaded: Exceeds New York State Ambient Water Quality Guidance Value for Class GA Groundwater.

Table 6

Current Landfill-Summary of 2024 1,4-Dioxane Data

Analtye	**Groundwater Standards (µg/L)**	**088-109**		**088-110**		**088-21**		**088-22**		**088-23**		**098-99**	
		11/12/2024		**11/13/2024**		**11/14/2024**		**11/14/2024**		**11/14/2024**		**11/14/2024**	
		(µg/L)		**(µg/L)**		**(µg/L)**		**(µg/L)**		**(µg/L)**		**(µg/L)**	
1,4-Dioxane	0.35	**0.602**		**0.628**		0.2	U	0.1	J	**2.47**		**0.73**	

U: Analyte was analyzed for, but not detected above MDL.

J: Value is estimated.

Bold/Shaded: Exceeds New York State Ambient Water Quality Guidance Value for Class GA Groundwater.

Table 7
Current Landfill - Summary of 2024 PFAS Compounds.

Analyte	Groundwater Standards (ng/L)	087-09 11/12/2024 (ng/L)		087-11 11/14/2024 (ng/L)		087-23 11/14/2024 (ng/L)		087-24 11/14/2024 (ng/L)	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	--	6.75	U	9.45	U	9.45	U	6.78	U
1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS)	--	6.86	U	9.6	U	9.6	U	6.89	U
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	--	35.7	U	50	U	50	U	35.9	U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	--	35.7	U	50	U	50	U	35.9	U
4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA)	--	7.14	U	10	U	10	U	7.17	U
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	--	6.75	U	9.45	U	9.45	U	6.78	U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	--	6.68	U	9.35	U	9.35	U	6.71	U
Fluorotelomer sulfonate 4:2 (4:2 FTS)	--	6.69	U	9.38	U	9.38	U	6.72	U
Fluorotelomer sulfonate 6:2 (6:2 FTS)	--	6.78	U	9.5	U	9.5	U	6.81	U
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	--	7.14	U	10	U	10	U	7.17	U
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	--	1.79	U	2.5	U	2.5	U	1.79	U
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	--	1.79	U	2.5	U	2.5	U	1.79	U
N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE)	--	17.9	U	25	U	25	U	17.9	U
N-Methylperfluorooctane sulfonamide (NMeFOSAA)	--	1.79	U	2.5	U	2.5	U	1.79	U
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	--	1.79	U	2.5	U	2.5	U	1.79	U
N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE)	--	17.9	U	25	U	25	U	17.9	U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	3.57	U	5	U	5	U	3.59	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	3.18	U	4.45	U	4.45	U	3.19	U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	3.57	U	5	U	5	U	3.59	U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	3.57	U	5	U	5	U	3.59	U
Perfluorobutanesulfonate (PFBS)	--	1.58	U	2.22	U	2.22	U	1.59	U
Perfluorobutyric acid (PFBA)	--	7.14	U	15.7		10.9		7.17	U
Perfluorodecanesulfonate (PFDS)	--	1.72	U	2.41	U	2.41	U	1.73	U
Perfluorodecanoic acid (PFDA)	--	1.79	U	2.5	U	2.5	U	1.79	U
Perfluorododecane sulfonic acid (PFDoS)	--	1.73	U	2.43	U	2.43	U	1.74	U
Perfluorododecanoic acid (PFDoA)	--	1.79	U	2.5	U	2.5	U	1.79	U
Perfluoroheptanesulfonate (PFHpS)	--	1.7	U	2.38	U	2.38	U	1.71	U
Perfluoroheptanoic acid (PFHpA)	--	1.79	U	2.5	U	2.5	U	1.79	U
Perfluorohexanesulfonate (PFHxS)	--	1.63	U	5.11		2.29	U	4.25	
Perfluorohexanoic acid (PFHxA)	--	1.79	U	8.52		2.5	U	1.79	U
Perfluorononanesulfonate (PFNS)	--	1.72	U	2.41	U	2.41	U	1.72	U
Perfluorononanoic acid (PFNA)	--	1.79	U	2.5	U	2.5	U	1.79	U
Perfluorooctane sulfonamide (PFOSAm)	--	1.79	U	2.5	U	2.5	U	1.79	U
Perfluorooctanesulfonate (PFOS)	2.7	1.66	U	**3.4**		2.32	U	**10.2**	
Perfluorooctanoic acid (PFOA)	6.7	2.01		**17.9**		2.5	U	3.22	
Perfluoropentanesulfonate (PFPeS)	--	1.68	U	2.35	U	2.35	U	1.69	U
Perfluoropentanoic acid (PFPeA)	--	1.79	U	2.5	U	2.5	U	1.79	U
Perfluorotetradecanoic acid (PFTeDA)	--	1.79	U	2.5	U	2.5	U	1.79	U
Perfluorotridecanoic acid (PFTrDA)	--	1.79	U	2.5	U	2.5	U	1.79	U
Perfluoroundecanoic acid (PFUdA)	--	1.79	U	2.5	U	2.5	U	1.79	U
EPA Method 1633 TPFAS	--	2.01		50.63		10.9		17.67	

U: Analyte was analyzed for, but not detected above the MDL.
J: Value is estimated.
D: Results are reported from a diluted aliquot of sample.
R: A rejected result; the data is rejected, not usable, and unreliable.
*: Data qualified during secondary data verification review by BNL.
Bold/Shaded: Value exceeds New York State Ambient Water Quality Guidance Value for Class GA Groundwater.

Table 7
Current Landfill - Summary of 2024 PFAS Compounds.

Analyte	Groundwater Standards (ng/L)	087-26 11/13/2024 (ng/L)		087-27 11/13/2024 (ng/L)		088-109 11/12/2024 (ng/L)		088-110 11/13/2024 (ng/L)	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	--	6.62	U	12.6	U	6.96	U	6.69	U
1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS)	--	6.72	U	12.8	U	7.07	U	6.8	U
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	--	35	U	66.7	U	36.8	U	35.4	U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	--	35	U	66.7	U	36.8	U	35.4	U
4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA)	--	7	U	13.3	U	7.37	U	7.08	U
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	--	6.62	U	12.6	U	6.96	U	6.69	U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	--	6.55	U	12.5	U	6.89	U	6.62	U
Fluorotelomer sulfonate 4:2 (4:2 FTS)	--	6.56	U	12.5	U	6.91	U	6.64	U
Fluorotelomer sulfonate 6:2 (6:2 FTS)	--	6.65	U	12.7	U	7	U	6.73	U
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	--	7	U	13.3	U	7.37	U	7.08	U
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	--	1.75	U	3.33	U	1.84	U	1.77	U
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	--	1.75	U	3.33	U	1.84	U	1.77	U
N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE)	--	17.5	U	33.3	U	18.4	U	17.7	U
N-Methylperfluorooctane sulfonamide (NMeFOSAA)	--	1.75	U	3.33	U	1.84	U	1.77	U
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	--	1.75	U	3.33	U	1.84	U	1.77	U
N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE)	--	17.5	U	33.3	U	18.4	U	17.7	U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	3.5	U	6.67	U	3.68	U	3.54	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	3.12	U	5.93	U	3.28	U	3.15	U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	3.5	U	6.67	U	3.68	U	3.54	U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	3.5	U	6.67	U	3.68	U	3.54	U
Perfluorobutanesulfonate (PFBS)	--	1.55	U	2.96	U	1.63	U	1.57	U
Perfluorobutyric acid (PFBA)	--	7	U	13.3	U	8.38		7.08	U
Perfluorodecanesulfonate (PFDS)	--	1.69	U	3.22	U	1.78	U	1.71	U
Perfluorodecanoic acid (PFDA)	--	1.75	U	3.33	U	1.84	U	1.77	U
Perfluorododecane sulfonic acid (PFDoS)	--	1.7	U	3.23	U	1.79	U	1.72	U
Perfluorododecanoic acid (PFDoA)	--	1.75	U	3.33	U	1.84	U	1.77	U
Perfluoroheptanesulfonate (PFHpS)	--	1.67	U	3.18	U	1.76	U	1.69	U
Perfluoroheptanoic acid (PFHpA)	--	1.76		3.33	U	1.84	U	1.77	U
Perfluorohexanesulfonate (PFHxS)	--	17.9		3.05	U	1.68	U	1.62	U
Perfluorohexanoic acid (PFHxA)	--	5.4		4.53		1.84	U	2.12	
Perfluorononanesulfonate (PFNS)	--	1.68	U	3.21	U	1.77	U	1.7	U
Perfluorononanoic acid (PFNA)	--	1.75	U	3.33	U	1.84	U	1.77	U
Perfluorooctane sulfonamide (PFOSAm)	--	1.75	U	3.33	U	1.84	U	1.77	U
Perfluorooctanesulfonate (PFOS)	2.7	**45.4**		3.09	U	**5.73**		1.64	U
Perfluorooctanoic acid (PFOA)	6.7	2.33		5.43		4.47		2.87	
Perfluoropentanesulfonate (PFPeS)	--	2.39		3.14	U	1.73	U	1.67	U
Perfluoropentanoic acid (PFPeA)	--	2.05		3.4		1.84	U	1.95	
Perfluorotetradecanoic acid (PFTeDA)	--	1.75	U	3.33	U	1.84	U	1.77	U
Perfluorotridecanoic acid (PFTrDA)	--	1.75	U	3.33	U	1.84	U	1.77	U
Perfluoroundecanoic acid (PFUdA)	--	1.75	U	3.33	U	1.84	U	1.77	U
EPA Method 1633 TPFAS	--	77.23		13.36		18.58		6.94	

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*: Data qualified during secondary data verification review by BNL.
Bold/Shaded: Value exceeds New York State Ambient Water Quality Guidance Value for Class GA Groundwater.

Table 7
Current Landfill - Summary of 2024 PFAS Compounds.

Analyte	Groundwater Standards (ng/L)	088-21 11/14/2024 (ng/L)		088-22 11/14/2024 (ng/L)		088-23 11/14/2024 (ng/L)		098-99 11/14/2024 (ng/L)	
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	--	6.8	U	6.63	U	7.66	U	7.61	U
1H, 1H, 2H, 2H-Perfluorodecane sulfonic acid (8:2 FTS)	--	6.91	U	6.73	U	7.78	U	7.73	U
2H,2H,3H,3H-Perfluorodecanoic acid (7:3 FTCA)	--	36	U	35.1	U	40.5	U	40.3	U
2H,2H,3H,3H-Perfluorooctanoic acid (5:3 FTCA)	--	36	U	35.1	U	40.5	U	40.3	U
4,4,5,5,6,6-Heptafluorohexanoic acid (3:3 FTCA)	--	7.2	U	7.01	U	8.1	U	8.06	U
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	--	6.8	U	6.63	U	7.66	U	7.61	U
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	--	6.73	U	6.56	U	7.58	U	7.53	U
Fluorotelomer sulfonate 4:2 (4:2 FTS)	--	6.75	U	6.58	U	7.6	U	7.55	U
Fluorotelomer sulfonate 6:2 (6:2 FTS)	--	6.84	U	6.66	U	7.7	U	7.65	U
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	--	7.2	U	7.01	U	8.1	U	8.06	U
N-Ethylperfluorooctane sulfonamide (EtFOSAm)	--	1.8	U	1.75	U	2.03	U	2.01	U
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	--	1.8	U	1.75	U	2.03	U	2.01	U
N-Ethylperfluorooctane sulfonamido ethanol (NEtFOSE)	--	18	U	17.5	U	20.3	U	20.1	U
N-Methylperfluorooctane sulfonamide (NMeFOSAA)	--	1.8	U	1.75	U	2.03	U	2.01	U
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	--	1.8	U	1.75	U	2.03	U	2.01	U
N-Methylperfluorooctane sulfonamido ethanol (NMeFOSE)	--	18	U	17.5	U	20.3	U	20.1	U
Nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	--	3.6	U	3.51	U	4.05	U	4.03	U
Perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	--	3.2	U	3.12	U	3.61	U	3.59	U
Perfluoro-3-methoxypropanoic acid (PFMPA)	--	3.6	U	3.51	U	4.05	U	4.03	U
Perfluoro-4-methoxybutanoic acid (PFMBA)	--	3.6	U	3.51	U	4.05	U	4.03	U
Perfluorobutanesulfonate (PFBS)	--	1.6	U	2.55		1.8	U	1.79	U
Perfluorobutyric acid (PFBA)	--	7.2	U	7.01	U	32.2		8.06	U
Perfluorodecanesulfonate (PFDS)	--	1.74	U	1.69	U	1.95	U	1.94	U
Perfluorodecanoic acid (PFDA)	--	1.8	U	1.75	U	2.03	U	2.01	U
Perfluorododecane sulfonic acid (PFDoS)	--	1.75	U	1.7	U	1.96	U	1.95	U
Perfluorododecanoic acid (PFDoA)	--	1.8	U	1.75	U	2.03	U	2.01	U
Perfluoroheptanesulfonate (PFHpS)	--	1.71	U	1.67	U	1.93	U	1.92	U
Perfluoroheptanoic acid (PFHpA)	--	1.8	U	2.02		2.03	U	2.01	U
Perfluorohexanesulfonate (PFHxS)	--	1.64	U	23.2		5.14		6.07	
Perfluorohexanoic acid (PFHxA)	--	1.8	U	8.01		2.03	U	2.01	U
Perfluorononanesulfonate (PFNS)	--	1.73	U	1.69	U	1.95	U	1.94	U
Perfluorononanoic acid (PFNA)	--	1.8	U	3.51	DU	2.03	U	2.01	U
Perfluorooctane sulfonamide (PFOSAm)	--	1.8	U	1.75	U	2.03	U	2.01	U
Perfluorooctanesulfonate (PFOS)	2.7	**4.3**		**51.6**		1.88	U	**3.94**	
Perfluorooctanoic acid (PFOA)	6.7	1.8	U	4.17		3.33		2.01	U
Perfluoropentanesulfonate (PFPeS)	--	1.69	U	3.62		1.91	U	1.9	U
Perfluoropentanoic acid (PFPeA)	--	1.8	U	3.33		2.03	U	2.01	U
Perfluorotetradecanoic acid (PFTeDA)	--	1.8	U	1.75	U	2.03	U	2.01	U
Perfluorotridecanoic acid (PFTrDA)	--	1.8	U	1.75	U	2.03	U	2.01	U
Perfluoroundecanoic acid (PFUdA)	--	1.8	U	1.75	U	2.03	U	2.01	U
EPA Method 1633 TPFAS	--	4.3		98.5		40.67		10.01	

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R: A rejected result; the data is rejected, not usable, and unreliable.
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Bold/Shaded: Value exceeds New York State Ambient Water Quality Guidance Value for Class GA Groundwater.

Table 8
Current Landfill Soil Gas Monitoring Well Description

Current Landfill			
Soil Gas Monitoring Well	**Screen Location**	**Top of Screen (Feet BLS)**	**Bottom Screen (Feet BLS)**
SGM-1 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-1 PROBE B	**Intermediate**	**10.5**	**17.5**
SGM-1 PROBE C	**Deep**	**20**	**29.5**
SGM-2 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-2 PROBE B	**Intermediate**	**10.5**	**16**
SGM-2 PROBE C	**Deep**	**19**	**28**
SGM-3 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-3 PROBE B	**Intermediate**	**10.5**	**17**
SGM-3 PROBE C	**Deep**	**20**	**29**
SGM-4 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-4 PROBE B	**Intermediate**	**10.5**	**20**
SGM-4 PROBE C	**Deep**	**23**	**32**
SGM-5 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-5 PROBE B	**Intermediate**	**10.5**	**22**
SGM-5 PROBE C	**Deep**	**25**	**34**
SGM-6 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-6 PROBE B	**Intermediate**	**10.5**	**18.5**
SGM-6 PROBE C	**Deep**	**21.5**	**30.5**
SGM-7 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-7 PROBE B	**Intermediate**	**10.5**	**16**
SGM-7 PROBE C	**Deep**	**19**	**26**
SGM-8 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-8 PROBE B	**Intermediate**	**10.5**	**16.5**
SGM-8 PROBE C	**Deep**	**19.5**	**28.5**
SGM-9 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-9 PROBE B	**Intermediate**	**10.5**	**20.5**
SGM-9 PROBE C	**Deep**	**23.5**	**32.5**
SGM-10 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-10 PROBE B	**Intermediate**	**10.5**	**15.5**
SGM-10 PROBE C	**Deep**	**18.5**	**27.5**
SGM-11 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-11 PROBE B	**Intermediate**	**10.5**	**16**
SGM-12 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-12 PROBE B	**Intermediate**	**10.5**	**15**
SGM-13 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-13 PROBE B	**Intermediate**	**10.5**	**13**
SGM-14 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-14 PROBE B	**Intermediate**	**10.5**	**13**
SGM-15 PROBE A	**Shallow**	**2.5**	**5.5**
SGM-15 PROBE B	**Intermediate**	**8.5**	**11.5**
SGM-16 PROBE A	**Shallow**	**2.5**	**5.5**
SGM-16 PROBE B	**Intermediate**	**8.5**	**11**
SGM-17 PROBE A	**Shallow**	**2.5**	**5.5**

Table 8
Current Landfill Soil Gas Monitoring Well Description

Current Landfill			
Soil Gas Monitoring Well	**Screen Location**	**Top of Screen (Feet BLS)**	**Bottom Screen (Feet BLS)**
SGM-17 PROBE B	**Intermediate**	**8.5**	**11**
SGM-18 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-18 PROBE B	**Intermediate**	**10.5**	**13.5**
SGM-19 PROBE A	**Shallow**	**2.5**	**7.5**
SGM-19 PROBE B	**Intermediate**	**10.5**	**17**

BLS – Below Land Surface

Current Landfill Outpost Wells		
Site ID	**Depth to Bottom from top PVC (feet)**	**PVC Stick Up from Ground (feet)**
GSGM-1A	**12.00**	**2.50**
GSGM-1B	**21.00**	**2.50**
GSGM-1C	**29.40**	**2.50**
GSGM-2A	**14.25**	**2.50**
GSGM-2B	**20.05**	**2.50**
GSGM-2C	**27.00**	**2.50**
GSGM-3A	**13.91**	**2.50**
GSGM-3B	**17.75**	**2.50**
GSGM-4A	**11.50**	**2.50**
GSGM-4B	**15.20**	**2.50**

Table 8
Former Landfill Soil Gas Monitoring Well Description

Former Landfill			
Soil Gas Monitoring Well	**Screen Location**	**Top of Screen (Feet BLS)**	**Bottom Screen (Feet BLS)**
SGM-1 PROBE A	**Shallow**	**2.5**	**10**
SGM-1 PROBE B	**Intermediate**	**15**	**43**
SGM-2PROBE A	**Shallow**	**2.5**	**10**
SGM-2 PROBE B	**Intermediate**	**15**	**40**
SGM-3 PROBE A	**Shallow**	**2**	**9.5**
SGM-3 PROBE B	**Intermediate**	**14.5**	**36**
SGM-4 PROBE A	**Shallow**	**2.5**	**10**
SGM-4 PROBE B	**Intermediate**	**15**	**35.5**
SGM-5 PROBE A	**Shallow**	**2.5**	**10**
SGM-5 PROBE B	**Intermediate**	**15**	**37**
SGM-6 PROBE A	**Shallow**	**2.7**	**10.2**
SGM-6 PROBE B	**Intermediate**	**22**	**37.2**
SGM-7 PROBE A	**Shallow**	**2.8**	**10.3**
SGM-7 PROBE B	**Intermediate**	**15**	**42**
SGM-8 PROBE A	**Shallow**	**2.5**	**10**
SGM-8 PROBE B	**Intermediate**	**15**	**47**
SGM-9 PROBE A	**Shallow**	**2.5**	**10**
SGM-9 PROBE B	**Intermediate**	**15**	**52**
SGM-10 PROBE A	**Shallow**	**2.5**	**10**
SGM-10 PROBE B	**Intermediate**	**15**	**52**
SGM-11 PROBE A	**Shallow**	**2.5**	**10**
SGM-11 PROBE B	**Intermediate**	**15**	**46**
SGM-12 PROBE A	**Shallow**	**2.5**	**10**
SGM-12 PROBE B	**Intermediate**	**15**	**43.5**

BLS – Below Land Surface

Table 9

2024 Current Landfill Soil Gas Monitoring Summary Table

Soil/Gas Monitoring Well	Well ID	Methane (% By Volume) 3/26-29/2024	Methane (% By Volume) 6/20-21/2024	Methane (% By Volume) 9/10-16/2024	Methane (% By Volume) 12/16-18/2024	LEL (% By Volume) 3/26-29/2024	LEL (% By Volume) 6/20-21/2024	LEL (% By Volume) 9/10-16/2024	LEL (% By Volume) 12/16-18/2024	Hydrogen Sulfide (ppm By Volume) 3/26-29/2024	Hydrogen Sulfide (ppm By Volume) 6/20-21/2024	Hydrogen Sulfide (ppm By Volume) 9/10-16/2024	Hydrogen Sulfide (ppm By Volume) 12/16-18/2024
GSGM-1A		0	0	0	0	0	0	0	0	0	0	0	0
GSGM-1B		0	0	0	0	0	0	0	0	0	0	0	0
GSGM-1C		0	0	0	0	0	0	0	0	0	0	0	0
GSGM-2A		0	0	0	0	0	0	0	0	0	0	0	0
GSGM-2B		0	0	0	0	0	0	0	0	0	0	0	0
GSGM-2C		0	0	0	0	0	0	0	0	0	0	0	0
GSGM-3A		0	0	0	0	0	0	0	0	0	0	0	0
GSGM-3B		0	0	0	0	0	0	0	0	0	0	0	0
GSGM-4A		0	0	0	0	0	0	0	0	0	0	0	0
GSGM-4B		0	0	0	0	0	0	0	0	0	0	0	0
SGMW-01A (CLF)	087-62	12.7	14.7	9.1	1.4	>100	>100	>100	28	4	5	6	4
SGMW-01B (CLF)	087-78	12.1	13.6	8.4	1.6	>100	>100	>100	32	2	3	4	1
SGMW-01C (CLF)	087-79	10.1	11	6.7	1.5	>100	>100	>100	30	1	2	3	1
SGMW-02A (CLF)	087-63	43.1	45.1	42.7	18	>100	>100	>100	>100	0	1	13	0
SGMW-02B (CLF)	087-80	36.3	46	46	28.6	>100	>100	>100	>100	10	13	20	22
SGMW-02C (CLF)	087-81	40	45.7	45.8	30.5	>100	>100	>100	>100	3	4	5	4
SGMW-03A (CLF)	087-64	14.8	33.6	32.8	11.5	>100	>100	>100	>100	0	25	17	0
SGMW-03B (CLF)	087-82	48.1	53.5	49.9	32.6	>100	>100	>100	>100	12	20	26	12
SGMW-03C (CLF)	087-83	46	53	50.8	28.4	>100	>100	>100	>100	7	13	12	21
SGMW-04A (CLF)	087-65	42.6	46.8	41.8	27.4	>100	>100	>100	>100	0	8	8	1
SGMW-04B (CLF)	087-84	40.3	42.5	39.3	25.5	>100	>100	>100	>100	3	9	12	2
SGMW-04C (CLF)	087-85	33.5	34.2	32.2	15.9	>100	>100	>100	>100	4	8	9	4
SGMW-05A (CLF)	087-66	10.6	30.6	11.8	5.2	>100	>100	>100	>100	0	21	10	0
SGMW-05B (CLF)	087-86	30.1	30.8	11.3	18.2	>100	>100	>100	>100	1	3	0	0
SGMW-05C (CLF)	087-87	24.9	23.6	17.1	10.7	>100	>100	>100	>100	1	2	2	2
SGMW-06A (CLF)	087-67	2.7	4.7	0	0	54	94	0	0	0	6	0	0
SGMW-06B (CLF)	087-88	31.1	34.6	29.2	22.1	>100	>100	>100	>100	1	5	8	4
SGMW-06C (CLF)	087-89	29.4	32.2	26	18.5	>100	>100	>100	>100	1	4	4	2
SGMW-07A (CLF)	087-68	0	0	0	0	0	0	0	0	0	0	0	0

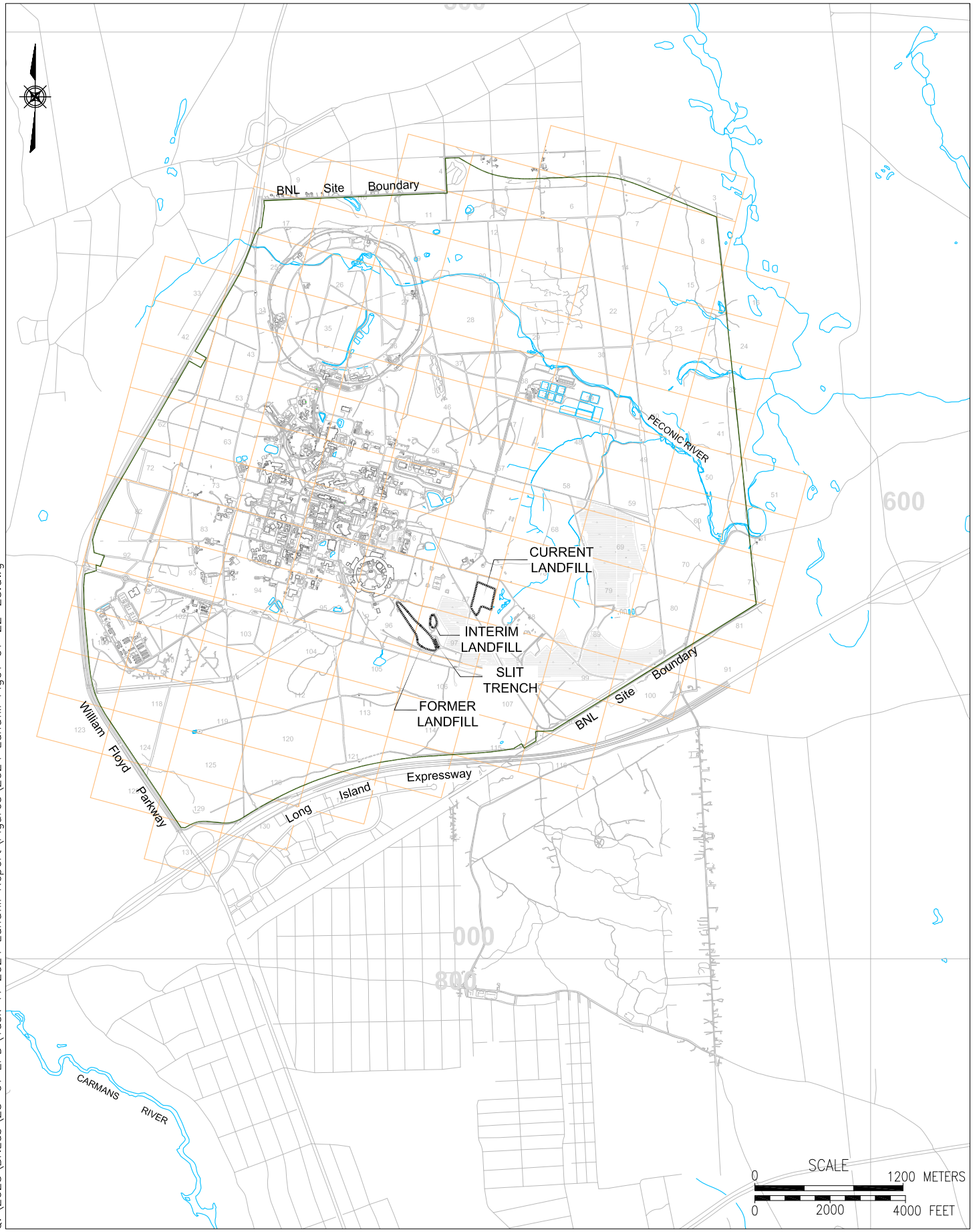
Table 9

2024 Current Landfill Soil Gas Monitoring Summary Table

Soil/Gas Monitoring Well	Well ID	Methane (% By Volume) 3/26-29/2024	Methane (% By Volume) 6/20-21/2024	Methane (% By Volume) 9/10-16/2024	Methane (% By Volume) 12/16-18/2024	LEL (% By Volume) 3/26-29/2024	LEL (% By Volume) 6/20-21/2024	LEL (% By Volume) 9/10-16/2024	LEL (% By Volume) 12/16-18/2024	Hydrogen Sulfide (ppm By Volume) 3/26-29/2024	Hydrogen Sulfide (ppm By Volume) 6/20-21/2024	Hydrogen Sulfide (ppm By Volume) 9/10-16/2024	Hydrogen Sulfide (ppm By Volume) 12/16-18/2024
SGMW-07B (CLF)	087-90	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-07C (CLF)	087-91	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-08A (CLF)	087-69	0	0.1	0	0	0	2	0	0	0	0	0	0
SGMW-08B (CLF)	087-92	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-08C (CLF)	087-93	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-09A (CLF)	087-70	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-09B (CLF)	087-94	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-09C (CLF)	087-95	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-10A (CLF)	087-71	3.8	16.3	1.1	0	76	>100	22	0	3	20	1	0
SGMW-10B (CLF)	087-96	13.6	18.2	15.3	4.6	>100	>100	>100	96	9	11	14	1
SGMW-10C (CLF)	087-97	11.7	15	11.4	4.3	>100	>100	>100	86	4	4	7	13
SGMW-11A (CLF)	087-72	11.7	19.9	16.9	2.7	>100	>100	>100	54	5	35	21	1
SGMW-11B (CLF)	087-98	10.3	18.8	15.8	1.2	>100	>100	>100	24	0	10	11	0
SGMW-12A (CLF)	087-73	38.9	40.6	37.1	17.2	>100	>100	>100	>100	3	40	15	8
SGMW-12B (CLF)	087-99	30.5	36.9	35.8	23.7	>100	>100	>100	>100	1	1	1	1
SGMW-13A (CLF)	087-74	0	37.7	0	0	0	>100	0	0	0	28	0	0
SGMW-13B (CLF)	087-100	30.8	0	31	10.1	>100	0	>100	>100	1	0	0	2
SGMW-14A (CLF)	087-75	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-14B (CLF)	087-101	13.1	0	0	0	>100	0	0	0	0	0	0	0
SGMW-15A (CLF)	088-111	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-15B (CLF)	088-114	1.8	0	0	11.1	36	0	0	>100	0	0	0	11
SGMW-16A (CLF)	088-112	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-16B (CLF)	088-115	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-17A (CLF)	088-113	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-17B (CLF)	088-116	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-18A (CLF)	087-76	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-18B (CLF)	087-102	0	0	0	0	0	0	0	0	0	0	0	0
SGMW-19A (CLF)	087-77	9.1	1.3	0	0	>100	26	0	0	1	1	0	0
SGMW-19B (CLF)	087-103	21	10.2	0	0	>100	>100	0	0	2	3	0	0

Table 10
2024 Former Landfill Soil-Gas Monitoring Summary Table

Soil/Gas Monitoring Well	Well ID	Methane (% By Volume) 8/21-22/2024	LEL (% By Volume) 8/21-22/2024	Hydrogen Sulfide (ppm By Volume) 8/21-22/2024
SGMW-01A (FLF)	096-41	0	0	0
SGMW-01B (FLF)	096-42	0	0	0
SGMW-02A (FLF)	096-43	0	0	0
SGMW-02B (FLF)	096-44	0	0	0
SGMW-03A (FLF)	096-45	0	0	0
SGMW-03B (FLF)	096-46	0	0	0
SGMW-04A (FLF)	096-47	0	0	0
SGMW-04B (FLF)	096-48	0	0	0
SGMW-05A (FLF)	097-50	0	0	0
SGMW-05B (FLF)	097-51	0	0	0
SGMW-06A (FLF)	097-52	0	0	0
SGMW-06B (FLF)	097-53	0	0	0
SGMW-07A (FLF)	097-54	0	0	0
SGMW-07B (FLF)	097-55	0	0	0
SGMW-08A (FLF)	097-56	0	0	0
SGMW-08B (FLF)	097-57	0	0	0
SGMW-09A (FLF)	097-58	0	0	0
SGMW-09B (FLF)	097-59	0	0	0
SGMW-10A (FLF)	097-60	0	0	0
SGMW-10B (FLF)	097-61	0	0	0
SGMW-11A (FLF)	097-62	0	0	0
SGMW-11B (FLF)	097-63	0	0	0
SGMW-12A (FLF)	096-49	0	0	0
SGMW-12B (FLF)	096-50	0	0	0



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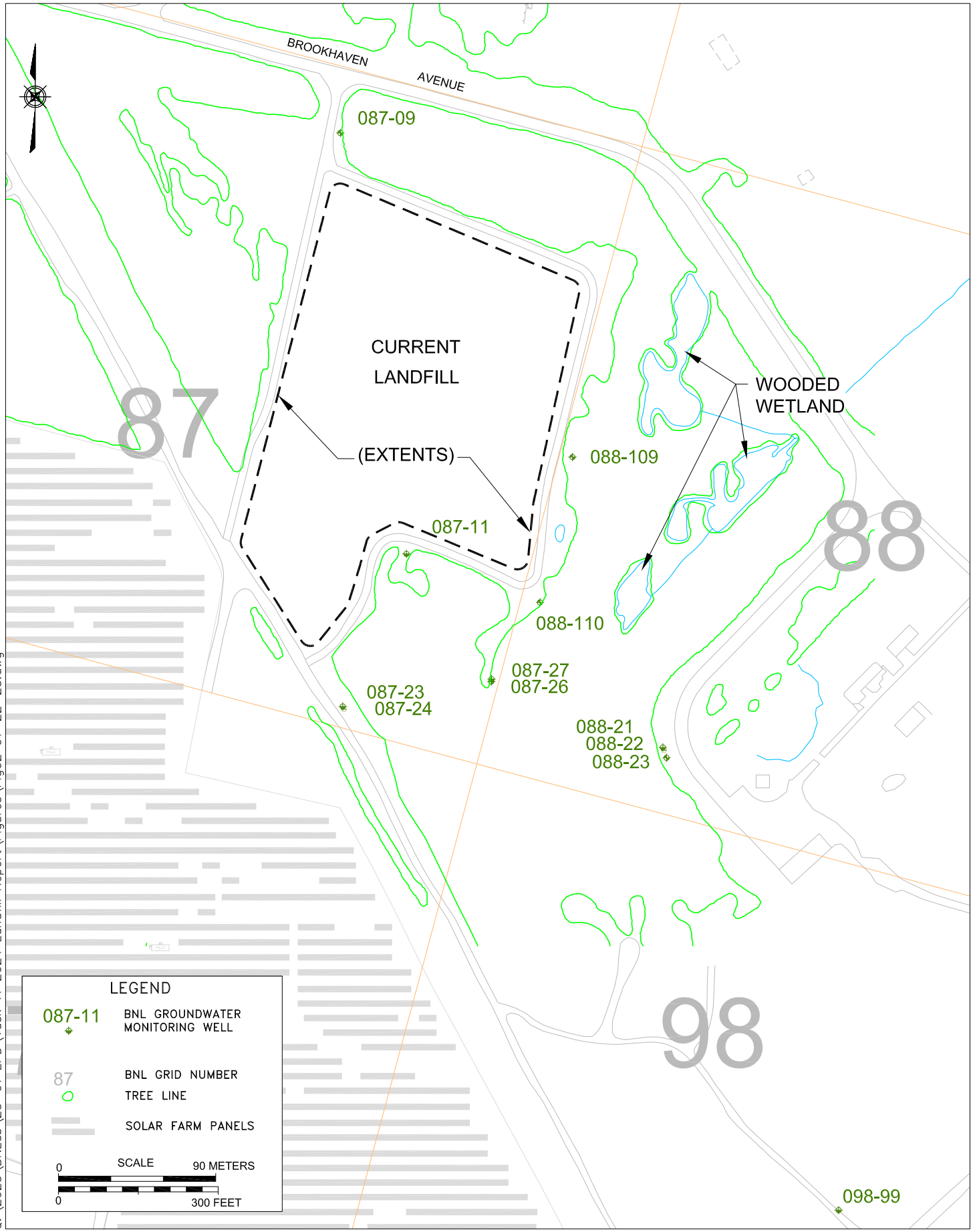
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

SITE LOCATION MAP
2024 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	01/22/25	–
CHKD:	APPD:	REV.:	NOTES:
JM	JM	–	–

FIGURE NO.: 1



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

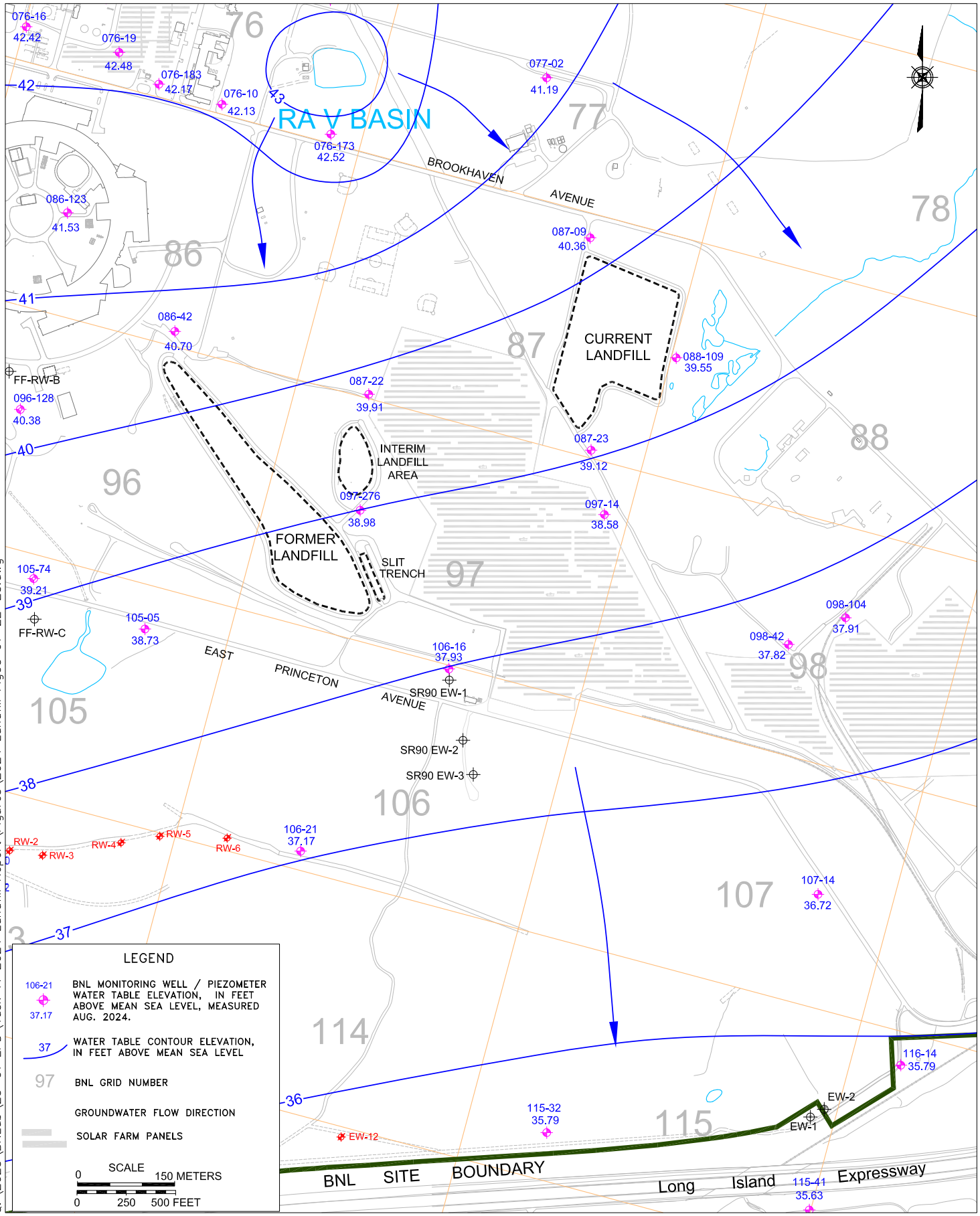
TITLE:

CURRENT LANDFILL GROUNDWATER MONITORING WELL LOCATIONS

2024 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	01/22/25	–
CHKD:	APPD:	REV.:	NOTES:
JM	JM	–	–

FIGURE NO.: 2



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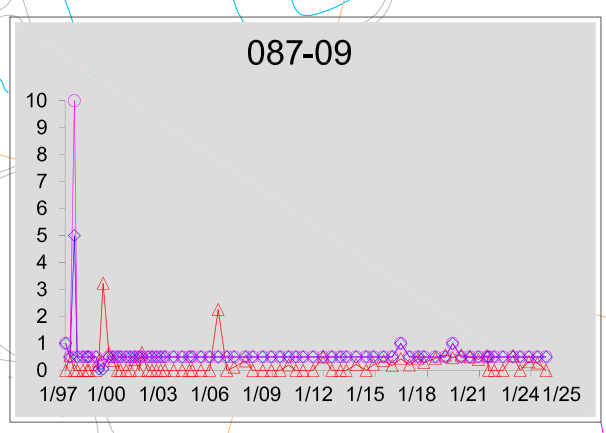
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

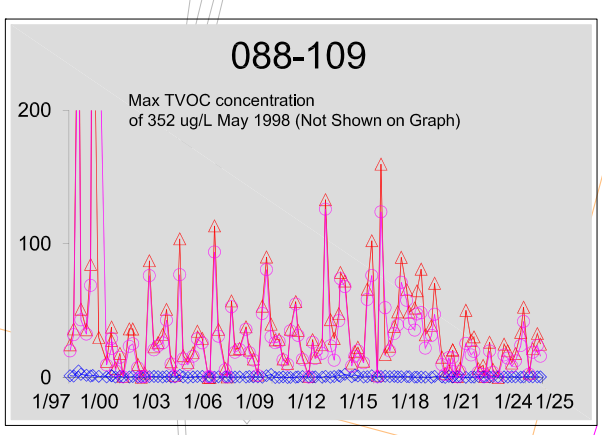
TITLE:

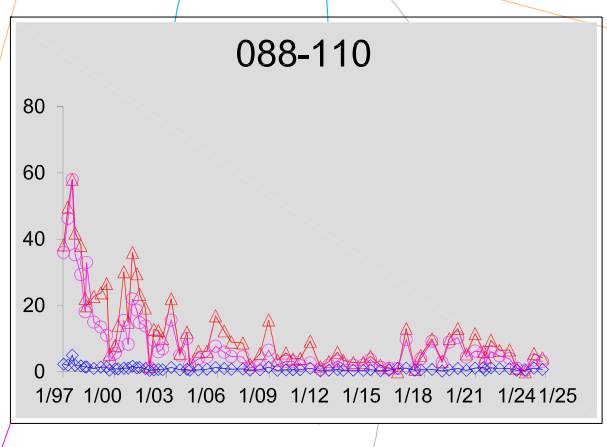
WATER TABLE CONTOUR MAP
2024 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	01/22/25	–
CHKD:	APPD:	REV.:	NOTES:
JM	JM	–	–

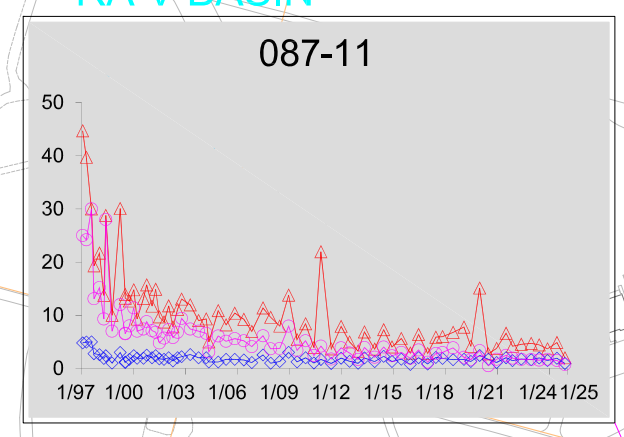
FIGURE NO.: 3

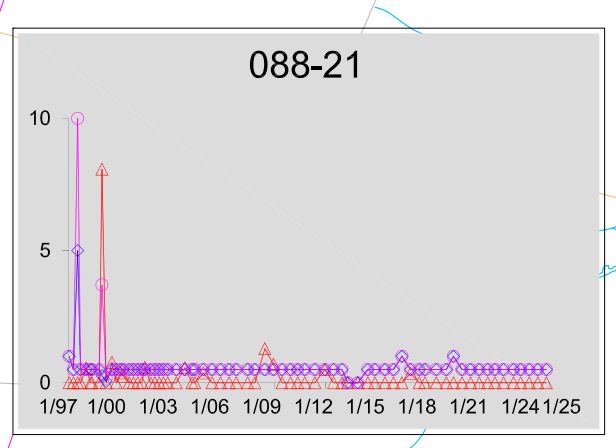


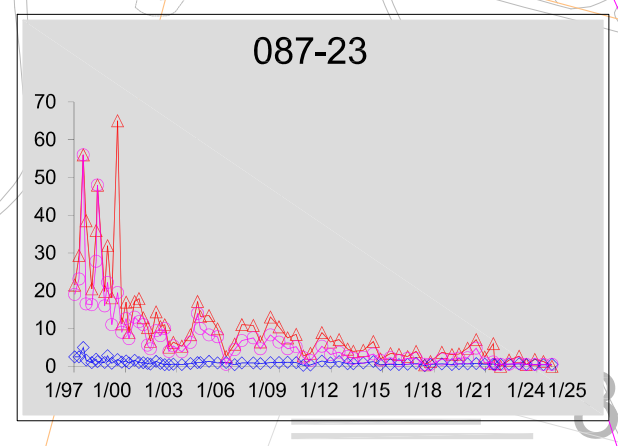


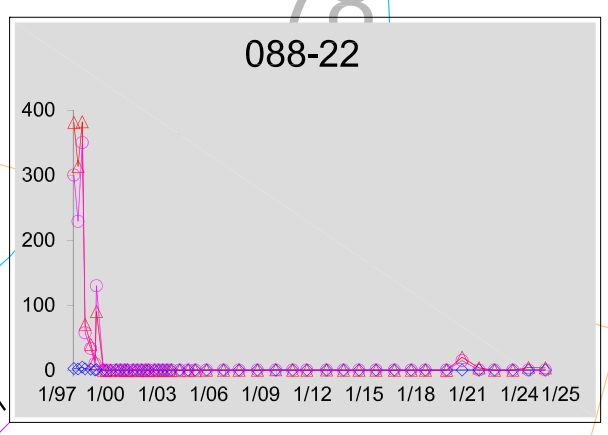


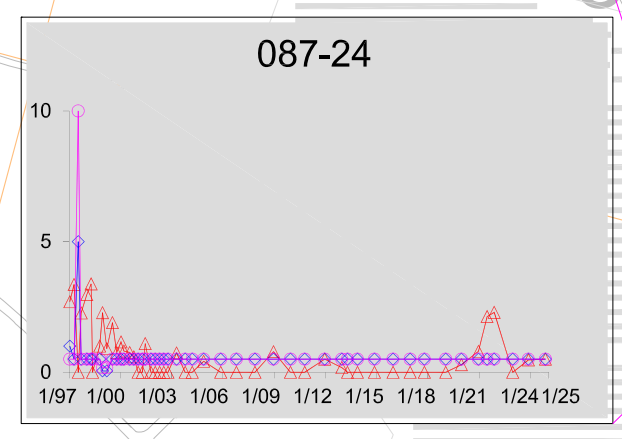
RA V BASIN

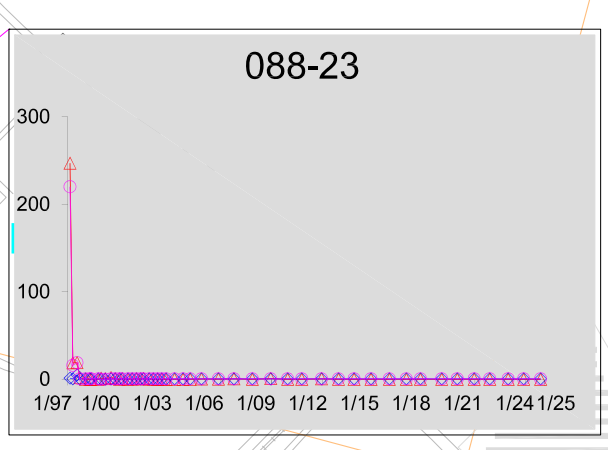


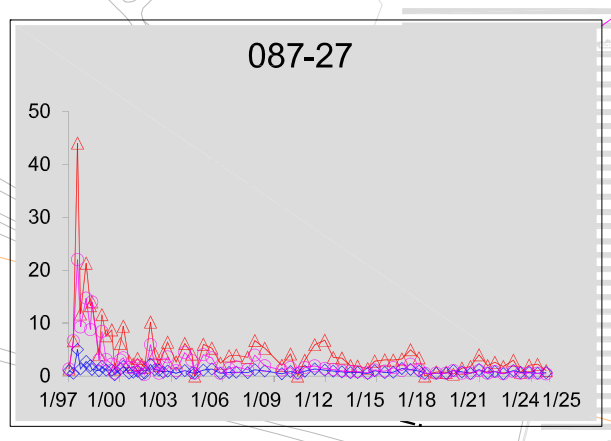












77

78

87

98

107

CURRENT LANDFILL

BROOKHAVEN AVE.

087-09

088-109

087-11

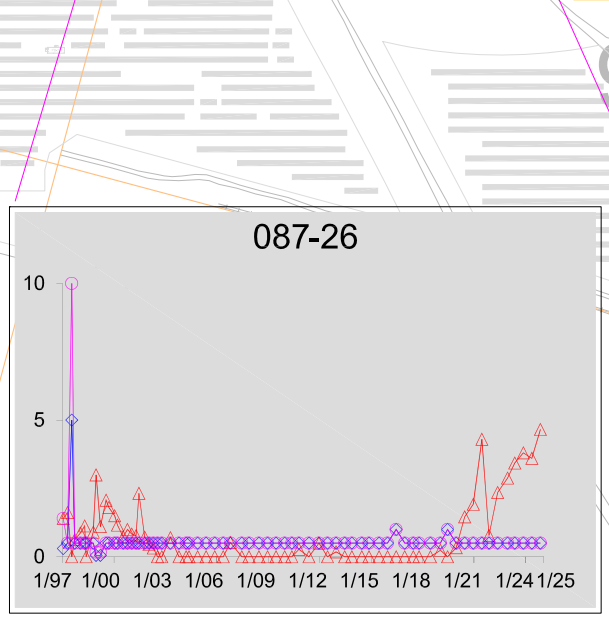
088-110

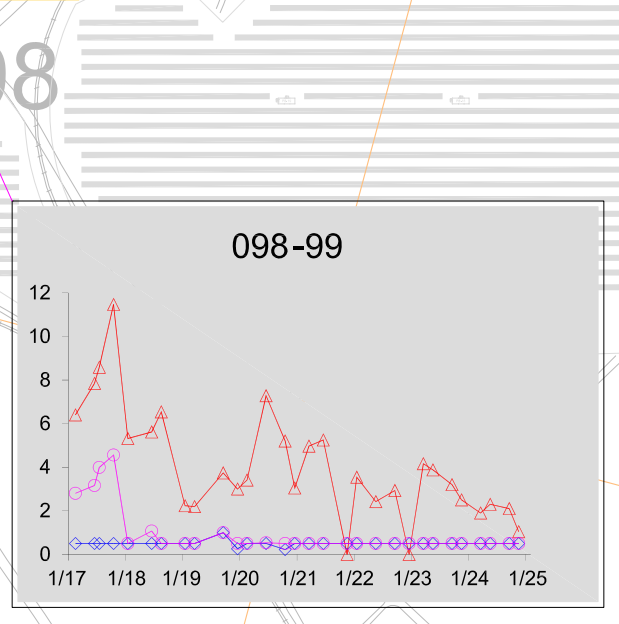
087-23
087-24

087-27
087-26

088-21
088-22
088-23

098-99





LEGEND

- 11 — MONITORING WELL
- Benzene (µG/L)
- Chloroethane (µG/L)
- TVOC (µG/L)
- 107 — BNL GRID NUMBER
- BNL RECHARGE BASIN
- RA V
- 087-09 — BACKGROUND
- 087-11 — DOWNGRADIENT
- SOLAR FARM PANELS

SCALE
0 500 FEET

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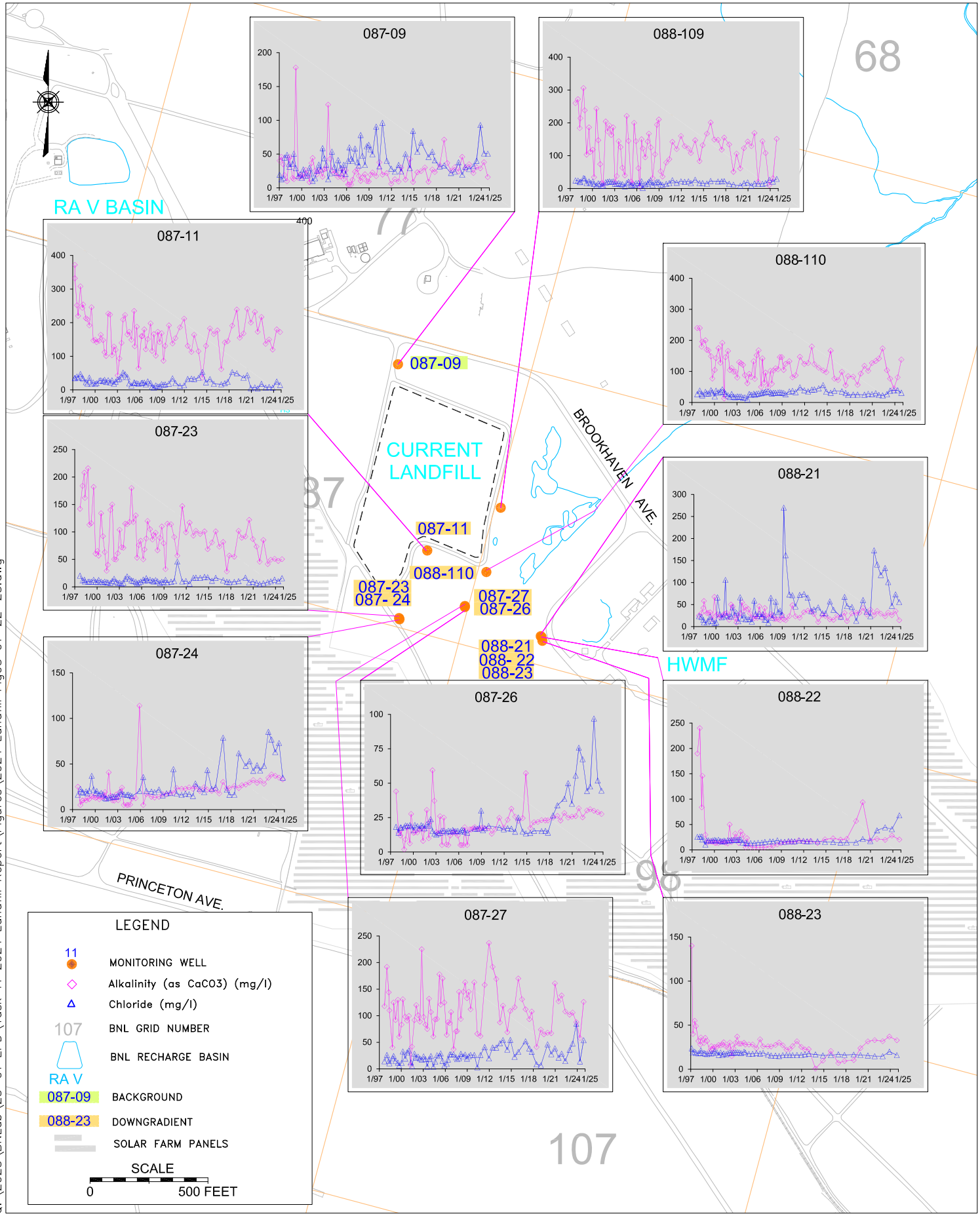
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

CURRENT LANDFILL
VOC TREND PLOTS
2024 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	01/22/25	–
CHKD:	APPD:	REV.:	NOTES:
JM	JM	–	–

FIGURE NO.: 4



Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

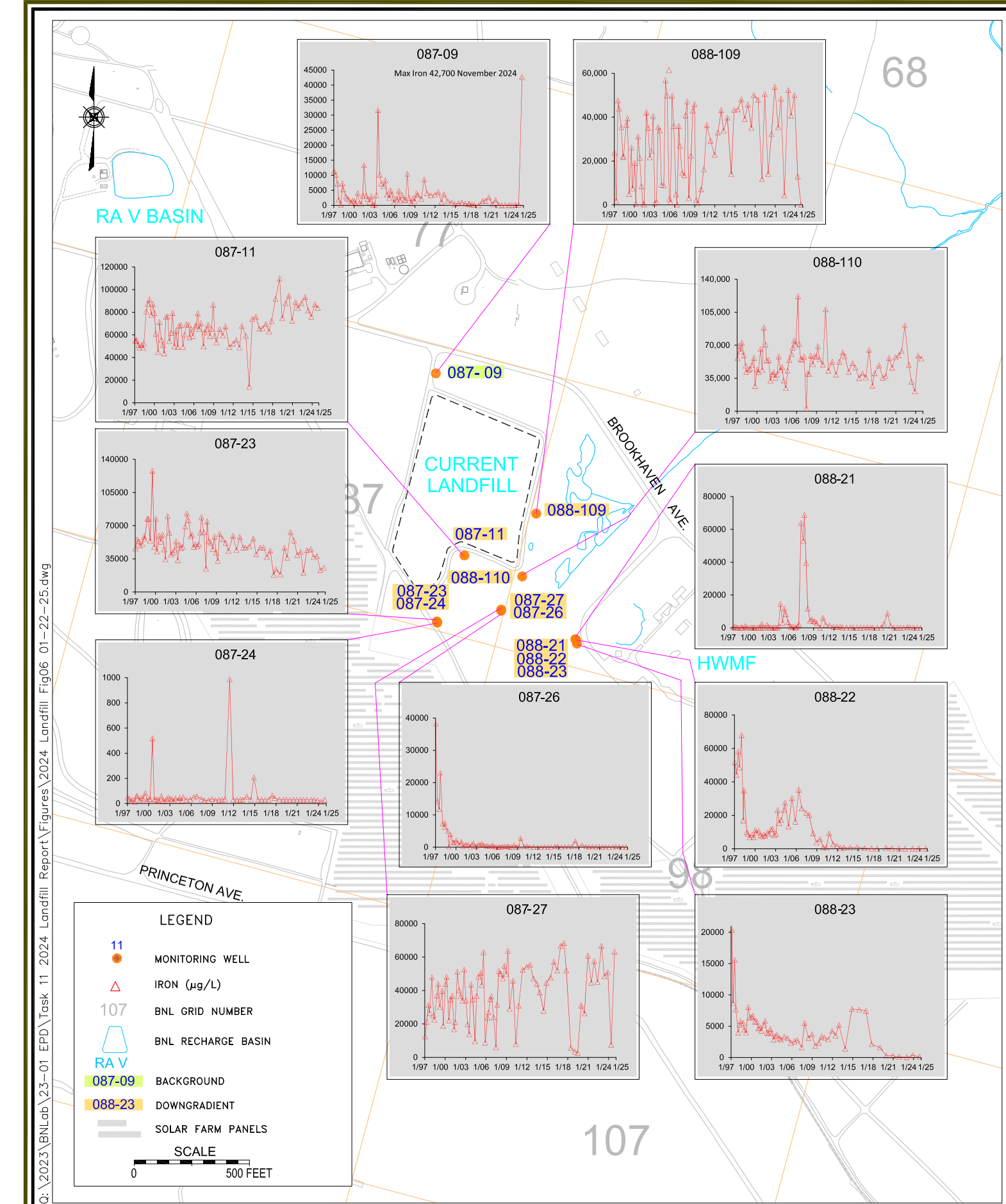
TITLE:

CURRENT LANDFILL ALKALINITY AND CHLORIDE TREND PLOTS

2024 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	01/22/25	–
CHKD:	APPD:	REV.:	NOTES:
JM	JM	–	–

FIGURE NO.: 5



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

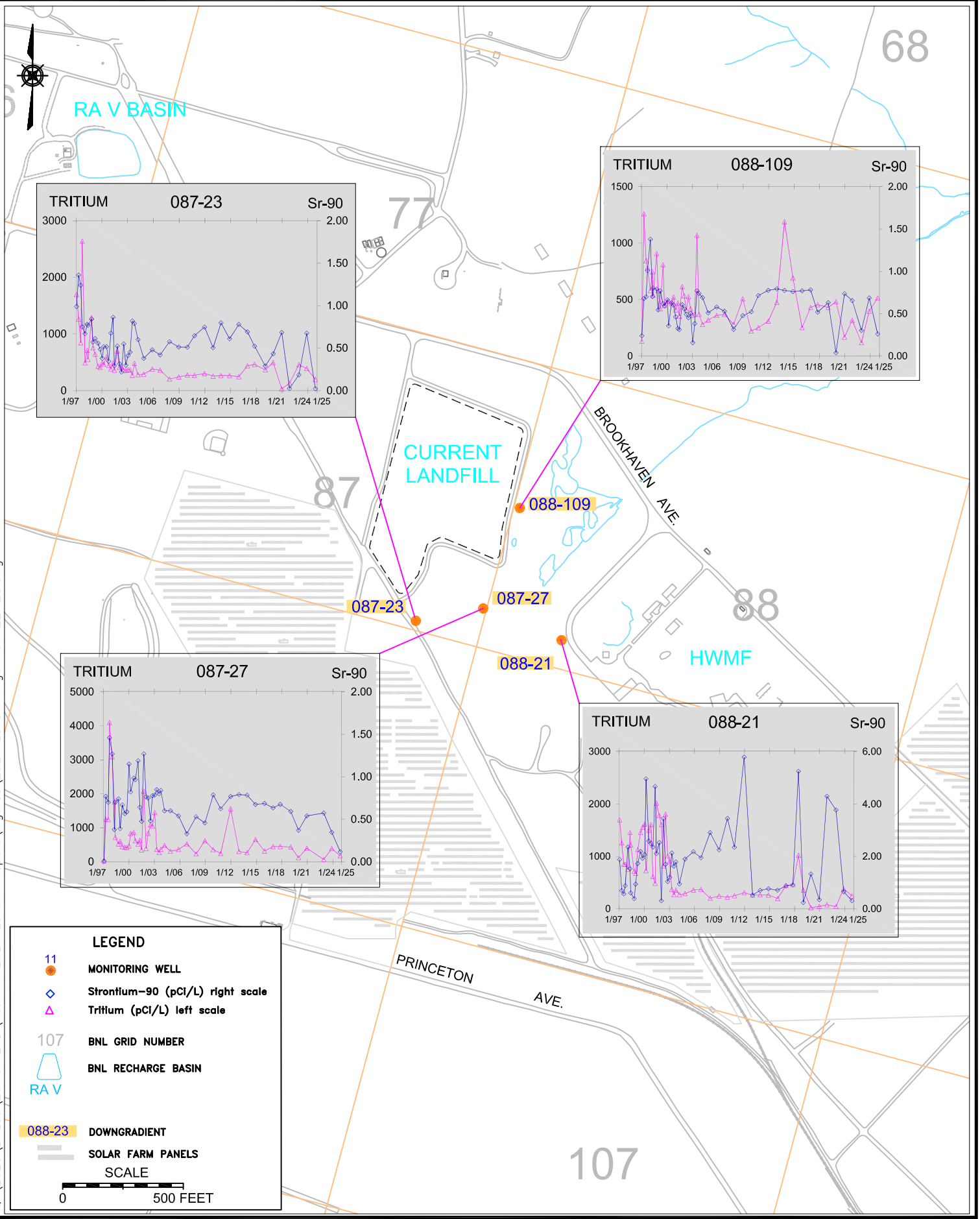
TITLE:

CURRENT LANDFILL IRON TREND PLOTS

2024 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	01/22/25	–
CHKD:	APPD:	REV.:	NOTES:
JM	JM	–	–

FIGURE NO.: 6



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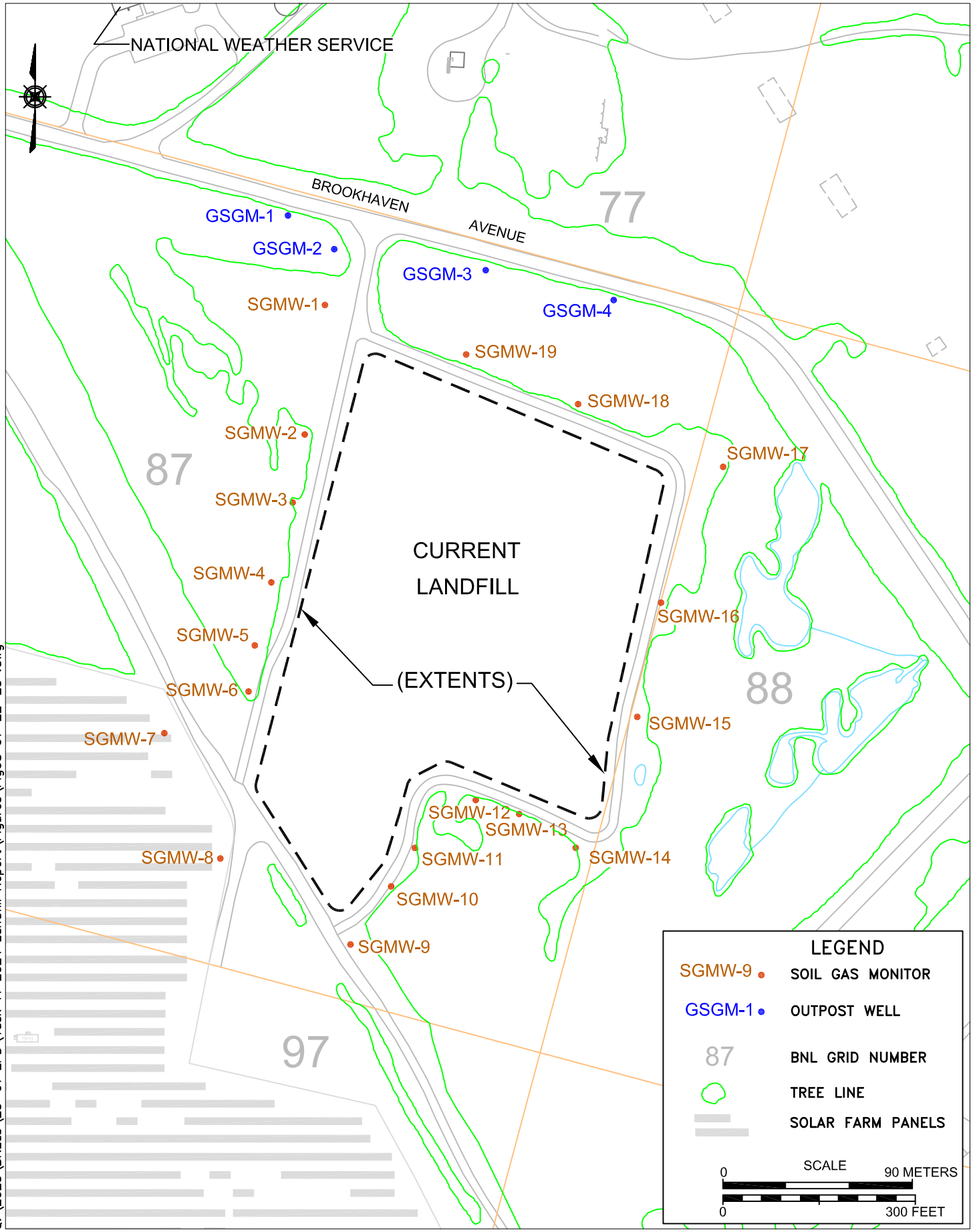
Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:
CURRENT LANDFILL TRITIUM AND STRONTIUM-90 TREND PLOTS
2024 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	01/22/25	–
CHKD:	APPD:	REV.:	NOTES:
JM	JM	–	–

FIGURE NO.: 7



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

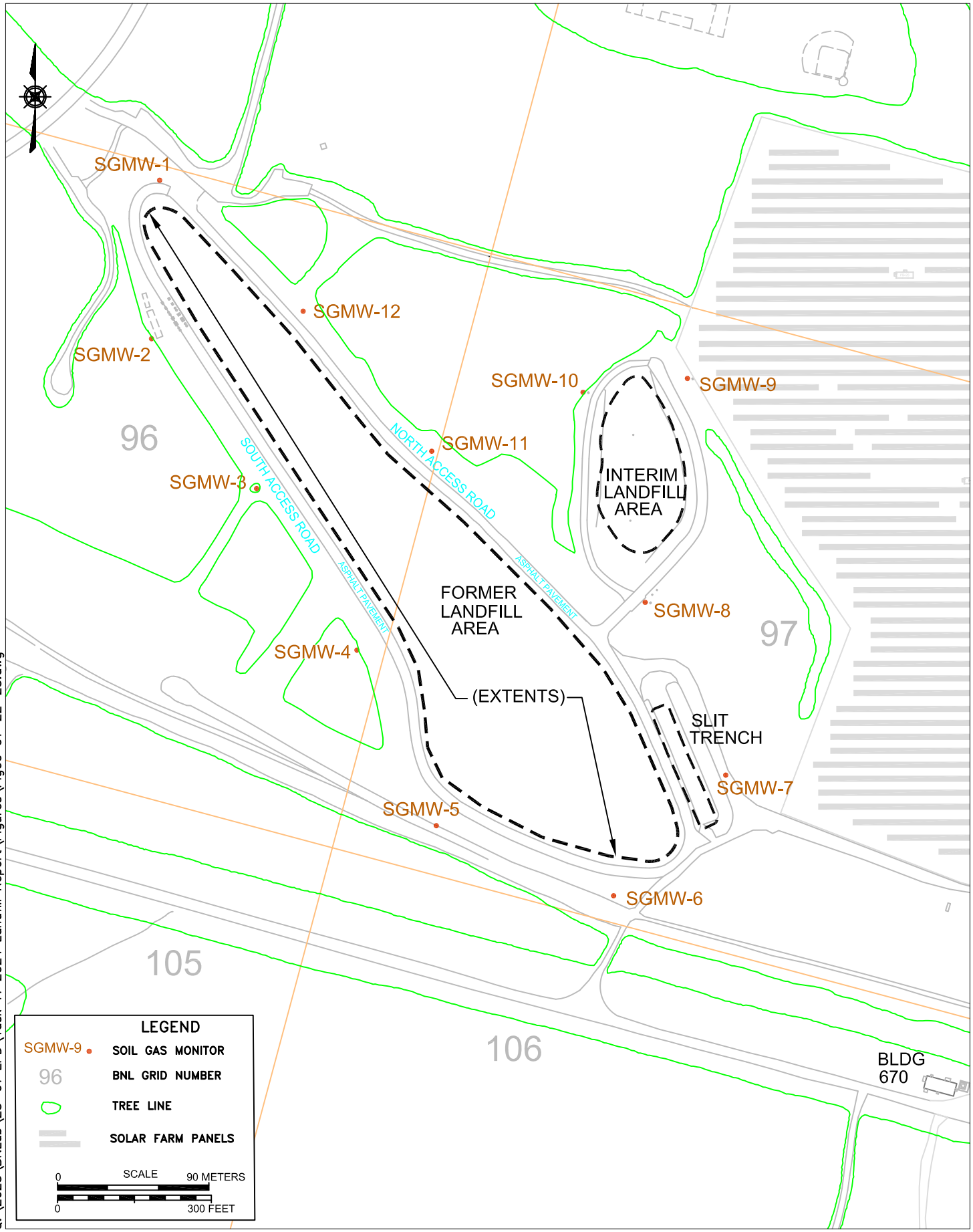
TITLE:

CURRENT LANDFILL SOIL-GAS MONITOR LOCATION MAP

2024 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	01/22/25	–
CHKD:	APPD:	REV.:	NOTES:
JM	JM	–	–

FIGURE NO.: 8



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Brookhaven National Laboratory
ENVIRONMENTAL PROTECTION DIVISION

TITLE:

FORMER LANDFILL AREA SOIL-GAS MONITOR LOCATION MAP

2024 ENVIRONMENTAL MONITORING REPORT
CURRENT AND FORMER LANDFILL AREAS

DWN:	VT: HZ.:	DATE:	PROJECT NO.:
AJZ	–	01/22/25	–
CHKD:	APPD:	REV.:	NOTES:
JM	JM	–	–

FIGURE NO.: 9

Appendix A

Soil-gas Sampling Field Notes

3/26/24 partly cloudy 40°
humidity 61% pressure 30.22"

Location	WELL ID	CH_4 %	LEL %	H_2S	Time/comments
SM	1A 087-62	12.7	254 >100	4	1015
	1B 087-78	12.1	242 >100	2	1022
	1C 087-79	10.1	202 >100	1	1031
	2A 087-63	43.1	862 >100	0	1036
	2B 087-80	36.3	726 >100	10	1042
	2C 087-81	40.0	800 >100	3	1054
	3A 087-64	14.8	296 >100	0	1100
	3B 087-82	48.1	962 >100	12	1106
	3C 087-83	46.0	920 >100	7	1116
	4A 087-65	42.6	852 >100	0	1121
	4B 087-84	40.3	800 >100	3	1128
	4C 087-85	33.5	670 >100	4	1138
	5A 087-66	10.6	212 >100	0	1144
	5B 087-86	30.1	602 >100	1	1150
	5C 087-87	24.9	498 >100	1	1200
	6A 087-67	2.7	54	0	1030
	6B 087-88	31.1	622 >100	1	1037
	CC 087-89	29.4	588 >100	1	1047
	7A 087-68	0.0	0	0	1004
	7B 087-90	0	0	0	1010
	7C 087-91	0	0	0	1020
	8A 087-69	0	0	0	0940
	8B 087-92	0	0	0	0947
	8C 087-93	0	0	0	0957

Rain on the Rain

3/27/24 30.12" pressure
54 Cloudy 55° 89% humidity

Location	Well ID	CH_4 %	LEL %	H_2S	Time/comments
JGM-9A	087-70	9.10	0	0	1330
9B	087-94	0	0	0	1337
9C	087-95	0	0	0	1347
10A	087-71	3.8	76	3	1353
10B	087-96	13.6	272 >100	9	1400
10C	087-97	11.7	234 >100	4	1411
11A	087-72	11.7	234 >100	5	1417
11B	087-98	10.3	206 >100	0	1424
12A	087-73	38.9	778 >100	3	1430
12B	087-99	30.5	610 >100	1	1437
13A	087-74	0	0	0	1444
13B	087-100	30.8	616 >100	1	1451
14A	087-75	0	0	0	1158
14B	087-101	13.1	262 >100	0	1205
15A	088-174	0	0	0	1144
15B	088-114	1.8	36	0	1151
16A	088-172	0	0	0	1130
16B	088-115	0	0	0	1138
17A	088-113	0	0	0	1100
17B	088-116	0	0	0	1124 water clogged
18A	087-76	0	0	0	1107
18B	087-102	0	0	0	1114
19A	087-77	9.1	182 >100	1	1055
19B	087-103	21.0	420 >100	2	1101

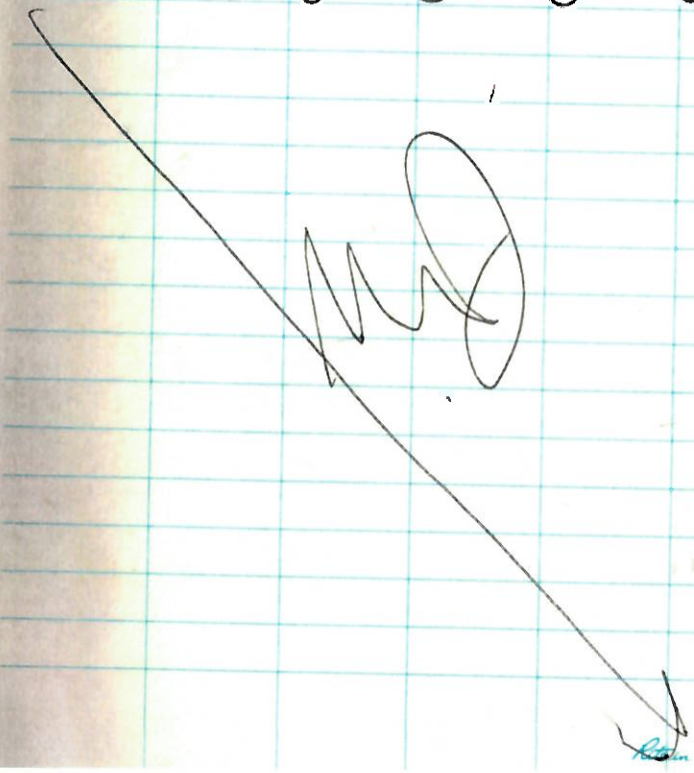
3/27/24

3/29/24 29.71" pressure c87 P300 55

cloudy 56° 55% humidity

time/comment	Location	well ID	CH4%	LEL%	H_2S	time/comment
1330	GSGM	1A	NA	0	0	0	1041
1337		1B		0	0	0	1048
1347		1C		0	0	0	1100
1353		2A		0	0	0	1009
1400		2B		0	0	0	1019
411		2C		0	0	0	1029
417		3A		0	0	0	0955
424		3B		0	0	0	1002
430		4A		0	0	0	0941
437		4B		0	0	0	0948
1444							
451							
158							
205							
44							
51							
30							
38							
2							
4 water clogged							
7							
4							
55							
01							

↑ 3/29/24



6/20/24
Sunny 80° Humidity 64% 30.31 in pressure MS

Location	Well ID	CH_4 %	LEL %	H_2S	Time/comment
SGM	1A 087-62	14.7	294	5	1045
	1B 087-78	13.6	272	3	1052
	1C 087-79	11.2	220	2	1102
	2A 087-63	45.1	902	1	1107
	2B 087-80	46.0	920	13	1114
	2C 087-81	45.7	914	4	1124
	3A 087-64	33.4	672	25	1131
	3B 087-82	53.5	1070	20	1138
	3C 087-83	53.0	1060	13	1149
	4A 087-65	46.8	936	8	1342
	4B 087-84	42.5	850	9	1349
	4C 087-85	34.2	684	8	1400
	5A 087-66	30.6	612	21	1406
	5B 087-86	30.8	616	3	1413
	5C 087-87	23.6	472	2	1422
	6A 087-67	4.7	94	6	1428
	6B 087-88	34.6	692	5	1437
	6C 087-89	32.2	644	4	1445
	7A 087-68	+30	0	0+	~~1453~~ 1447
	7B 087-90	~~30.00~~	0	~~30~~	~~1500~~ 1451
	7C 087-91	0	0	0	~~1505~~ 1500
	8A 087-69	.1~~0~~	2	0~~0~~	~~1512~~ 1441
	8B 087-92	0	0	0	1428
	8C 087-93	0	0	0	1439

6/20/24 ↑ 6/21/24 ↓

Loca
Se

6/21/24 ↑ 6/20/24 ↓

6/21/24 88° sunny 67% humidity
30.18 in pressure

Location	Well ID	CH_4%	LEL%	H_2S	Time/comment
SGM	9A 087-70	0	0	0	1510
	9B 087-94	0	0	0	1516
	9C 087-95	0	0	0	1526
	10A 087-71	16.3	326	20	0843
	10B 087-96	18.2	364	11	0849
	DC 087-97	15.0	300	4	0859
	11A 087-72	19.9	398	35	0904
	11B 087-98	18.8	376	10	0910
	12A 087-73	40.6	812	40	0916
	12B 087-99	36.9	738	1	0922
	BA 087-74	37.7	754	28	0928
	13B 087-100	0	0	0	0935
	14A 087-75	0.4	0	0	0953
	14B 087-101	0	0	0	0958
	15A 088-111	0	0	0	1013
	15B 088-114	0	0	0	1019
	16A 088-112	0	0	0	1025
	16B 088-115	0	0	0	1032
	17A 088-113	0	0	0	1039
	17B 088-116	0	0	0	(water) 1048
	18A 087-76	0	0	0	1518
	18B 087-102	0	0	0	1505
	19A 087-77	13	26	1	1453
	19B 087-103	10.2	204	3	1500

6/21/24 → 6/20/24

Rite in the Rain

6/21/24 MJ

1.24

Location	Well ID	CH_4 %	LEL %	H_2S	Time/Comment
GSGM-1A	NA	0	0	0	1155
1B		0	0	0	1201
1C		0	0	0	1205
2A		0	0	0	1126
2B		0	0	0	1133
2C		0	0	0	1143
3A		0	0	0	1112
3B		0	0	0	1120
4A		0	0	0	1107
4B		0	0	0	1100

6/21/24

6/21/24

GEM 5000 Former Landfill

JF 1013mb JF 8/21/24 8/22/24 79°F 69% H

Location	Well ID	CH4%	LEL%	H2S	Time/Comments
SGM	A 096-41	0	0	0	1436
	B 096-42	0	0	0	1442
	2A 096-43	0	0	0	1453
	2B 096-44	0	0	0	1501
	3A 096-45	0	0	0	1505
	3B 096-46	0	0	0	1523

JF 8/21/24

GEM 5000 Former Landfill

JF 8/22/24

8/22/24

70°F
1017 mb
79% Rel. H

Location	Well ID	CH4%	LEL%	H2S (ppm)	Time	Comments
SGM 4A	096-47	0	0	0	1043	
4B	096-48	0	0	0	1051	
5A	097-50	0	0	0	1058	
5B	097-51	0	0	0	1109	
6A	097-52	0	0	0	1137	
6B	097-53	0	0	0	1144	
7A	097-54	0	0	0	1156	
7B	097-55	0	0	0	1205	
8A	097-56	0	0	0	1345	
8B	097-57	0	0	0	1352	
9A	097-58	0	0	0	1359	
9B	097-59	0	0	0	1408	
10A	097-60	0	0	0	1416	
10B	097-61	0	0	0	1424	
11A	097-62	0	0	0	1430	
11B	097-63	0	0	0	1438	
12A	096-49	0	0	0	1443	
12B	096-50	0	0	0	1452	

JF 8/22/24

JF 9/10/24 Current Landfill

Temp. 70.3 29.75 In Hg, Rel. Hum. 1.6 64%

Location	Well ID	CH4%	LEL%	H2S	Time/Comment
SGM 1A	087-62	9.1	182	6	1343
1B	087-78	8.4	168	4	1349
1C	087-79	6.7	134	3	1400
2A	087-63	42.7	854	13	1407
2B	087-80	46.0	920	20	1415
2C	087-81	45.8	916	5	1426
3A	087-64	32.8	656	17	1433
3B	087-82	49.9	998	26	1440
3C	087-83	50.8	1016	12	1450
4A	087-65	41.8	836	8	1457
4B	087-84	39.3	786	12	1505
4C	087-85	32.2	646	9	1517
5A	087-66	11.8	236	10	1110
5B	087-86	11.3	226	0	1119
5C	087-87	17.10	342	2	1134
6A	087-67	0	0	0	1140
6B	087-88	29.2	584	8	1148
6C	087-89	26	520	4	1337
7A	087-68	0	0	0	1430
7B	087-90	0	0	0	1437
7C	087-91	0	0	0	1447
8A	087-69	0	0	0	1455 JF 9/16/24
8B	087-92	0	0	0	1500 1502
8C	087-93	0	0	0	1512

Rate in the Rain

Temp. 65°F
30.06 In Hg
Rel. Hum. 79%

JF 9/11/24

Current Landfill

	Location	Well ID	CH_4 %	LEL %	H_2S	Time/ Comments
9/11	9A	087-70	0	0	0	1353
	9B	087-94	0	0	0	1404
	9C	087-95	0	0	0	1414
	10A	087-71	1.1	22	1	1421
	10B	087-96	15.3	306	14	1428
	10C	087-97	11.4	228	7	1438
	11A	087-72	16.9	338	21	1444
	11B	087-98	15.8	316	11	1454
	12A	087-73	37.1	742	15	1456
	12B	087-99	35.8	716	6	1504
	13A	087-74	0	0	0	1510
	13B	087-100	31	620	0	1518
	14A	087-75	0	0	0	1524
	14B	087-101	0	0	0	1533
	15A	088-111	0	0	0	1541
	15B	088-114	0	0	0	1549
	16A	088-112	0	0	0	1557
9/11	16B	088-115	0	0	0	1604
9/12	17A	088-113	0	0	0	0841
	17B	088-116	0	0	0	0847 water
	18A	087-76	0	0	0	0855
	18B	087-102	0	0	0	0903 water
	19A	087-77	0	0	0	0909
9/12	19B	087-103	0	0	0	0916

Current Landfill

JF 9/12/24
Temp. 60°F 31.8 In. Hg
Rel. Humi. 88%

JF 9/16/24
Temp. 57.4°F 30.17 In. Hg
Rel. Humi. 95%

Location	WELL ID	CH4 %	LEL %	H_2S	Time	Comments
9/12 GSGMW	NA	0	0	0	1411	
1B		0	0	0	1419	
1C		0	0	0	1429	
2A		0	0	0	1432	
2B		0	0	0	1439	
2C		0	0	0	1449	
3A		0	0	0	1455	
3B		0	0	0	1502	
4A		0	0	0	1508	
9/12 4B		0	0	0	1516	

JF 9/16/24

Rite in the Rain

Temp. 47.1°F
Press. 30.27 In Hg

97% Relative Humidity

JF 12/16/24

Current Lan JF.11 Time/

Location	Well ID	CH4%	LEL%	H2S	Time
SGM	1A 087-62	1.4	28	4	1441
	1B 087-78	1.6	32	1	1449
	1C 087-77	1.5	30		1459
	2A 087-63	18	360	6	1507
	2B 087-80	28.6	572	22	1515
	2C 087-81	20.5	610	4	1524
	3A 087-64	11.5	230	5	1537
	3B 087-82	32.6	652	12	1544
	3C 087-83	28.4	568	21	1555
	4A 087-65	27.4	548	1	0919
	4B 087-84	25.5	510	2	0926
	4C 087-85	15.9	318	4	0933
	5A 087-66	5.2	104	5	0940
	5B 087-86	18.2	364	0	0947
	5C 087-87	10.7	214	2	1001
	6A 087-67	0	0	0	1012
	6B 087-88	22.1	442	4	1020
	6C 087-89	18.5	370	2	1033
	7A 087-68	0	0	0	1043
	7B 087-90	0	0	0	1049
	7C 087-91	0	0	0	1102
	8A 087-69	0	0	0	1106
	8B 087-92	0	0	0	1114
	8C 087-93	0	0	0	1102

12/16/24

12/17/24

Temp. 52°F Rel. Humidity 98%
Press. 29.99 Inhg Current Landfill
JF 12/17/24

Temp: 45°F Rel. Humidity 91%
Press. 29.2 Inhg Current Landfill
JF 12/18/24

Location	Well ID	CH4%	LEL%	H2S	Time/Comments
SGM					
9A	087-70	0	0	0	1129
9B	087-94	0	0	0	1135
9C	087-95	0	0	0	1146
10A	087-71	0	0	0	1354
10B	087-96	4.6	96	1	1401
10C	087-97	4.3	86	3	1410
11A	087-72	2.7	54	0	H15
11B	087-98	1.2	24	0	1422
12A	087-73	17.2	344	5	1428
12B	087-99	23.7	474	10	1435
13A	087-74	0	0	0	1441
13B	087-100	10.1	202	2	1448
14A	087-75	0	0	0	1453
14B	087-101	0	0	0	1500
15A	088-111	0	0	0	0840
15B	088-114	11.1	222	11	0850
16A	088-112	0	0	0	0857
16B	088-115	0	0	0	0904
17A	088-113	0	0	0	0913W
17B	088-116	0	0	0	0920W
18A	087-76	0	0	0	0926W
18B	087-102	0	0	0	0934W
19A	087-77	0	0	0	0940
19B	087-108	0	0	0	0946

12/17/24

12/18/24

Location	Well ID	CH_4 %	LEL %	H_2S	Time / Comments
GSGMA	NA	0	0	0	1015
1B		0	0	0	1021
1C		0	0	0	1032
2A		0	0	0	1039
2B		0	0	0	1046
2C		0	0	0	1057
3A		0	0	0	1105
3B		0	0	0	1111
3C		0	0	0	1118
4A		0	0	0	1126
4B		0	0	0	

12/18/24

JF 12/18/24

Appendix B

Monthly Landfill Site Inspection Forms and Photos

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 01/10/2024

Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident

Time on Site: 0915

Time off Site: 1000

Weather Conditions: Overcast 56°F

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	N/A				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas Wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road	X				X

B. Description of Further Action Requirements:

1. Location: CLF

Observed Conditions: Grass on Cap OK. Asphalt Road OK. Rainfall Previous Day. Water on Access Road. No Activity or Animal Burrows. Photos Taken.

Recommendations: N/A.

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Jim Milligan

Date of Inspection: 01/12/2024

Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident

Time on Site: 1430

Time off Site: 1510

Weather Conditions: Clear Sunny 45°F

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	X				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas Wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road					X

B. Description of Further Action Requirements:

1. Location: FLF

Observed Conditions: Grass on Cap in Good condition. Vents OK. Remarked and flagged Manholes A-C. Some water in Chemical Trap Recent rains. Photos Taken.

Recommendations: NA

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 2/12/2024
Purpose of Inspection: Y Routine ___ Heavy Rainfall ___ Reported Incident
Time on Site: 1420
Time off Site: 1510
Weather Conditions: Overcast 40°

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	Y				Y
	Cap	Y				Y
	Gas Vents	Y				Y
2.0	**Drainage Structures:**					
	Toe Drain	Y				Y
	Drainage Channels	Y				Y
	French Drains/Outfalls	Y				Y
	Subsurface Drainage Pipes/Outfalls	Y				Y
	Manholes	NA				Y
	Recharge Areas		Y			Y
3.0	**Monitoring System:**					
	Soil Gas Wells	Y				Y
	Groundwater Wells	Y				Y
4.0	**Site Access:**					
	Asphalt Access Road		Y			Y
	Crushed-Concrete Access Road	Y				

B. Description of Further Action Requirements:

1. Location: CLF
Observed Conditions: Grass on CAP OK. Asphalt road OK. No activity on animal burrows.

Recommendations: NA

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Jim Milligan

Date of Inspection: 2/12/2024
Purpose of Inspection: ✓ Routine ___ Heavy Rainfall ___ Reported Incident
Time on Site: 1515
Time off Site: 1550
Weather Conditions: Overcast 40 degrees

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	✓				✓
	Cap	✓				✓
	Gas Vents	✓				✓
2.0	**Drainage Structures:**					
	Toe Drain	✓				✓
	Drainage Channels	✓				✓
	French Drains/Outfalls	✓				✓
	Subsurface Drainage Pipes/Outfalls	✓				✓
	Manholes	✓				✓
	Recharge Areas		✓			✓
3.0	**Monitoring System:**					
	Soil Gas Wells	✓				✓
	Groundwater Wells	✓				✓
4.0	**Site Access:**					
	Asphalt Access Road		✓			✓
	Crushed-Concrete Access Road		✓			✓

B. Description of Further Action Requirements:

1. Location: Former Landfill.
Observed Conditions: Grass on cap is good condition. Vents ok.
Photos Taken.

Recommendations: N/A.

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 3/18/2025

Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident

Time on Site: 0855

Time off Site: 0915

Weather Conditions: Partly Sunny 45°

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	NA				NA
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas Wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road	X				X

B. Description of Further Action Requirements:

1. Location: CLF

Observed Conditions: Grass on Cap OK. No Sign of Animal Burrows.

Photos Taken.

Recommendations: NA

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): Jim Milligan

Date of Inspection: 9/18/2024

Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident

Time on Site: 9:15

Time off Site: 09:30

Weather Conditions: Partly Sunny 45°

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	X				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas Wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road		X			X

B. Description of Further Action Requirements:

1. Location: Former Landfill

Observed Conditions: Grass on Cap good. Vents OK.

Photos Taken

Recommendations: N/A.

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 4/15/2024

Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident

Time on Site: 1440

Time off Site: 1510

Weather Conditions: 75° Sunny Clear

A. Inspection Checklist

	Component	Observed Condition: Excellent	Fair	Poor	Further Action Required: Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	N/A				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas Wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road	X				X

B. Description of Further Action Requirements:

1. Location: CLF

Observed Conditions: Grass on Cap OK. No Sign of Animal Burrow

Photos Taken.

Recommendations: N/A

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 4/15/2024

Purpose of Inspection: Routine ___ Heavy Rainfall ___ Reported Incident

Time on Site: 1520

Time off Site: 1580

Weather Conditions: 75° Clear, Sunny

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	✓				✓
	Cap	✓				✓
	Gas Vents	✓				✓
2.0	**Drainage Structures:**					
	Toe Drain	✓				✓
	Drainage Channels	✓				✓
	French Drains/Outfalls	✓				✓
	Subsurface Drainage Pipes/Outfalls	✓				✓
	Manholes	✓				✓
	Recharge Areas	~~✓~~ → ✓				✓
3.0	**Monitoring System:**					
	Soil Gas Wells	✓				✓
	Groundwater Wells	✓				✓
4.0	**Site Access:**					
	Asphalt Access Road		✓			✓
	Crushed-Concrete Access Road		✓			

B. Description of Further Action Requirements:

1. Location: Former Landfill

Observed Conditions: Grass on Cap good. Vents OK.

Photos Taken.

Recommendations: NA.

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 5/15/2024

Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident

Time on Site: 0810

Time off Site: 0910

Weather Conditions: Sunny Clear 68°

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	NA				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas Wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road	X				X

B. Description of Further Action Requirements:

1. Location: CLP

Observed Conditions: Grass on Cap o/c. No sign of Animal Burrows.

Photos Taken

Recommendations: NA

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milling

Date of Inspection: 5/15/2024

Purpose of Inspection: ✓ Routine ___ Heavy Rainfall ___ Reported Incident

Time on Site: 1000

Time off Site: 1050

Weather Conditions: 65° Sunny CLR

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	✓				✓
	Cap	✓				✓
	Gas Vents	✓				✓
2.0	**Drainage Structures:**					
	Toe Drain	✓				✓
	Drainage Channels	✓				✓
	French Drains/Outfalls	✓				✓
	Subsurface Drainage Pipes/Outfalls	✓				✓
	Manholes	✓				✓
	Recharge Areas		✓			✓
3.0	**Monitoring System:**					
	Soil Gas Wells	✓				✓
	Groundwater Wells	✓				✓
4.0	**Site Access:**					
	Asphalt Access Road		✓			✓
	Crushed-Concrete Access Road		✓			

B. Description of Further Action Requirements:

1. Location: FLF

Observed Conditions: Grass OK. Vents OK. No sign of Burrows. Photos Taken.

Recommendations: N/A.

BROOKHAVEN NATIONAL LABORATORY
LTRA SITE INSPECTION FORM

Location (AOC): Current Landfill – Wooded Wetland
Date of Inspection: 6/4/2024
Name of Inspector(s): **B. Barth; J. Milligan; K. Schwager**
Purpose of Inspection: ☒ Routine (Scheduled Frequency of 2x/yr) ☐ Heavy Rainfall ☐ Reported Incident

A. Inspection Checklist

Component	Excell.	Fair	Poor	Not Applic.	Further Action Req'd: Yes (describe)	No
1. Landfill Cap/Soil Covers/Wetlands:						
Vegetation (e.g. grass)	X				Grass was recently cut.	X
Soil (Cap/Cover/Fill)		X			2 burrows, filled.	X
Other: _____						
2. Drainage Structures:						
Standing Water	X				None observed.	X
Toe Drain	X					X
Drainage Channels		X			Some growth in channel.	X
French Drains/Outfalls				X		X
Subsurface Drainage Pipes/Outfalls		X				X
Manholes				X		X
Berms				X		X
Roof Drains				X		X
Recharge Areas	X				Significant growth.	X
Other: _____						
3. Monitoring System:						
Soil Gas Wells	X				Grass was recently cut.	X
Groundwater Wells	X				Recent cut, locked.	X
Gas Vents	X				All in good condition.	X
Other: __						
4. Site Access:						
Asphalt Access Road		X			Some growth	X
Crushed-concrete Access Road				X		X
Fence	X					X
Gates/locks	X				Good cond./locked.	X
LUIC Signs	X					X
Other: Stairs access to cap	X				All in place.	X

5. Evidence of unauthorized work activities and/or unauthorized access has occurred? ☐ Yes ☒ No
If yes, describe evidence: _ _____

B. Description of Other Observations

6/4/2025 – Some standing water observed in the Wooded Wetland. Two groundhog holes identified and filled in, one located on southeast side, and one on the northeast side. Cracks observed in Asphalt Access Road were recently sealed by BNL.

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 6/25/2024
Purpose of Inspection: ✓ Routine ___ Heavy Rainfall ___ Reported Incident
Time on Site: 0900
Time off Site: 1030
Weather Conditions: 85° Sunny

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	✓				✓
	Cap	✓				✓
	Gas Vents	✓				✓
2.0	**Drainage Structures:**					
	Toe Drain	✓				✓
	Drainage Channels	✓				✓
	French Drains/Outfalls	✓				✓
	Subsurface Drainage Pipes/Outfalls	✓				✓
	Manholes	NA				✓
	Recharge Areas		✓			✓
3.0	**Monitoring System:**					
	Soil Gas Wells	✓				✓
	Groundwater Wells	✓				✓
4.0	**Site Access:**					
	Asphalt Access Road		✓			✓
	Crushed-Concrete Access Road	✓				✓

B. Description of Further Action Requirements:

1. Location: CLF
Observed Conditions: Grass on Cap OK. ~~AS Sign.~~ Two Animal Burrows on Cap Filled in.

Recommendations: Photos taken.

N/A.

BROOKHAVEN NATIONAL LABORATORY
SITE INSPECTION FORM

Location (AOC): Former Landfill Area (includes the former and interim landfills and slit trench)
Date of Inspection: 6/5/2024
Name of Inspector(s): **B. Barth; J. Milligan; K. Schwager**
Purpose of Inspection: ☒ Routine (Scheduled Frequency of 2x/yr) ☐ Heavy Rainfall ☐ Reported Incident

A. Inspection Checklist

Component	Observed Condition				Further Action Req'd	
	Excell.	Fair	Poor	Not Applic.	Yes (describe)	No
1. Landfill Cap/Soil Covers/Wetlands:						
Vegetation (e.g. grass)	X				Grass recently cut.	X
Soil (Cap/Cover/Fill)	X				No erosion observed.	X
Other: _____						
2. Drainage Structures:						
Standing Water	X				None observed.	X
Toe Drain	X					X
Drainage Channels	X				Some veg. growth.	X
French Drains/Outfalls	X					X
Subsurface Drainage Pipes/Outfalls	X					X
Manholes				X		X
Berms				X		X
Roof Drains				X		X
Recharge Areas	X				Overgrown.	X
Other: _____						
3. Monitoring System:						
Soil Gas Wells	X					X
Groundwater Wells	X					X
Gas Vents	X					X
Other: _____						
4. Site Access:						
Asphalt Access Road		X			Some wear/tear/growth.	X
Crushed-concrete Access Road		X				X
Fence				X		X
Gates/locks				X		X
Radiological Postings				X		X
Other: LUIC Signs	X				All signs in place.	X

5. Evidence of unauthorized work activities and/or unauthorized access has occurred? ☐ Yes ☒ No
If yes, describe evidence: _____
_____

B. Description of Other Observations

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 6/20/2024

Purpose of Inspection: ☑ Routine ☐ Heavy Rainfall ☐ Reported Incident

Time on Site: 0800

Time off Site: 0850

Weather Conditions: 85° Sunny

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	✓				✓
	Cap	✓				✓
	Gas Vents	✓				✓
2.0	**Drainage Structures:**					
	Toe Drain	✓				✓
	Drainage Channels	✓				✓
	French Drains/Outfalls	✓				✓
	Subsurface Drainage Pipes/Outfalls	✓				✓
	Manholes	N/A				✓
	Recharge Areas		✓			✓
3.0	**Monitoring System:**					
	Soil Gas Wells	✓				✓
	Groundwater Wells	✓				✓
4.0	**Site Access:**					
	Asphalt Access Road		✓			✓
	Crushed-Concrete Access Road	✓				✓

B. Description of Further Action Requirements:

1. Location: T-LF

Observed Conditions: Grass on Cap OK. No Animal Burrows noted.

Recommendations: Photos Taken.

N/A

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 7/16/2024
Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident
Time on Site: 1015
Time off Site: 1115
Weather Conditions: Cld sunny 85°F.

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	NA				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas Wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road	X				X

B. Description of Further Action Requirements:

1. Location: CLF
Observed Conditions: Grass on Cap OK. Two animal burrows on Cap. Fire in.

Recommendations: photos Taken

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 7/16/2024

Purpose of Inspection: ☒ Routine ___ Heavy Rainfall ___ Reported Incident

Time on Site: 0930

Time off Site: 1015

Weather Conditions: Clear Sunny 85°F

A. Inspection Checklist

	Component	Observed Condition: Excellent	Fair	Poor	Further Action Required: Yes	No
1.0	**Landfill Cap:**					
	Vegetation	☒				☒
	Cap	☒				☒
	Gas Vents	☒				☒
2.0	**Drainage Structures:**					
	Toe Drain	☒				☒
	Drainage Channels	☒				☒
	French Drains/Outfalls	☒				☒
	Subsurface Drainage Pipes/Outfalls	N/A				☒
	Manholes	☒				☒
	Recharge Areas		☒			☒
3.0	**Monitoring System:**					
	Soil Gas Wells	☒				☒
	Groundwater Wells	☒				☒
4.0	**Site Access:**					
	Asphalt Access Road		☒			☒
	Crushed-Concrete Access Road	☒				☒

B. Description of Further Action Requirements:

1. Location: FLF

Observed Conditions: Grass on Cap OK. No Animal Burrows noted.

Recommendations: Photos taken.

N/A

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: August 8/20/2024
Purpose of Inspection: X Routine X Heavy Rainfall ___ Reported Incident
Time on Site: 0800
Time off Site: 0845
Weather Conditions: overcast 71°

A. Inspection Checklist

	Component	Observed Condition: Excellent	Fair	Poor	Further Action Required: Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	NA				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas Wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road	X				X

B. Description of Further Action Requirements:

1. Location: CLF
Observed Conditions: Post Heavy rain event. Grass on Cap ok. Two Animal Burrows Filled in. Drainage working ok.

Recommendations: Photos Taken.

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James milligan

Date of Inspection: August 20th 2024 8/20/2024
Purpose of Inspection: ✓ Routine ✓ Heavy Rainfall ___ Reported Incident
Time on Site: 0850
Time off Site: 0930
Weather Conditions: overcast 71°

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	✓				✓
	Cap	✓				✓
	Gas Vents	✓				✓
2.0	**Drainage Structures:**					
	Toe Drain	✓				✓
	Drainage Channels	✓				✓
	French Drains/Outfalls	✓				✓
	Subsurface Drainage Pipes/Outfalls	✓				✓
	Manholes	✓				✓
	Recharge Areas		✓			✓
3.0	**Monitoring System:**					
	Soil Gas wells	✓				✓
	Groundwater Wells	✓				✓
4.0	**Site Access:**					
	Asphalt Access Road		✓			✓
	Crushed-Concrete Access Road		✓			✓

B. Description of Further Action Requirements:

1. Location: FLF
Observed Conditions: Grass on Cap ok. No Animal burrows noted.

Recommendations: Photos Taken.

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 9/16/2024
Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident
Time on Site: 0900
Time off Site: 0940
Weather Conditions: 68° Partly Cloudy

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	NA				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road	X				X

B. Description of Further Action Requirements:

1. Location: CLF.
Observed Conditions: Grass on Cap ok. No Animal burrows present.

Recommendations: Photos Taken.

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 9/16/2024
Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident
Time on Site: 0945
Time off Site: 1029
Weather Conditions: overcast 71°

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	X				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			
	Crushed-Concrete Access Road		X			

B. Description of Further Action Requirements:

1. Location: FLF
Observed Conditions: Grass on Cap OK. No Animal burrows noted.

Recommendations: Photos Taken

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 10/16/2024
Purpose of Inspection: X Routine ___ Heavy Rainfall __ Reported Incident
Time on Site: 1345 1445
Time off Site: 1540
Weather Conditions: Sunny 60°

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	NA				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road	X				X

B. Description of Further Action Requirements:

1. Location: CLF.
Observed Conditions: Grass on Cap OK. No Animal burrows present.

Recommendations: Photos Taken.

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 10/16/2024
Purpose of Inspection: ✓ Routine ___ Heavy Rainfall ___ Reported Incident
Time on Site: 1420
Time off Site: 1440
Weather Conditions: Sunny 60°

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	✓				✓
	Cap	✓				✓
	Gas Vents	✓				✓
2.0	**Drainage Structures:**					
	Toe Drain	✓				✓
	Drainage Channels	✓				✓
	French Drains/Outfalls	✓				✓
	Subsurface Drainage Pipes/Outfalls	✓				✓
	Manholes	✓				✓
	Recharge Areas		✓			✓
3.0	**Monitoring System:**					
	Soil Gas wells	✓				✓
	Groundwater Wells	✓				✓
4.0	**Site Access:**					
	Asphalt Access Road		✓			✓
	Crushed-Concrete Access Road		✓			✓

B. Description of Further Action Requirements:

1. Location: FLF
Observed Conditions: Grass on Cap OK. No Animal burrows present.

Recommendations: Photos Taken

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 11/25/2024
Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident
Time on Site: 1000
Time off Site: 1100
Weather Conditions: Clear Sunny 40° F

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	NA				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road	X				X

B. Description of Further Action Requirements:

1. Location: CLF
Observed Conditions: Grass on Cap OK. One animal burrow noted on east side of Cap filled in -

Recommendations: Photos Taken.

BROOKHAVEN NATIONAL LABORATORY
LTRA SITE INSPECTION FORM

Location (AOC): Current Landfill – Wooded Wetland
Date of Inspection: 11/26/2024
Name of Inspector(s): **B. Barth; J. Milligan; D. Paquette; K. Green; K. Schwager**
Purpose of Inspection: ☒ Routine (Scheduled Frequency of 2x/yr) ☐ Heavy Rainfall ☐ Reported Incident

A. Inspection Checklist

Component	Observed Condition				Further Action Req'd	
	Excell.	Fair	Poor	Not Applic.	Yes (describe)	No
1. Landfill Cap/Soil Covers/Wetlands:						
Vegetation (e.g. grass)	X				Grass was recently cut.	X
Soil (Cap/Cover/Fill)		X				X
Other: _____						
2. Drainage Structures:						
Standing Water	X				None observed.	X
Toe Drain	X					X
Drainage Channels		X			Some growth in channel.	X
French Drains/Outfalls				X		X
Subsurface Drainage Pipes/Outfalls		X				X
Manholes				X		X
Berms				X		X
Roof Drains				X		X
Recharge Areas	X				Significant growth.	X
Other: _____						
3. Monitoring System:						
Soil Gas Wells	X				Grass was recently cut.	X
Groundwater Wells	X				Recent cut, locked.	X
Gas Vents	X				All in good condition.	X
Other: __						
4. Site Access:						
Asphalt Access Road		X			Some growth.	X
Crushed-concrete Access Road				X		X
Fence	X					X
Gates/locks	X				Good cond./locked.	X
LUIC Signs	X					X
Other: Stairs access to cap	X				All in place.	X

5. Evidence of unauthorized work activities and/or unauthorized access has occurred? ☐ Yes ☒ No
If yes, describe evidence: _ _____

B. Description of Other Observations

BROOKHAVEN NATIONAL LABORATORY
SITE INSPECTION FORM

Location (AOC): Former Landfill Area (includes the former and interim landfills and slit trench)
Date of Inspection: 11/12/2024
Name of Inspector(s): **B. Barth; E. Kramer; V. Racaniello; L. Singh; K. Green**
Purpose of Inspection: ☒ Routine (Scheduled Frequency of 2x/yr) ☐ Heavy Rainfall ☐ Reported Incident

A. Inspection Checklist

Component	Observed Condition				Further Action Req'd	
	Excell.	Fair	Poor	Not Applic.	Yes (describe)	No
1. Landfill Cap/Soil Covers/Wetlands:						
Vegetation (e.g. grass)	X				Grass recently cut.	X
Soil (Cap/Cover/Fill)	X				No erosion observed.	X
Other: _____						
2. Drainage Structures:						
Standing Water	X				None observed.	X
Toe Drain	X					X
Drainage Channels	X				Some veg. growth.	X
French Drains/Outfalls	X					X
Subsurface Drainage Pipes/Outfalls	X					X
Manholes				X		X
Berms				X		X
Roof Drains				X		X
Recharge Areas	X				Overgrown.	X
Other: _____						
3. Monitoring System:						
Soil Gas Wells	X					X
Groundwater Wells	X					X
Gas Vents	X					X
Other: _____						
4. Site Access:						
Asphalt Access Road		X			Some wear/tear/growth.	X
Crushed-concrete Access Road		X				X
Fence				X		X
Gates/locks				X		X
Radiological Postings				X		X
Other: LUIC Signs	X				All signs in place.	X

5. Evidence of unauthorized work activities and/or unauthorized access has occurred? ☐ Yes ☒ No
If yes, describe evidence: _____
_____

B. Description of Other Observations

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 11/25/2024
Purpose of Inspection: X Routine ___ Heavy Rainfall ___ Reported Incident
Time on Site: 0930
Time off Site: 0950
Weather Conditions: Clear Sunny 40° F

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	X				X
	Recharge Areas		X			X
3.0	**Monitoring System:**					
	Soil Gas wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road		X			X

B. Description of Further Action Requirements:

1. Location: FLF
Observed Conditions: Grass on Cap OK. No animal burrows noted.

Recommendations: Replace Faded LUC Sign South Side entrance.
Photos taken.

BROOKHAVEN NATIONAL LABORATORY
CURRENT LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 12/13/2024
Purpose of Inspection: X Routine ___ Heavy Rainfall __ Reported Incident
Time on Site: 0800
Time off Site: 0900
Weather Conditions: 28° Sunny Clear

A. Inspection Checklist

Component		Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	X				X
	Cap	X				X
	Gas Vents	X				X
2.0	**Drainage Structures:**					
	Toe Drain	X				X
	Drainage Channels	X				X
	French Drains/Outfalls	X				X
	Subsurface Drainage Pipes/Outfalls	X				X
	Manholes	N/A				X
	Recharge Areas	X				X
3.0	**Monitoring System:**					
	Soil Gas wells	X				X
	Groundwater Wells	X				X
4.0	**Site Access:**					
	Asphalt Access Road		X			X
	Crushed-Concrete Access Road	X				X

B. Description of Further Action Requirements:

1. Location: CLF
Observed Conditions: Grass on Cap OK.

Recommendations: Photos Taken.

BROOKHAVEN NATIONAL LABORATORY
FORMER LANDFILL AREA
SITE INSPECTION FORM

Name of Inspector(s): James Milligan

Date of Inspection: 12/13/2024
Purpose of Inspection: ☒ Routine ___ Heavy Rainfall ___ Reported Incident
Time on Site: 0905
Time off Site: 0935
Weather Conditions: 20° Sunny Clear

A. Inspection Checklist

	Component	Observed Condition			Further Action Required	
		Excellent	Fair	Poor	Yes	No
1.0	**Landfill Cap:**					
	Vegetation	☒				☒
	Cap	☒				☒
	Gas Vents	☒				☒
2.0	**Drainage Structures:**					
	Toe Drain	☒				☒
	Drainage Channels	☒				☒
	French Drains/Outfalls	☒				☒
	Subsurface Drainage Pipes/Outfalls	☒				☒
	Manholes	☒				☒
	Recharge Areas		☒			☒
3.0	**Monitoring System:**					
	Soil Gas wells	☒				☒
	Groundwater Wells	☒				☒
4.0	**Site Access:**					
	Asphalt Access Road		☒			☒
	Crushed-Concrete Access Road		☒			☒

B. Description of Further Action Requirements:

1. Location: FLF
Observed Conditions: Grass on cap OK. No animal burrows noted.

Recommendations: Replace faded Civic Sign South Side entrance.
Photos Taken.

Appendix C

Groundwater Sample Logs

Groundwater Sample Log

Sample ID (COC# -UID) : 46095-001 **Well ID :** 088-109 **Date :** 03/15/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 25

Well Depth (ft BLS) : 27 **Screen Interval (ft BLS) :** 6 - 21 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.37500

Depth to Water from MP (ft) : 13.10 **Casing Stickup :** 1.75 **DTW Meter Serial # :** 1434

Depth to Water from LS (ft) : 11.35 **One Casing Volume (liter) :** 40.92

Pump Start Time : 1041 **Pumping Rate (L/min) :** 0.5

Minimum Purge Volume (liter) : 1.69 **Maximum Purge Volume (liter):** 10.23

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1050 Notes :
1045	2	176.2	.99	5.77	6.4	10.5	11.8	13.15	
1047	3	176.5	.99	5.77	6.5	10.8	11.8	13.15	
1049	4	176.8	1.02	5.77	6.8	10.3	11.8	13.15	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : MS/MSD: BD 1=46095-003, FB 1=46095-004 @ 1054

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : Nancy Shemer Date : 3/15/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46095-002 **Well ID :** 098-99 **Date :** 03/12/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 25

Well Depth (ft BLS) : 54.5 **Screen Interval (ft BLS) :** 39.5-49.5 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.25000

Depth to Water from MP (ft) : 13.11 **Casing Stickup :** 2.11 **DTW Meter Serial # :** 1434

Depth to Water from LS (ft) : 11.00 **One Casing Volume (liter) :** 113.68

Pump Start Time : 1450 **Pumping Rate (L/min) :** 0.5

Minimum Purge Volume (liter) : 1.99 **Maximum Purge Volume (liter):** 28.42

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1459 Notes :
1454	2	264	1.81	6.25	1.5	249.9	12.5	13.19	
1456	3	264	1.8	6.25	1.5	249.6	12.4	13.19	
1458	4	264	1.79	6.25	1.4	249.4	12.4	13.19	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 3/12/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46095-003 **Well ID :** BD-1 **Date :** 03/15/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 25

Well Depth (ft BLS) : 27 **Screen Interval (ft BLS) :** 6 - 21 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.37500

Depth to Water from MP (ft) : 13.10 **Casing Stickup :** 1.75 **DTW Meter Serial # :** 1434

Depth to Water from LS (ft) : 11.35 **One Casing Volume (liter) :** 40.92

Pump Start Time : 1041 **Pumping Rate (L/min) :** 0.5

Minimum Purge Volume (liter) : 1.69 **Maximum Purge Volume (liter):** 10.23

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 0000 Notes :
1045	2	176.2	.99	5.77	6.4	10.5	11.8	13.15	
1047	3	176.5	.99	5.77	6.5	10.8	11.8	13.15	
1049	4	176.8	1.02	5.77	6.8	10.3	11.8	13.15	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : BD-1 for : 088-109

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

Sampled By : [signature] Date : 3/15/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46328-001 **Well ID :** 087-09 **Date :** 05/28/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 25

Well Depth (ft BLS) : 34 **Screen Interval (ft BLS) :** 24 - 34 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.25000

Depth to Water from MP (ft) : 26.09 **Casing Stickup :** 0.80 **DTW Meter Serial # :** 1434

Depth to Water from LS (ft) : 25.29 **One Casing Volume (liter) :** 22.8

Pump Start Time : 1024 **Pumping Rate (L/min) :** 0.5

Minimum Purge Volume (liter) : 1.68 **Maximum Purge Volume (liter):** 5.7

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1033 Notes :
1028	2	251.3	1.41	5.51	3	280.6	14	26.09	
1030	3	250.9	1.41	5.51	3.8	279.8	14	26.09	
1032	4	251.1	1.41	5.51	3.9	278.7	14	26.09	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 5/28/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46328-002 **Well ID :** 088-109 **Date :** 05/28/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 25

Well Depth (ft BLS) : 27 **Screen Interval (ft BLS) :** 6 - 21 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.37500

Depth to Water from MP (ft) : 11.15 **Casing Stickup :** 1.75 **DTW Meter Serial # :** 1434

Depth to Water from LS (ft) : 9.40 **One Casing Volume (liter) :** 45.96

Pump Start Time : 1100 **Pumping Rate (L/min) :** 0.5

Minimum Purge Volume (liter) : 1.69 **Maximum Purge Volume (liter):** 11.49

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1109 Notes :
1104	2	146.5	2.17	5.52	5.3	-84.5	12.6	11.15	
1106	3	146.3	2.18	5.51	6.4	-85.3	12.6	11.15	
1108	4	146.1	2.2	5.51	5.8	-85.9	12.6	11.15	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : MS/MSD: BD 1=003, FB 1=004 @ 1116. NaOH turned green. Water smelled bad.

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : [signature] Date : 5/28/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46331-001 **Well ID :** 088-110 **Date :** 05/29/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 21

Well Depth (ft BLS) : 35 **Screen Interval (ft BLS) :** 10 - 25 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.37500

Depth to Water from MP (ft) : 13.36 **Casing Stickup :** 2.04 **DTW Meter Serial # :** 1434

Depth to Water from LS (ft) : 11.32 **One Casing Volume (liter) :** 61.84

Pump Start Time : 1118 **Pumping Rate (L/min) :** 1

Minimum Purge Volume (liter) : 1.87 **Maximum Purge Volume (liter):** 15.46

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1125 Notes :
1120	2	438.1	.49	5.89	27.3	-41.2	11.5	13.36	
1122	4	437.4	.46	5.88	28.6	-41.6	11.6	13.36	
1124	6	437.2	.46	5.88	28.4	-41.9	11.5	13.36	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : NaOH turned green.

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 5/29/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46331-002 **Well ID :** 087-26 **Date :** 05/29/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 21

Well Depth (ft BLS) : 85 **Screen Interval (ft BLS) :** 70 - 80 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.50000

Depth to Water from MP (ft) : 12.97 **Casing Stickup :** 2.06 **DTW Meter Serial # :** 1434

Depth to Water from LS (ft) : 10.91 **One Casing Volume (liter) :** 193.52

Pump Start Time : 1041 **Pumping Rate (L/min) :** 0.5

Minimum Purge Volume (liter) : 6.96 **Maximum Purge Volume (liter):** 48.38

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1100 Notes :
1055	7	237.3	6.63	6.38	14.5	100.2	12.9	12.98	
1057	8	237.2	6.63	6.38	14.3	100.3	12.9	12.98	
1059	9	237.3	6.63	6.38	14.2	100.2	12.9	12.98	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 5/29/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46331-003 **Well ID :** 087-27 **Date :** 05/29/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 21

Well Depth (ft BLS) : 25 **Screen Interval (ft BLS) :** 5 - 20 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.25000

Depth to Water from MP (ft) : 13.08 **Casing Stickup :** 2.05 **DTW Meter Serial # :** 1434

Depth to Water from LS (ft) : 11.03 **One Casing Volume (liter) :** 36.48

Pump Start Time : 1013 **Pumping Rate (L/min) :** 0.5

Minimum Purge Volume (liter) : 1.35 **Maximum Purge Volume (liter):** 9.12

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1022 Notes :
1017	2	189.7	4.31	5.96	21.3	47.1	11.4	13.12	
1019	3	189.8	4.31	5.96	19.6	47.3	11.4	13.12	
1021	4	190.2	4.3	5.95	19.2	47.3	11.3	13.12	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 5/29/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46331-005 **Well ID :** 098-99 **Date :** 05/29/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 21

Well Depth (ft BLS) : 54.5 **Screen Interval (ft BLS) :** 39.5-49.5 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.25000

Depth to Water from MP (ft) : 11.03 **Casing Stickup :** 2.11 **DTW Meter Serial # :** 1434

Depth to Water from LS (ft) : 8.92 **One Casing Volume (liter) :** 119.04

Pump Start Time : 1148 **Pumping Rate (L/min) :** 0.25

Minimum Purge Volume (liter) : 1.99 **Maximum Purge Volume (liter):** 29.76

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1201 Notes :
1156	2	275.3	.72	5.99	18.8	69.7	13	11.03	
1158	2.5	275.3	.76	5.99	18.8	69.6	13	11.03	
1200	3	275.4	.79	5.99	18.8	69.7	13	11.03	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 5/29/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46333-001 **Well ID :** 087-11 **Date :** 05/30/2024

Sampling Personnel : MJ **Project :** Sitewd-clf **WQ Inst# :** 21

Well Depth (ft BLS) : 21 **Screen Interval (ft BLS) :** 11 - 21 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.37500

Depth to Water from MP (ft) : 14.03 **Casing Stickup :** 1.74 **DTW Meter Serial # :** 6783

Depth to Water from LS (ft) : 12.29 **One Casing Volume (liter) :** 22.8

Pump Start Time : 1021 **Pumping Rate (L/min) :** .5

Minimum Purge Volume (liter) : 1.8 **Maximum Purge Volume (liter):** 5.7

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1031 Notes :
1026	2	467.7	1.07	5.93	5.1	-35.3	12	14	
1028	3	467.1	1.14	5.87	4.9	-35.4	11.9	14	
1030	4	466.2	1.16	5.87	7.4	-36.9	11.9	14	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : Smell/Clean bottle, water turned green mg NaOH

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 5/30/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46333-002 **Well ID :** 087-23 **Date :** 05/30/2024

Sampling Personnel : MJ **Project :** Sitewd-clf **WQ Inst# :** 21

Well Depth (ft BLS) : 45 **Screen Interval (ft BLS) :** 25 - 40 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.50000

Depth to Water from MP (ft) : 32.32 **Casing Stickup :** 1.83 **DTW Meter Serial # :** 6783

Depth to Water from LS (ft) : 30.49 **One Casing Volume (liter) :** 37.96

Pump Start Time : 1105 **Pumping Rate (L/min) :** .5

Minimum Purge Volume (liter) : 3.65 **Maximum Purge Volume (liter):** 9.49

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1118 Notes :
1113	4	134.4	3.33	5.5	11	65	12.6	32.32	
1115	5	134.8	3.28	5.49	11.1	63.2	12.6	32.32	
1117	6	135.3	3.31	5.49	11.2	6.2	12.6	32.32	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 5/30/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46333-003 **Well ID :** 087-24 **Date :** 05/30/2024

Sampling Personnel : MJ **Project :** Sitewd-clf **WQ Inst# :** 21

Well Depth (ft BLS) : 85 **Screen Interval (ft BLS) :** 70 - 80 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.50000

Depth to Water from MP (ft) : 32.32 **Casing Stickup :** 1.92 **DTW Meter Serial # :** 6783

Depth to Water from LS (ft) : 30.40 **One Casing Volume (liter) :** 142.6

Pump Start Time : 1141 **Pumping Rate (L/min) :** 1

Minimum Purge Volume (liter) : 6.96 **Maximum Purge Volume (liter):** 35.65

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1153 Notes :
1148	7	303.5	10.12	6.27	3.7	81.5	12.4	32.32	
1150	9	301.8	10.14	6.27	2.3	81.6	12.4	32.32	
1152	11	302.6	10.14	6.27	2.2	81.9	12.4	32.32	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : MJ Justmen Date : 5/30/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46333-004 **Well ID :** 088-21 **Date :** 05/30/2024

Sampling Personnel : MJ **Project :** Siewd-clf **WQ Inst# :** 21

Well Depth (ft BLS) : 25 **Screen Interval (ft BLS) :** 5 - 20 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.50000

Depth to Water from MP (ft) : 7.92 **Casing Stickup :** 2.04 **DTW Meter Serial # :** 6783

Depth to Water from LS (ft) : 5.88 **One Casing Volume (liter) :** 50

Pump Start Time : 1204 **Pumping Rate (L/min) :** 1

Minimum Purge Volume (liter) : 2.09 **Maximum Purge Volume (liter):** 12.5

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1212 Notes :
1207	3	289.9	4.46	5.78	2.9	103.9	12.4	7.92	
1209	5	289.5	4.45	5.78	2.8	103.9	12.3	7.92	
1211	7	289.8	4.46	5.78	8.3	103.9	12.3	7.92	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : Pump moved to 2 ft into water

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : MJ Justman Date : 5/30/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46635-002 **Well ID :** 088-109 **Date :** 09/06/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 24

Well Depth (ft BLS) : 27 **Screen Interval (ft BLS) :** 6 - 21 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.37500

Depth to Water from MP (ft) : 12.38 **Casing Stickup :** 1.75 **DTW Meter Serial # :** 6783

Depth to Water from LS (ft) : 10.63 **One Casing Volume (liter) :** 42.8

Pump Start Time : 0934 **Pumping Rate (L/min) :** 1

Minimum Purge Volume (liter) : 1.69 **Maximum Purge Volume (liter):** 10.7

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 0942 Notes :
0936	2	459.6	1.79	6.14	6.7	-60.7	13.6	12.38	
0938	4	459.6	1.74	6.14	6.5	-61	13.6	12.38	
0940	6	459.8	1.72	6.14	6.9	-61.2	13.7	12.38	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : MS/MSD: BD1=004, FB1=005 @ 0945

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : [signature] Date : 10/22/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46635-003 | **Well ID :** 098-99 | **Date :** 09/06/2024

Sampling Personnel : NS | **Project :** SITEWD-CLF | **WQ Inst# :** 24

Well Depth (ft BLS) : 54.5 | **Screen Interval (ft BLS) :** 39.5-49.5 | **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : | **Discharge Tubing Size :** 0.25000

Depth to Water from MP (ft) : 12.22 | **Casing Stickup :** 2.11 | **DTW Meter Serial # :** 6783

Depth to Water from LS (ft) : 10.11 | **One Casing Volume (liter) :** 116

Pump Start Time : 1024 | **Pumping Rate (L/min) :** 0.25

Minimum Purge Volume (liter) : 1.99 | **Maximum Purge Volume (liter):** 29

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1037 Notes :
1032	2	249.6	.78	6.13	2.9	122.5	12.8	12.19	
1034	2.5	249.7	.74	6.13	3	122.7	12.8	12.19	
1036	3	249.7	.7	6.13	2.9	123.1	12.8	12.19	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

Sampled By : _____ Date : 10/22/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46635-004	**Well ID : BD-1**	**Date : 09/06/2024**
Sampling Personnel : NS	**Project : SITEWD-CLF**	**WQ Inst# : 24**
Well Depth (ft BLS) : 27	**Screen Interval (ft BLS) : 6 - 21**	**Well Diameter (in) : 4**
Sampling Device : ☑ **Bladder Pump**	☐ **Other :**	**Discharge Tubing Size : 0.37500**
Depth to Water from MP (ft) : 12.38	**Casing Stickup : 1.75**	**DTW Meter Serial # : 6783**
Depth to Water from LS (ft) : 10.63	**One Casing Volume (liter) : 42.8**	
Pump Start Time : 0934	**Pumping Rate (L/min) : 1**	
Minimum Purge Volume (liter) : 1.69	**Maximum Purge Volume (liter): 10.7**	

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 0942 Notes :
0936	2	459.6	1.79	6.14	6.7	-60.7	13.6	12.38	
0938	4	459.6	1.74	6.14	6.5	-61	13.6	12.38	
0940	6	459.8	1.72	6.14	6.9	-61.2	13.7	12.38	

Purge Water Disposition : ☑ Ground ☐ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : BD-1 for : 088-109

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

Sampled By : Kaughlin Date : 10/22/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46925-001	**Well ID : 087-09**	**Date : 11/12/2024**
Sampling Personnel : MJ	**Project : Sitewd-CLF**	**WQ Inst# : 21**
Well Depth (ft BLS) : 34	**Screen Interval (ft BLS) : 24 - 34**	**Well Diameter (in) : 4**
Sampling Device : ☑ **Bladder Pump**	☐ **Other :**	**Discharge Tubing Size : 0.25000**
Depth to Water from MP (ft) : 27.53	**Casing Stickup : 0.80**	**DTW Meter Serial # : 3474**
Depth to Water from LS (ft) : 26.73	**One Casing Volume (liter) : 19.04**	
Pump Start Time : 1103	**Pumping Rate (L/min) : .25**	
Minimum Purge Volume (liter) : 1.68	**Maximum Purge Volume (liter): 4.76**	

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1116 Notes :
1111	2	254.3	6.64	5.6	10	109.3	14.3	27.53	
1113	2.5	254.4	6.72	5.55	2.3	108.7	14.3	27.53	
1115	3	254.6	6.95	5.53	4.6	107.8	14.3	27.53	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 11/12/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46925-002	**Well ID : 088-109**	**Date : 11/12/2024**
Sampling Personnel : MJ	**Project : Sitewd-CLF**	**WQ Inst# : 21**
Well Depth (ft BLS) : 27	**Screen Interval (ft BLS) : 6 - 21**	**Well Diameter (in) : 4**
Sampling Device : ☑ **Bladder Pump**	☐ **Other :**	**Discharge Tubing Size : 0.37500**
Depth to Water from MP (ft) : 13.6	**Casing Stickup : 1.75**	**DTW Meter Serial # : 3474**
Depth to Water from LS (ft) : 11.85	**One Casing Volume (liter) : 39.56**	
Pump Start Time : 1131	**Pumping Rate (L/min) : 1**	
Minimum Purge Volume (liter) : 1.69	**Maximum Purge Volume (liter): 9.89**	

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1138 Notes :
1133	2	366.5	.2	6.23	6.5	-243.3	14.3	13.6	
1135	4	366.9	.22	6.25	13.4	-244.8	14.3	13.6	
1137	6	369.5	.23	6.27	7.5	-245	14.3	13.6	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : Ms/msd bd1 003 fb1 004@1200/cyanide bottle turned green

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 11/12/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46925-003	**Well ID : BD-1**	**Date : 11/12/2024**
Sampling Personnel : MJ	**Project : Sitewd-CLF**	**WQ Inst# : 21**
Well Depth (ft BLS) : 27	**Screen Interval (ft BLS) : 6 - 21**	**Well Diameter (in) : 4**
Sampling Device : ☑ **Bladder Pump**	☐ **Other :**	**Discharge Tubing Size : 0.37500**
Depth to Water from MP (ft) : 13.6	**Casing Stickup : 1.75**	**DTW Meter Serial # : 3474**
Depth to Water from LS (ft) : 11.85	**One Casing Volume (liter) : 39.56**	
Pump Start Time : 1131	**Pumping Rate (L/min) : 1**	
Minimum Purge Volume (liter) : 1.69	**Maximum Purge Volume (liter): 9.89**	

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1138 Notes :
1133	2	366.5	.2	6.23	6.5	-243.3	14.3	13.6	
1135	4	366.9	.22	6.25	13.4	-244.8	14.3	13.6	
1137	6	369.5	.23	6.27	7.5	-245	14.3	13.6	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : BD-1 for : 088-109

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

Sampled By : MWhitman Date : 11/12/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46928-001	**Well ID : 088-110**	**Date : 11/13/2024**
Sampling Personnel : MJ	**Project : Sitewd-CLF**	**WQ Inst# : 26**
Well Depth (ft BLS) : 35	**Screen Interval (ft BLS) : 10 - 25**	**Well Diameter (in) : 4**
Sampling Device : ☑ **Bladder Pump**	☐ **Other :**	**Discharge Tubing Size : 0.37500**
Depth to Water from MP (ft) : 15.76	**Casing Stickup : 2.04**	**DTW Meter Serial # : 4074**
Depth to Water from LS (ft) : 13.72	**One Casing Volume (liter) : 55.64**	
Pump Start Time : 1040	**Pumping Rate (L/min) : .25**	
Minimum Purge Volume (liter) : 1.87	**Maximum Purge Volume (liter): 13.91**	

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1053 Notes :
1048	2	429.4	1.28	6.18	4.9	-27	13.7	15.79	
1050	2.5	428.8	1.3	6.18	4.6	-26.8	13.7	15.79	
1052	3	428.8	1.31	3.18	4.5	-26.7	13.8	15.79	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : Naoh bottle water turned green

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

Sampled By : MJustice Date : 11/13/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46928-002 **Well ID :** 087-26 **Date :** 11/13/2024

Sampling Personnel : MJ **Project :** Sitewd-CLF **WQ Inst# :** 26

Well Depth (ft BLS) : 85 **Screen Interval (ft BLS) :** 70 - 80 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.50000

Depth to Water from MP (ft) : 15.39 **Casing Stickup :** 2.06 **DTW Meter Serial # :** 4074

Depth to Water from LS (ft) : 13.33 **One Casing Volume (liter) :** 187.2

Pump Start Time : 1119 **Pumping Rate (L/min) :** .5

Minimum Purge Volume (liter) : 6.96 **Maximum Purge Volume (liter):** 46.8

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1138 Notes :
1133	7	240.3	8.04	6.71	9.8	119.9	12.2	15.37	
1135	8	241.5	8.05	6.7	3.1	123.6	12.2	15.37	
1137	9	241.4	8.04	3.71	7.9	125.9	12.2	15.37	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

Sampled By : MJ Date : 11/13/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46928-003 **Well ID :** 087-27 **Date :** 11/13/2024

Sampling Personnel : MJ **Project :** Sitewd-CLF **WQ Inst# :** 26

Well Depth (ft BLS) : 25 **Screen Interval (ft BLS) :** 5 - 20 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.25000

Depth to Water from MP (ft) : 15.51 **Casing Stickup :** 2.05 **DTW Meter Serial # :**

Depth to Water from LS (ft) : 13.46 **One Casing Volume (liter) :** 30.2

Pump Start Time : 1141 **Pumping Rate (L/min) :** .25

Minimum Purge Volume (liter) : 1.35 **Maximum Purge Volume (liter):** 7.55

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1156 Notes :
1151	1.5	408.3	2.18	6.04	118.3	37.8	11.9	15.51	
1153	2	409.6	2.09	6.03	120.8	37.9	11.9	15.51	
1155	2.5	410	2.03	6.03	118.6	38.1	11.8	15.51	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : Naoh bottle water turned green

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

Sampled By : MJ Date : 11/13/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46931-001 **Well ID :** 087-11 **Date :** 11/14/2024

Sampling Personnel : MJ **Project :** Sitewd-CLF **WQ Inst# :** 26

Well Depth (ft BLS) : 21 **Screen Interval (ft BLS) :** 11 - 21 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.37500

Depth to Water from MP (ft) : 16.41 **Casing Stickup :** 1.74 **DTW Meter Serial # :** 4074

Depth to Water from LS (ft) : 14.67 **One Casing Volume (liter) :** 16.52

Pump Start Time : 1140 **Pumping Rate (L/min) :** .5

Minimum Purge Volume (liter) : 1.8 **Maximum Purge Volume (liter):** 4.13

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1147 Notes :
1142	2	446.7	1.75	5.95	11.6	10.1	14.7	16.41	
1144	3	445.2	1.75	5.95	5.6	9.1	14.7	16.41	
1146	4	444.2	1.77	5.95	4.8	8.6	14.7	16.41	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : Naoh bottle water turned green

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 11/14/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46931-002 **Well ID :** 087-23 **Date :** 11/14/2024

Sampling Personnel : MJ **Project :** Sitewd-CLF **WQ Inst# :** 26

Well Depth (ft BLS) : 45 **Screen Interval (ft BLS) :** 25 - 40 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.50000

Depth to Water from MP (ft) : 34.65 **Casing Stickup :** 1.83 **DTW Meter Serial # :** 4074

Depth to Water from LS (ft) : 32.82 **One Casing Volume (liter) :** 31.8

Pump Start Time : 1039 **Pumping Rate (L/min) :** .5

Minimum Purge Volume (liter) : 3.65 **Maximum Purge Volume (liter):** 7.95

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1052 Notes :
1047	4	158.7	2.59	5.61	14.4	117.5	12.8	34.71	
1049	5	158.3	2.55	5.62	14.3	117.5	12.8	34.71	
1051	6	158.5	2.57	5.63	14.4	117.7	12.8	34.71	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

Sampled By : _____ Date : 11/14/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46931-003	**Well ID : 087-24**	**Date : 11/14/2024**
Sampling Personnel : MJ	**Project : Sitewd-CLF**	**WQ Inst# : 26**
Well Depth (ft BLS) : 85	**Screen Interval (ft BLS) : 70 - 80**	**Well Diameter (in) : 4**
Sampling Device : ☑ **Bladder Pump**	☐ **Other :**	**Discharge Tubing Size : 0.50000**
Depth to Water from MP (ft) : 34.66	**Casing Stickup : 1.92**	**DTW Meter Serial # : 4074**
Depth to Water from LS (ft) : 32.74	**One Casing Volume (liter) : 136.56**	
Pump Start Time : 0955	**Pumping Rate (L/min) : 1**	
Minimum Purge Volume (liter) : 6.96	**Maximum Purge Volume (liter): 34.14**	

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1007 Notes :
1002	7	207	8.45	6.48	2.7	177.9	12.5	34.69	
1004	9	207.1	8.43	6.48	2.8	179.5	12.5	34.69	
1006	11	207	8.43	6.48	2.7	180.6	12.2	34.69	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : Naoh bottle water turned green

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : MJ Date : 11/14/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46932-001	**Well ID : 088-21**	**Date : 11/14/2024**
Sampling Personnel : NS	**Project : SITEWD-CLF**	**WQ Inst# : 24**
Well Depth (ft BLS) : 25	**Screen Interval (ft BLS) : 5 - 20**	**Well Diameter (in) : 4**
Sampling Device : ☑ **Bladder Pump**	☐ **Other :**	**Discharge Tubing Size : 0.50000**
Depth to Water from MP (ft) : 10.43	**Casing Stickup : 2.04**	**DTW Meter Serial # : 6783**
Depth to Water from LS (ft) : 8.39	**One Casing Volume (liter) : 43.44**	
Pump Start Time : 1028	**Pumping Rate (L/min) : 0.5**	
Minimum Purge Volume (liter) : 2.09	**Maximum Purge Volume (liter): 10.86**	

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1039 Notes :
1034	3	268.4	4.91	5.43	15.9	326.2	13.2	10.44	
1036	4	265.3	4.84	5.43	15.2	326.4	13.1	10.44	
1038	5	268.4	4.83	5.43	15.5	326.5	13.1	10.44	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

Sampled By : _____ Date : 11/14/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46932-002 **Well ID :** 088-22 **Date :** 11/14/2024

Sampling Personnel : NS **Project :** SITEWD-CLF **WQ Inst# :** 24

Well Depth (ft BLS) : 85 **Screen Interval (ft BLS) :** 70 - 80 **Well Diameter (in) :** 4

Sampling Device : ☑ Bladder Pump ☐ Other : **Discharge Tubing Size :** 0.50000

Depth to Water from MP (ft) : 10.48 **Casing Stickup :** 2.05 **DTW Meter Serial # :** 6783

Depth to Water from LS (ft) : 8.43 **One Casing Volume (liter) :** 200

Pump Start Time : 0955 **Pumping Rate (L/min) :** 1

Minimum Purge Volume (liter) : 6.96 **Maximum Purge Volume (liter):** 50

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1007 Notes :
1002	7	234	7.51	6.27	8.2	289.9	12.1	10.47	
1004	9	233.8	7.55	6.27	8.3	290.3	12	10.47	
1006	11	234.1	7.5	6.27	8.2	290.7	12	10.47	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 11/14/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46932-003	**Well ID : 088-23**	**Date : 11/14/2024**
Sampling Personnel : NS	**Project : SITEWD-CLF**	**WQ Inst# : 24**
Well Depth (ft BLS) : 150	**Screen Interval (ft BLS) : 120 - 130**	**Well Diameter (in) : 4**
Sampling Device : ☑ **Bladder Pump**	☐ **Other :**	**Discharge Tubing Size : 0.50000**
Depth to Water from MP (ft) : 10.47	**Casing Stickup : 2.21**	**DTW Meter Serial # : 6783**
Depth to Water from LS (ft) : 8.26	**One Casing Volume (liter) : 370.28**	
Pump Start Time : 1056	**Pumping Rate (L/min) : 0.5**	
Minimum Purge Volume (liter) : 10.85	**Maximum Purge Volume (liter): 92.57**	

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1125 Notes :
1120	12	155.5	7.26	6.63	3.9	185.3	11.9	10.47	
1122	13	155.3	7.2	6.63	4.4	186.7	11.9	10.47	
1124	14	155.3	7.2	6.64	3.3	182.7	12	10.47	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 11/14/24

Groundwater Sample Log

Sample ID (COC# -UID) : 46932-004	**Well ID : 098-99**	**Date : 11/14/2024**
Sampling Personnel : NS	**Project : SITEWD-CLF**	**WQ Inst# : 24**
Well Depth (ft BLS) : 54.5	**Screen Interval (ft BLS) : 39.5-49.5**	**Well Diameter (in) : 4**
Sampling Device : ☑ **Bladder Pump**	☐ **Other :**	**Discharge Tubing Size : 0.25000**
Depth to Water from MP (ft) : 13.50	**Casing Stickup : 2.11**	**DTW Meter Serial # : 6783**
Depth to Water from LS (ft) : 11.39	**One Casing Volume (liter) : 112.6**	
Pump Start Time : 1130	**Pumping Rate (L/min) : 0.25**	
Minimum Purge Volume (liter) : 1.99	**Maximum Purge Volume (liter): 28.15**	

Time	Volume Purged (L)	Cond (µS/cm) ± 3%	DO (mg/L) ± 10%	pH (SU) ± 0.1	Turb (NTU) ± 10% (a)	ORP (mV) ± 10mV (b)	Temp (°C)	DTW (ft)	Sample Collection Time : 1143 Notes :
1138	2	232	1.16	6.03	2.8	188.4	12	13.55	
1140	2.5	231.9	1.14	6.03	2.9	189.2	12	13.55	
1142	3	231.8	1.11	6.03	2.9	189.9	12	13.55	

Purge Water Disposition : ☐ Ground ☑ Carbon Treat ☐ Contains Sr-90 ☐ Contains Tritium ☐ Other :

Comments : _____

	Good	Poor	Replace	Comments
Paint Condition	X			
Pad	X			
Lock	X			
ID Tag	X			
Discharge Tube	X			
Fittings	X			
Sample Pump	X			

(a) For low turbidity conditions, stabilization is reached when three consecutive measurements are <10 NTU

(b) For Redox Measurements, stabilization = ± 10mv

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Sampled By : _____ Date : 11/14/24